

# Compal Confidential

## Voyager

### Schematic Document

Rev: 1.0(A00)

2010-11-30

@ : Nopop Component

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| Title                            |                 |     |
| Cover Sheet                      |                 |     |
| Size                             | Document Number | Rev |
|                                  | LA-6601P        | 1.0 |
| Date: Tuesday, November 30, 2010 |                 |     |
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### PC11 ID Table for AD Channel

| Vcc      | 3.3V +/- 5% |             |             |             |           |
|----------|-------------|-------------|-------------|-------------|-----------|
| Ra       | 100K +/- 5% |             |             |             |           |
| Board ID | Rb          | VAD_BID min | VAD_BID typ | VAD_BID max | EC_AD3    |
| 0        | 0           | 0 V         | 0 V         | 0.155 V     | 0x00-0x0C |
| 1        | 8.2K +/- 5% | 0.168 V     | 0.250 V     | 0.362 V     | 0x0D-0x1C |
| 2        | 18K +/- 5%  | 0.375 V     | 0.503 V     | 0.621 V     | 0x1D-0x30 |
| 3        | 33K +/- 5%  | 0.634 V     | 0.819 V     | 0.945 V     | 0x31-0x49 |
| 4        | 56K +/- 5%  | 0.958 V     | 1.185 V     | 1.359 V     | 0x4A-0x69 |
| 5        | 100K +/- 5% | 1.372 V     | 1.650 V     | 1.838 V     | 0x6A-0x8E |
| 6        | 200K +/- 5% | 1.851 V     | 2.200 V     | 2.420 V     | 0x8F-0xBB |
| 7        | NC          | 2.433 V     | 3.300 V     | 3.300 V     | 0xBC-0xFF |

### BOARD ID Table

| Board ID | PCB Revision |
|----------|--------------|
| 0        | 0.1          |
| 1        | 0.2          |
| 2        | 0.3          |
| 3        | 0.4          |
| 4        | 1.0          |
| 5        |              |
| 6        |              |
| 7        |              |

### SMBUS Control Table

|                           | SOURCE | MIINI1 | BATT | MINI2 | EXPRESS CARD | SODIMM | MXM |
|---------------------------|--------|--------|------|-------|--------------|--------|-----|
| EC_SMB_CK1<br>EC_SMB_DA1  | KB930  | X      | V    | X     | X            | X      | V   |
| EC_SMB_CK2<br>EC_SMB_DA2  | KB930  | X      | X    | X     | X            | X      | X   |
| PCH_SMBCLK<br>PCH_SMBDATA | PCH    | V      | X    | V     | V            | X      | X   |
| MEM_SMBCLK<br>MEM_SMBDATA | PCH    | X      | X    | X     | X            | V      | X   |

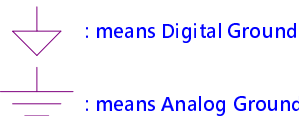
| CLKOUT | DESTINATION  |
|--------|--------------|
| PCI0   | PCH_LOOPBACK |
| PCI1   | EC           |
| PCI2   | None         |
| PCI3   | None         |
| PCI4   | None         |

### USB

| USB PORT# | DESTINATION   |
|-----------|---------------|
| 0         | JUSB1         |
| 1         | JUSB2         |
| 2         | eDP CAMERA    |
| 3         | LVDS CAMERA   |
| 4         | JMINI1 (WLAN) |
| 5         | JMINI2 (DMC)  |
| 6         | AlienFX/ELC   |
| 7         | IR SENSOR     |
| 8         | Bluetooth     |
| 9         | JESATA        |
| 10        | None          |
| 11        | None          |
| 12        | None          |
| 13        | None          |

| CLK | DIFFERENTIAL | DESTINATION      | FLEX CLOCKS | DESTINATION |
|-----|--------------|------------------|-------------|-------------|
|     | CLKOUT_PCIE0 | None             | CLKOUTFLEX0 | None        |
|     | CLKOUT_PCIE1 | 10/100/1G LAN    | CLKOUTFLEX1 | CLK_14M     |
|     | CLKOUT_PCIE2 | MINI CARD-2 DMC  | CLKOUTFLEX2 | None        |
|     | CLKOUT_PCIE3 | MINI CARD-1 WLAN | CLKOUTFLEX3 | None        |
|     | CLKOUT_PCIE4 | CARD READER      |             |             |
|     | CLKOUT_PCIE5 | None             |             |             |
|     | CLKOUT_PCIE6 | USB 3.0          |             |             |
|     | CLKOUT_PCIE7 | None             |             |             |
|     | CLKOUT_PEG_A | MXM              |             |             |

Symbol Note :



| SATA  | DESTINATION |
|-------|-------------|
| SATA0 | HDD1        |
| SATA1 | HDD2        |
| SATA2 | ODD         |
| SATA3 | NA          |
| SATA4 | ESATA       |
| SATA5 | None        |

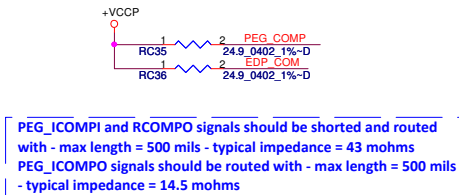
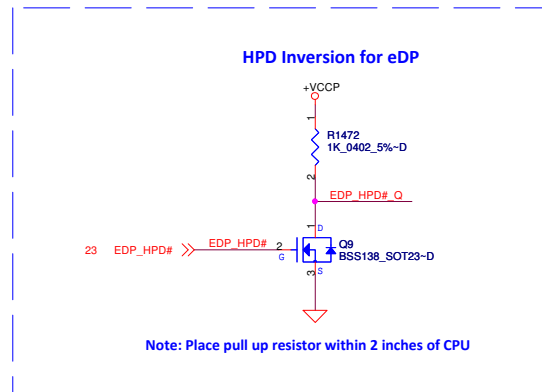
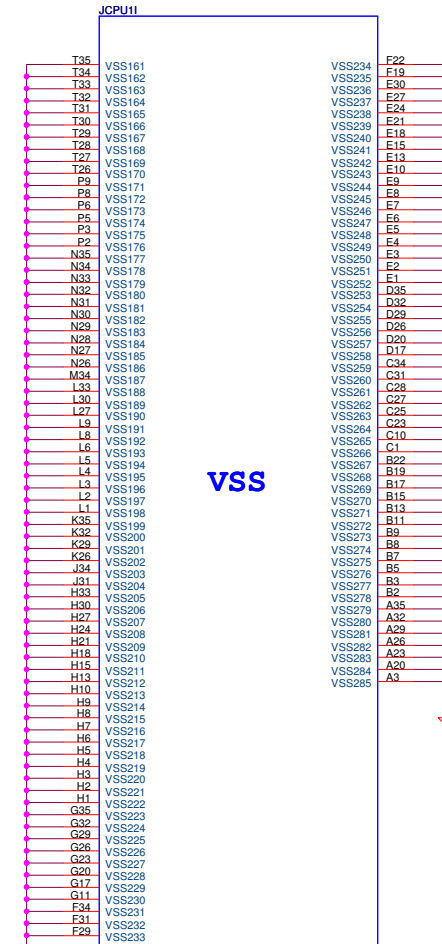
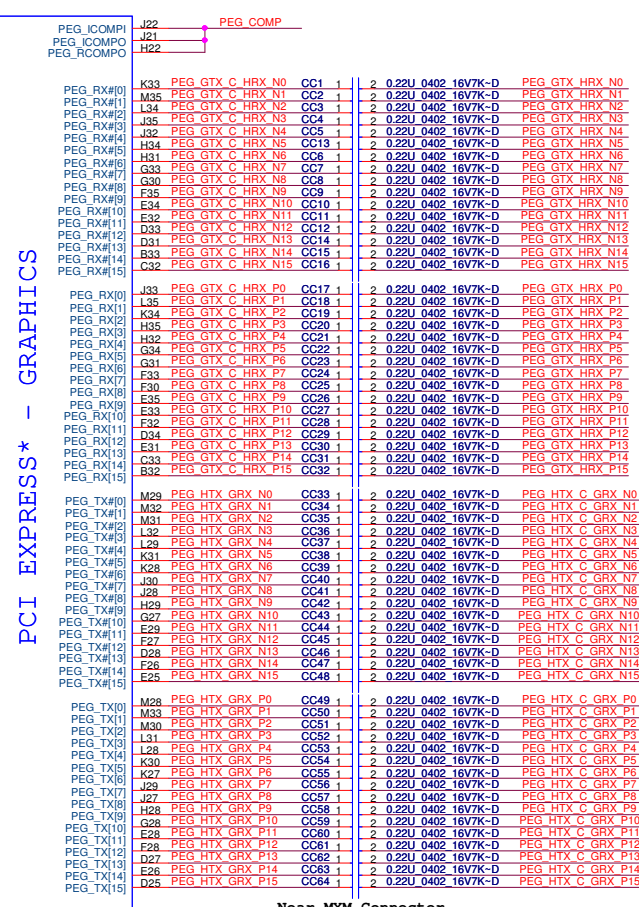
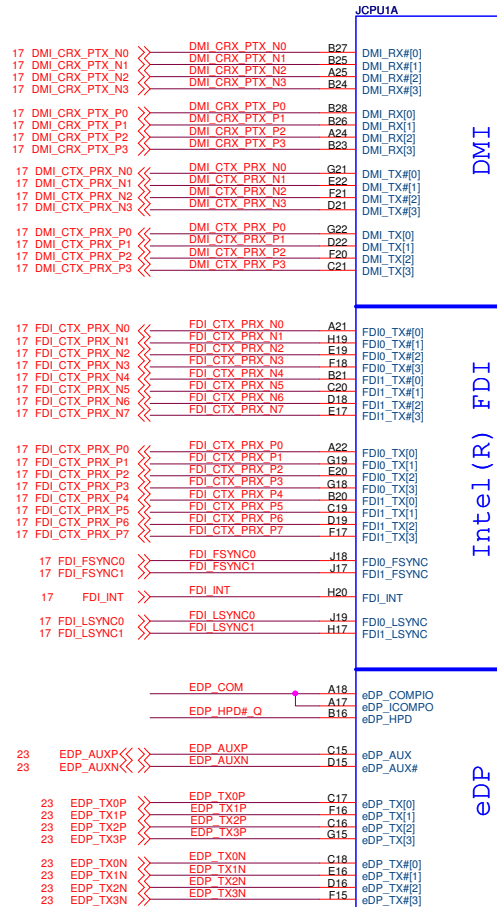
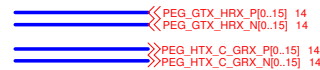
| PCI EXPRESS | DESTINATION      |
|-------------|------------------|
| Lane 1      | 10/100/1G LAN    |
| Lane 2      | MINI CARD-2 DMC  |
| Lane 3      | MINI CARD-1 WLAN |
| Lane 4      | CARD READER      |
| Lane 5      | None             |
| Lane 6      | USB 3.0          |
| Lane 7      | None             |
| Lane 8      | None             |

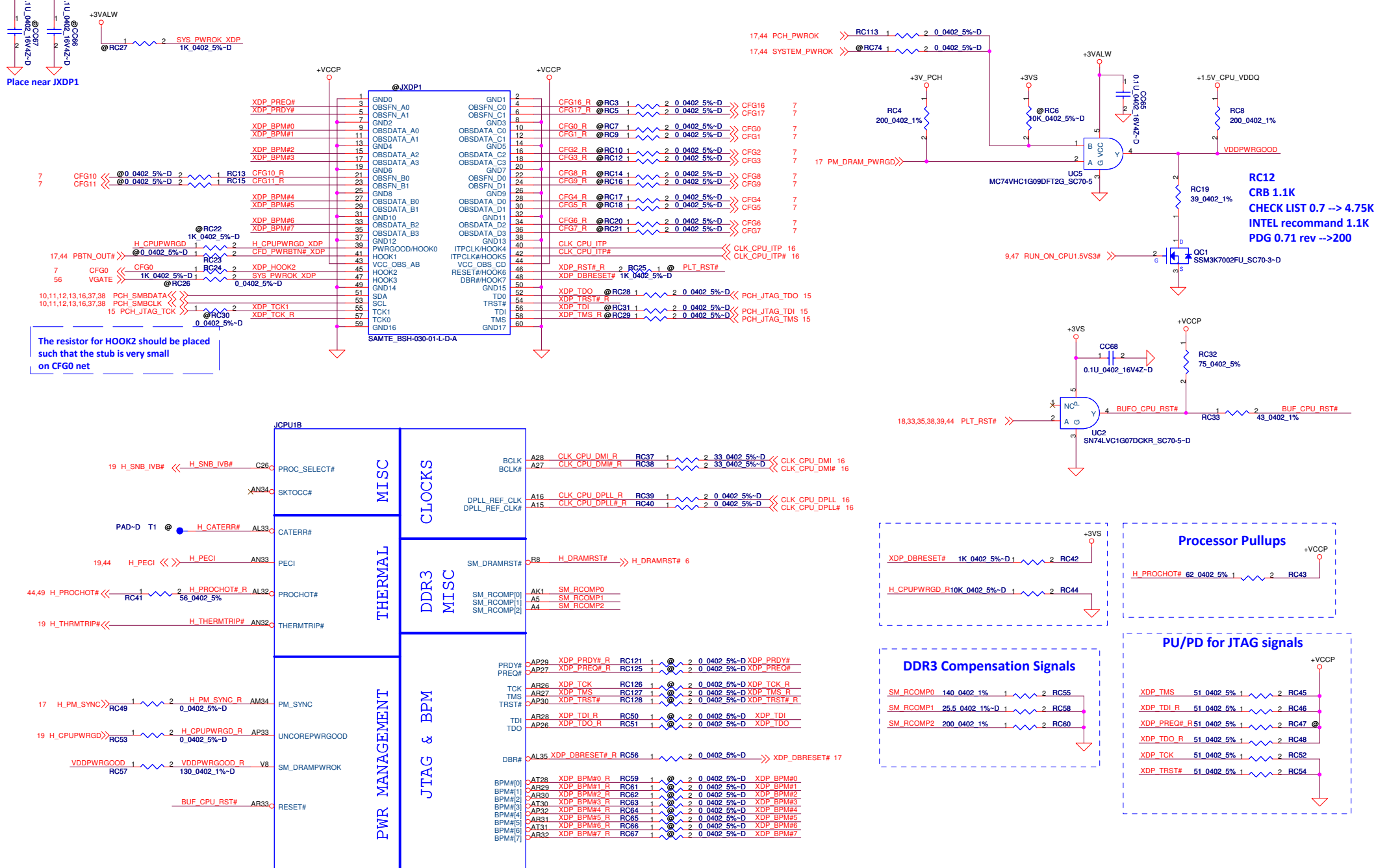
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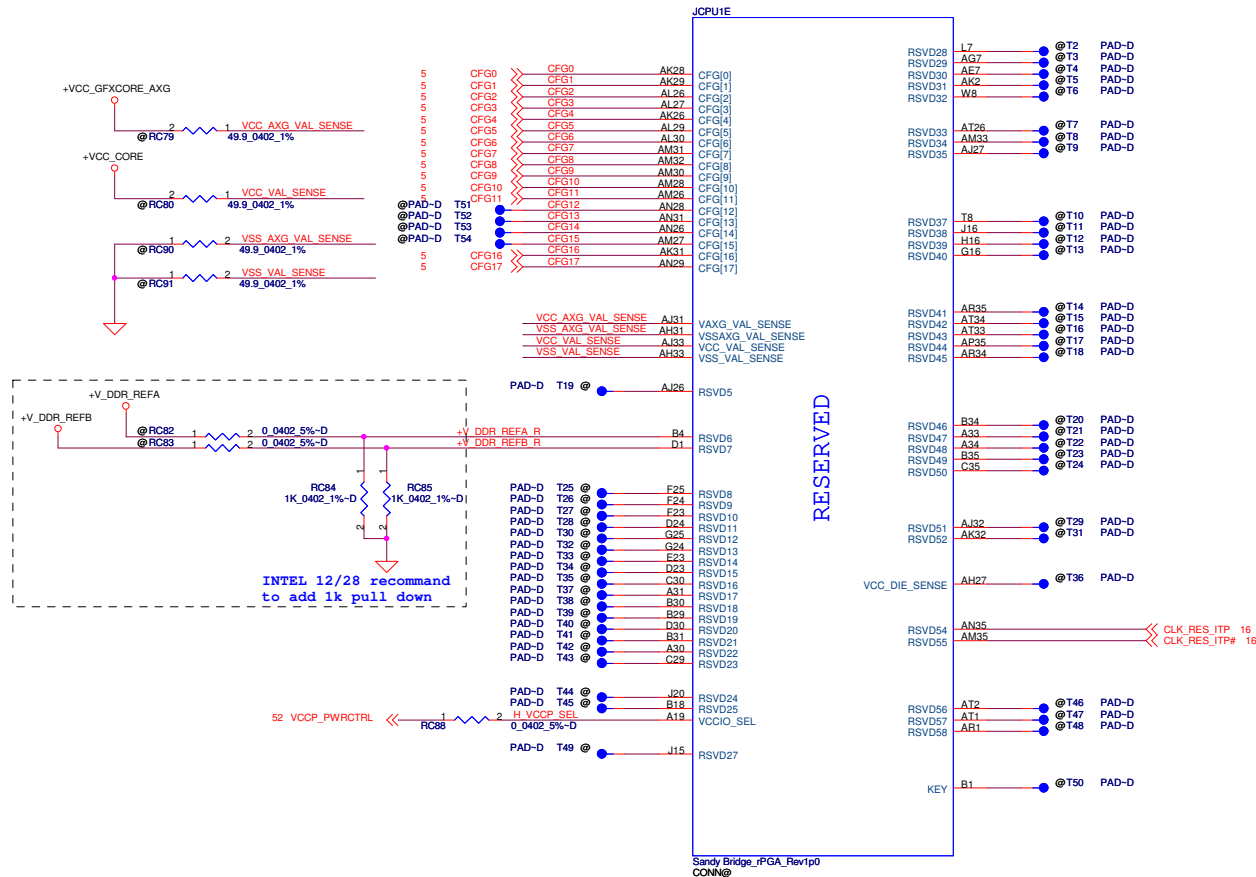


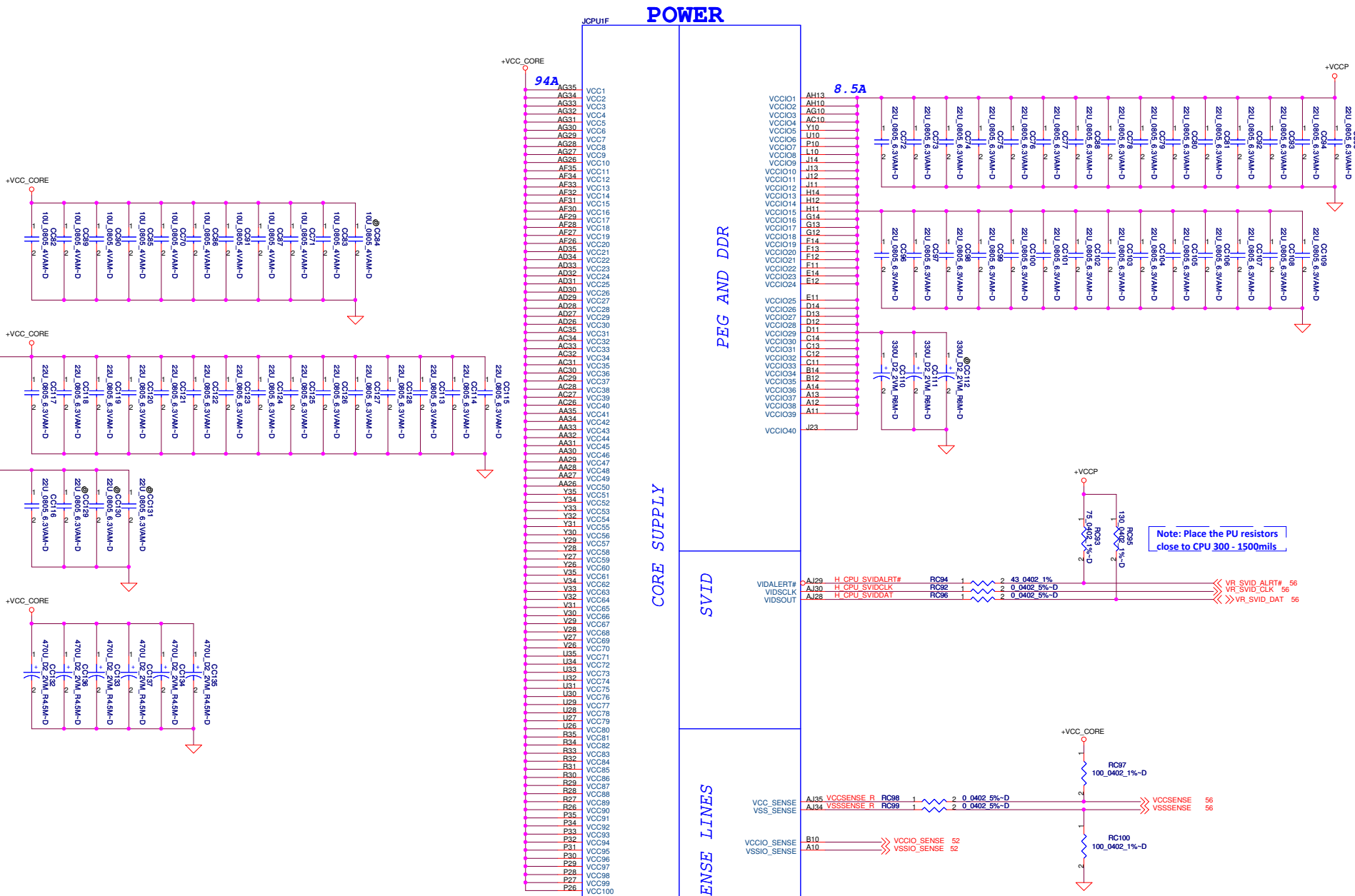




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Sandy Bridge\_rPGA\_Rev1p0  
CONN@

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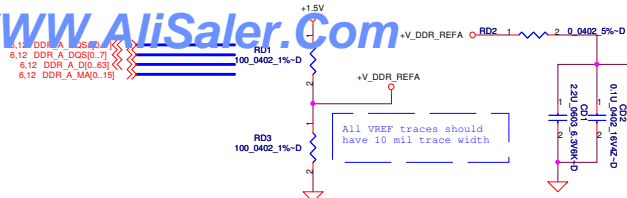
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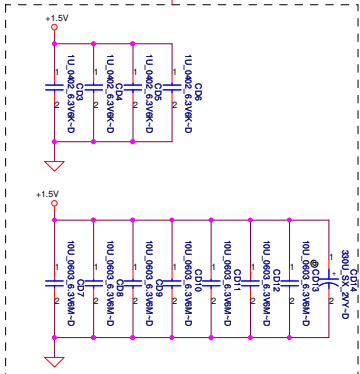
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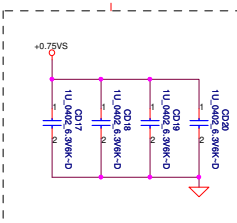




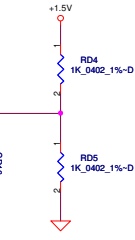
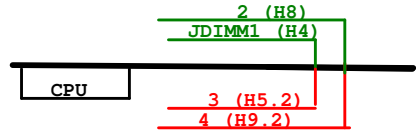
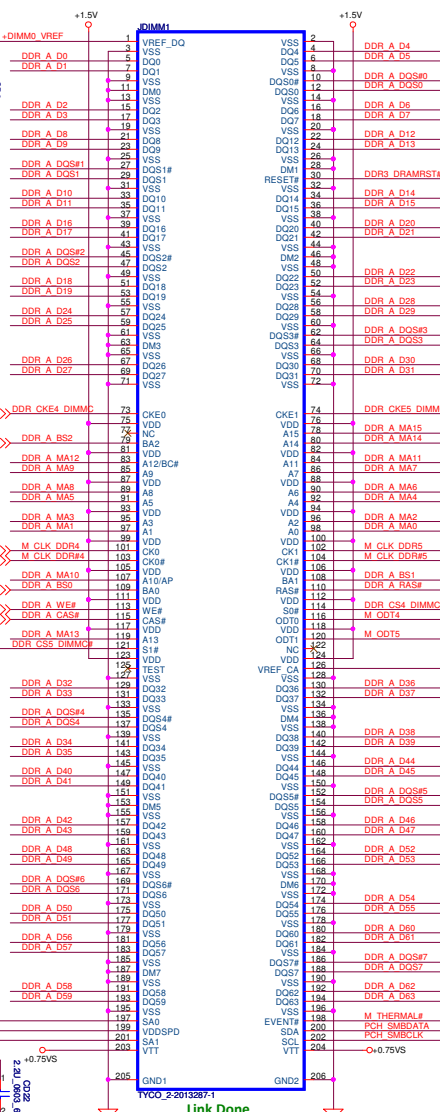
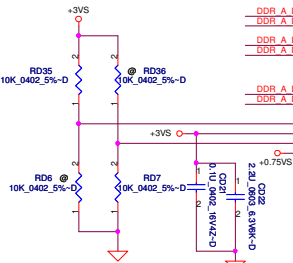
Layout Note:  
Place near JDIMM1



Layout Note:  
Place near JDIMM1.203,204



| SA0 | SA1 |       |
|-----|-----|-------|
| 1   | 0   | DIMM1 |
| 1   | 1   | DIMM2 |
| 0   | 0   | DIMM3 |
| 0   | 1   | DIMM4 |



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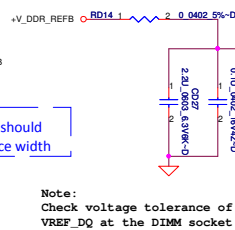
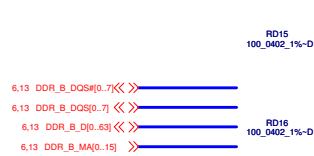
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DDRIII DIMMA

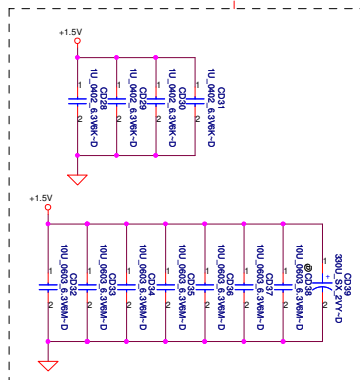
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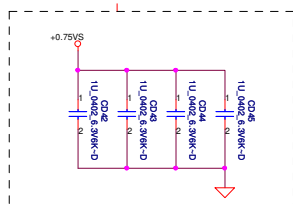
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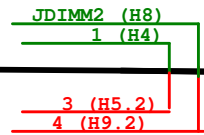
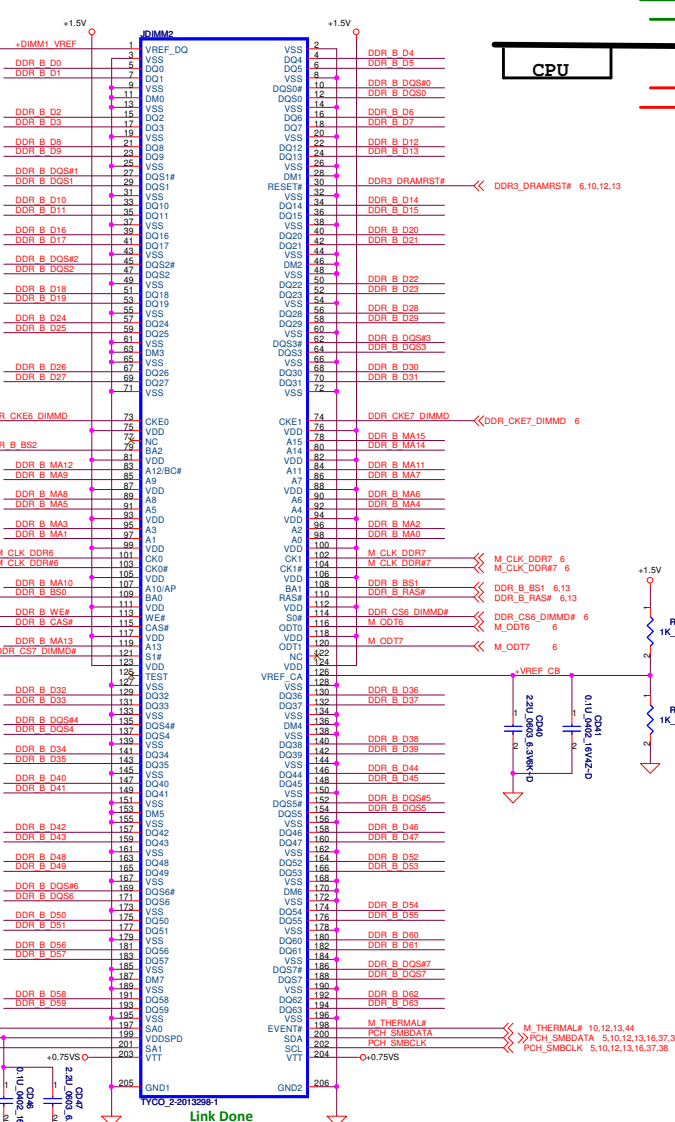
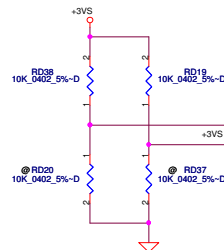
Layout Note:  
Place near JDIMMB



Layout Note:  
Place near JDIMMB.203,204



| SA0 | SA1 |       |
|-----|-----|-------|
| 1   | 0   | DIMM1 |
| 1   | 1   | DIMM2 |
| 0   | 0   | DIMM3 |
| 0   | 1   | DIMM4 |



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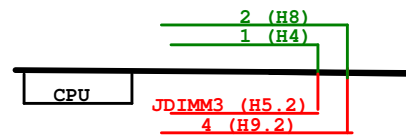
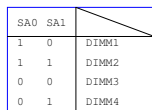
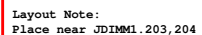
DDRIII DIMMB

LA-6601P

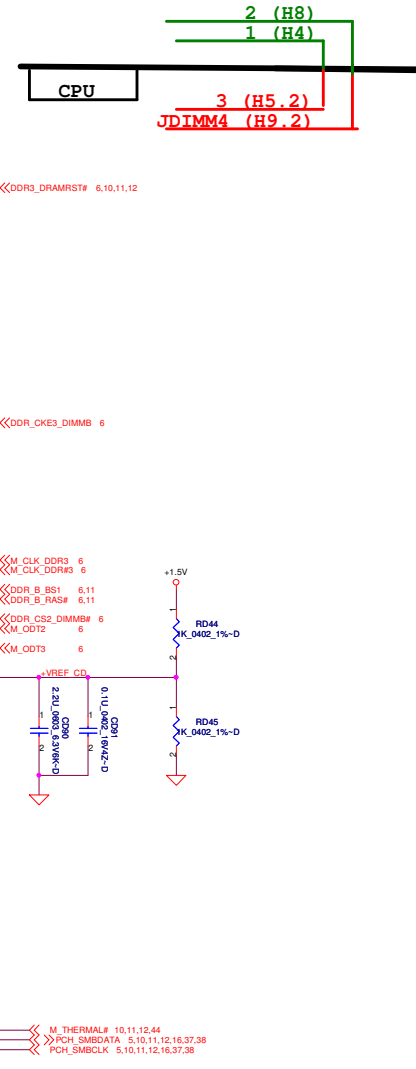
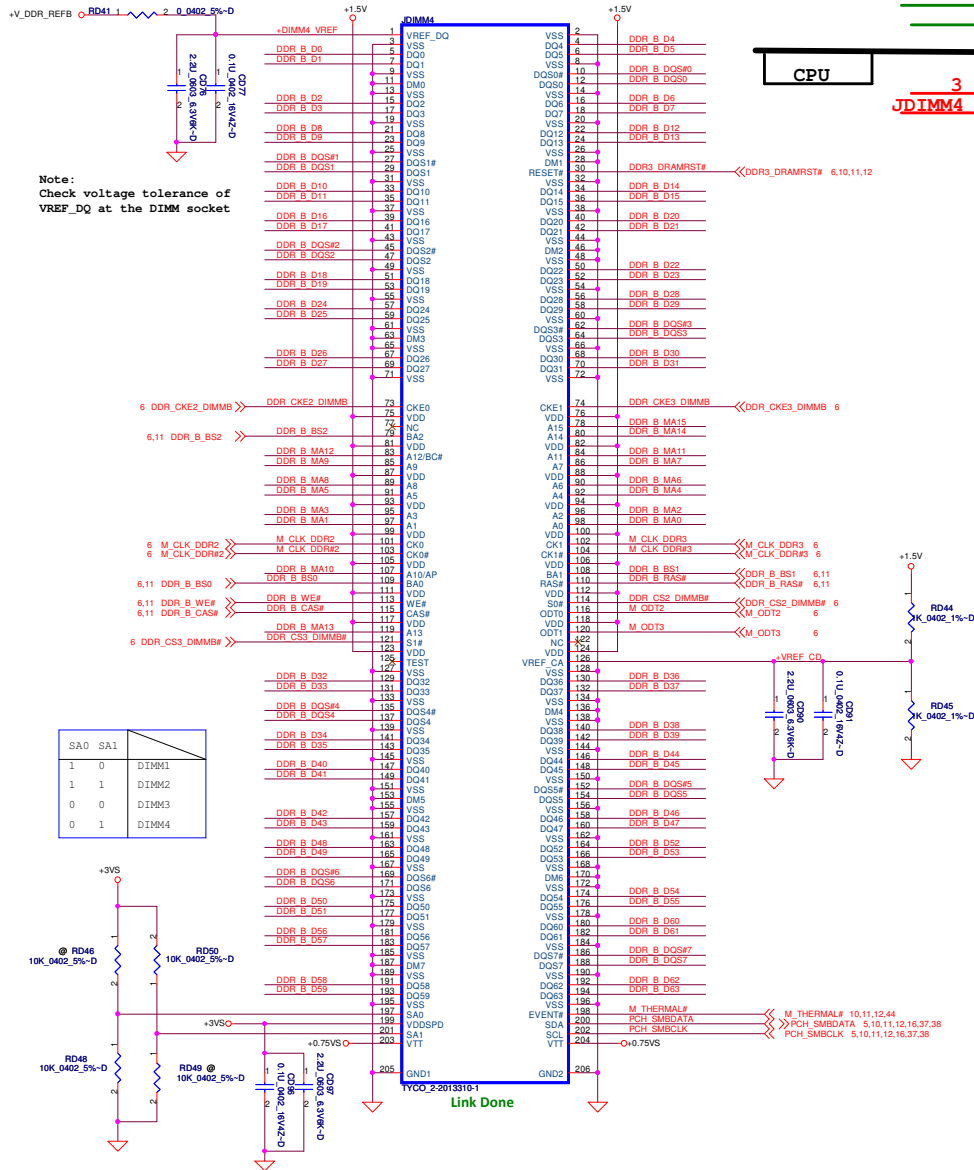
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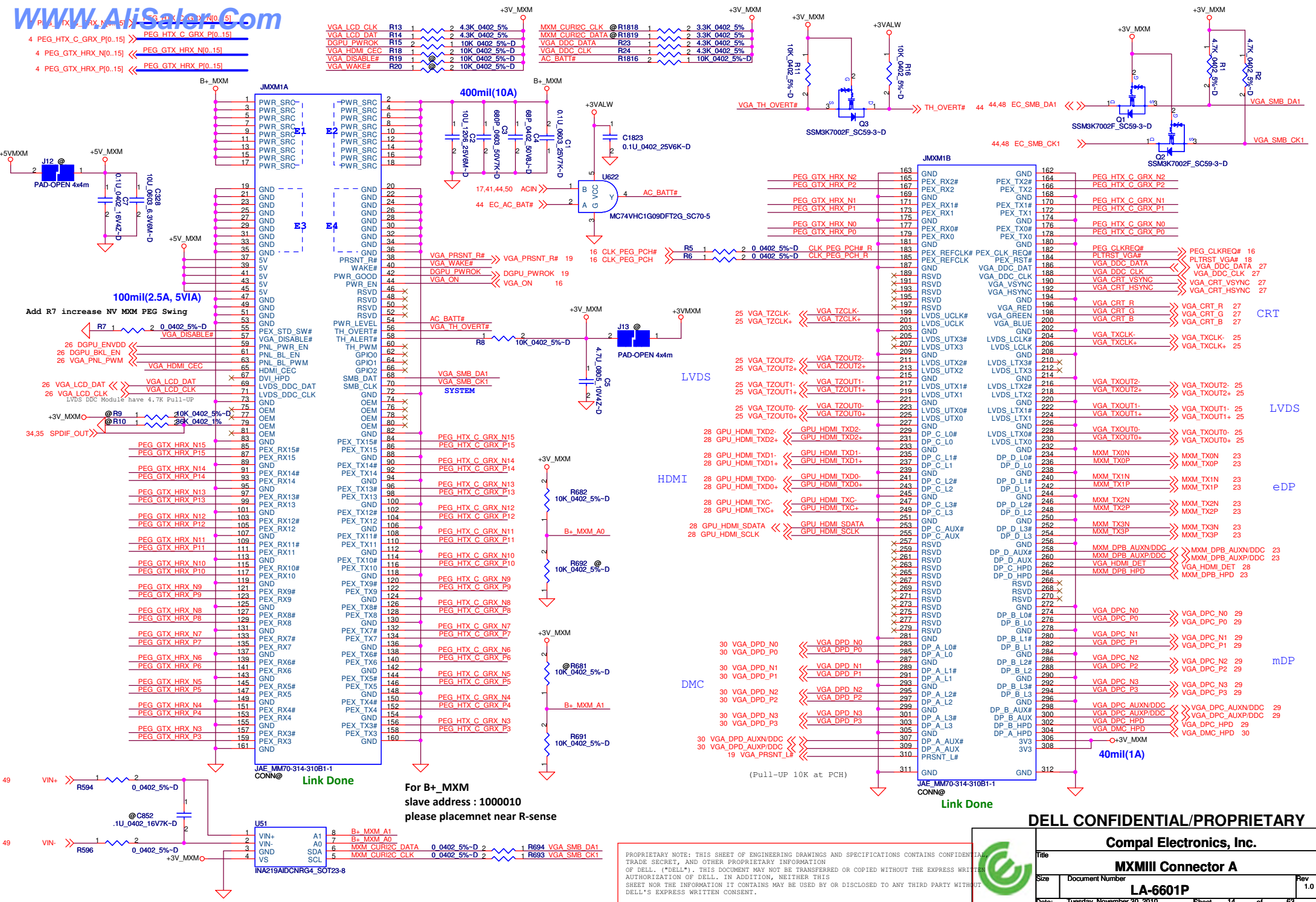
Layout Note:  
Place near JDIMM1



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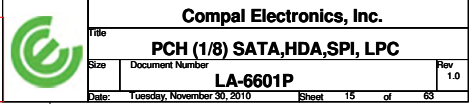


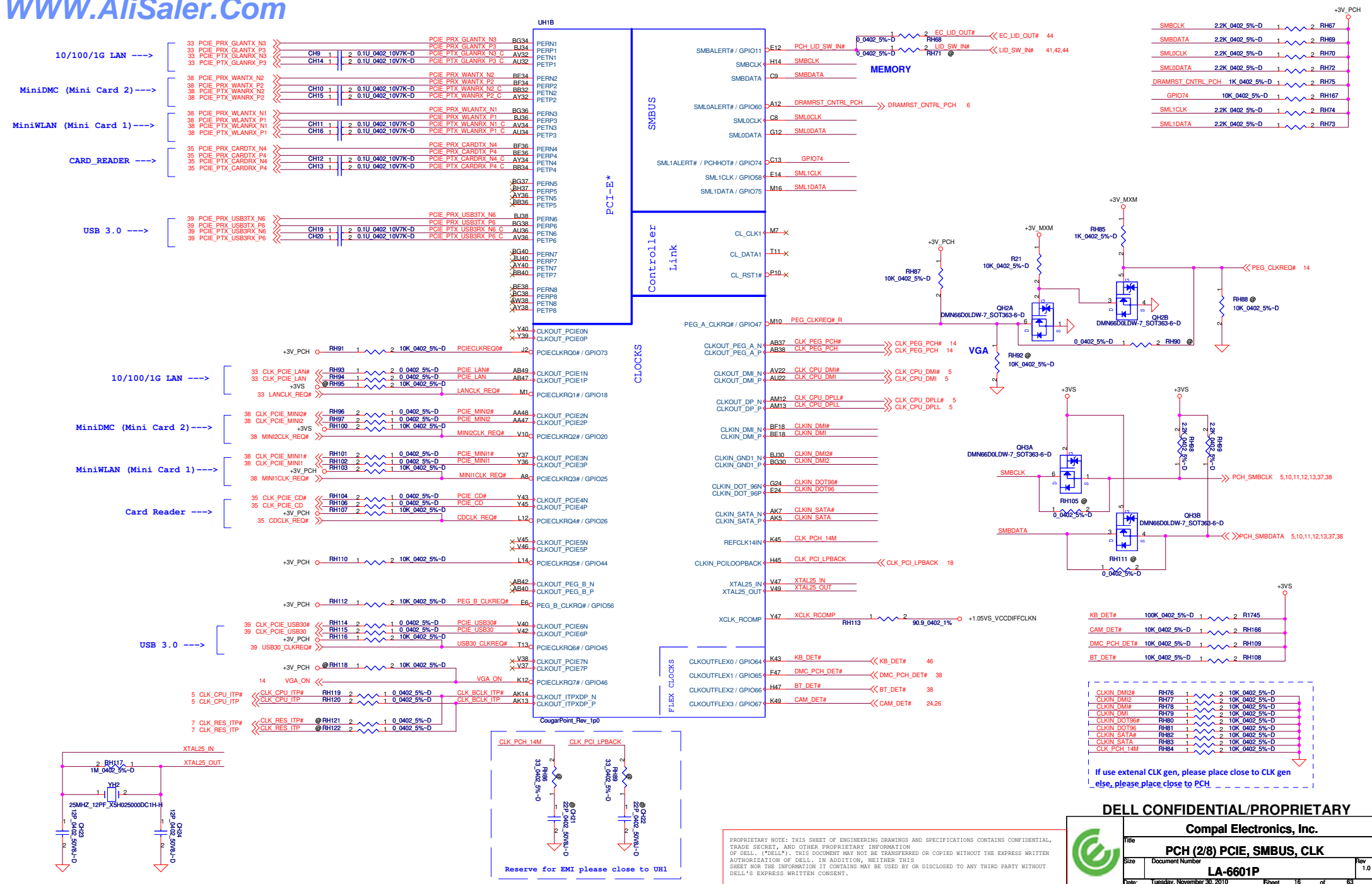
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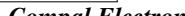


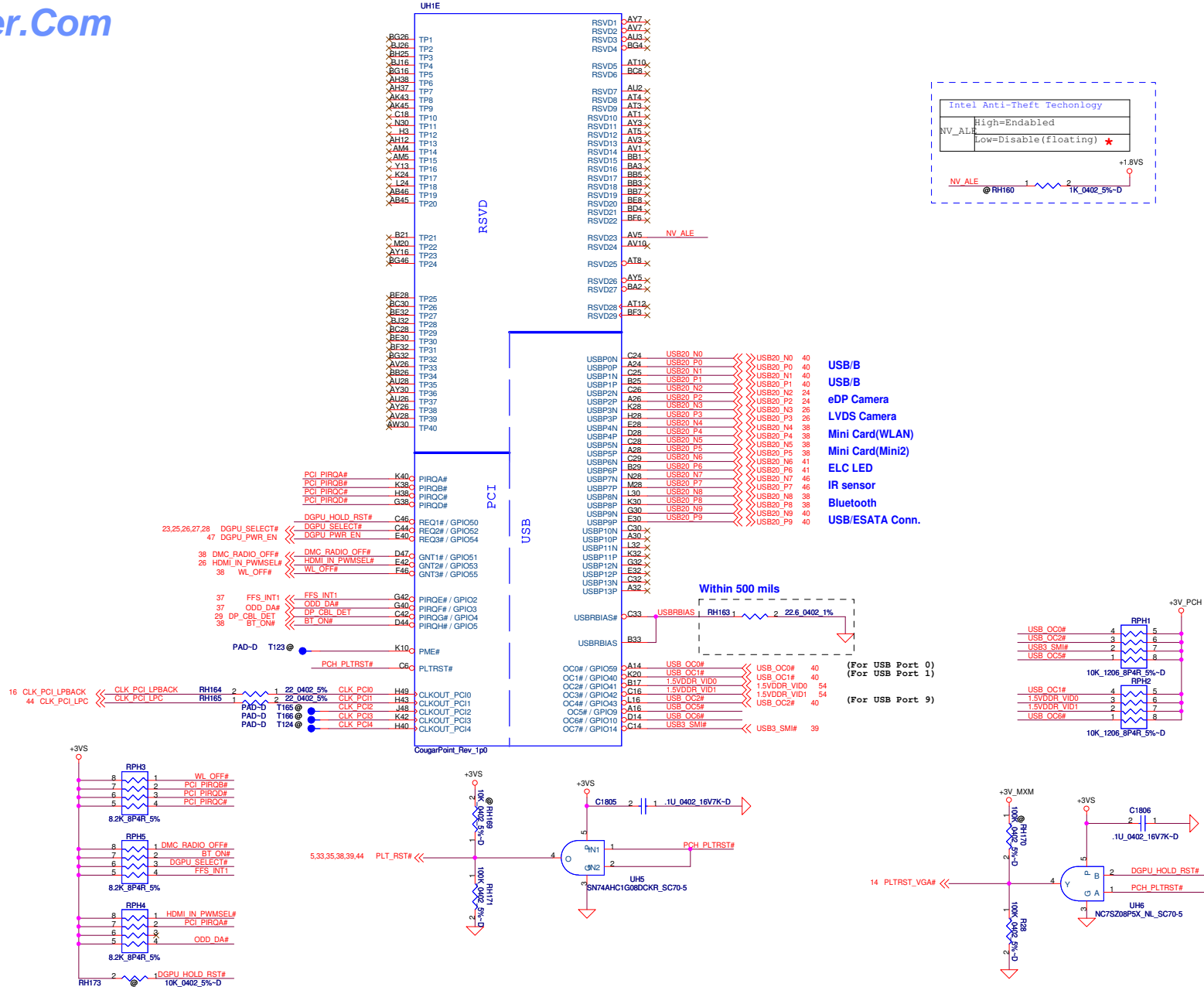
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| MXMIII Connector A            |                            |       |          |
| Size                          | Document Number            | Rev   |          |
|                               | LA-6601P                   | 1.0   |          |
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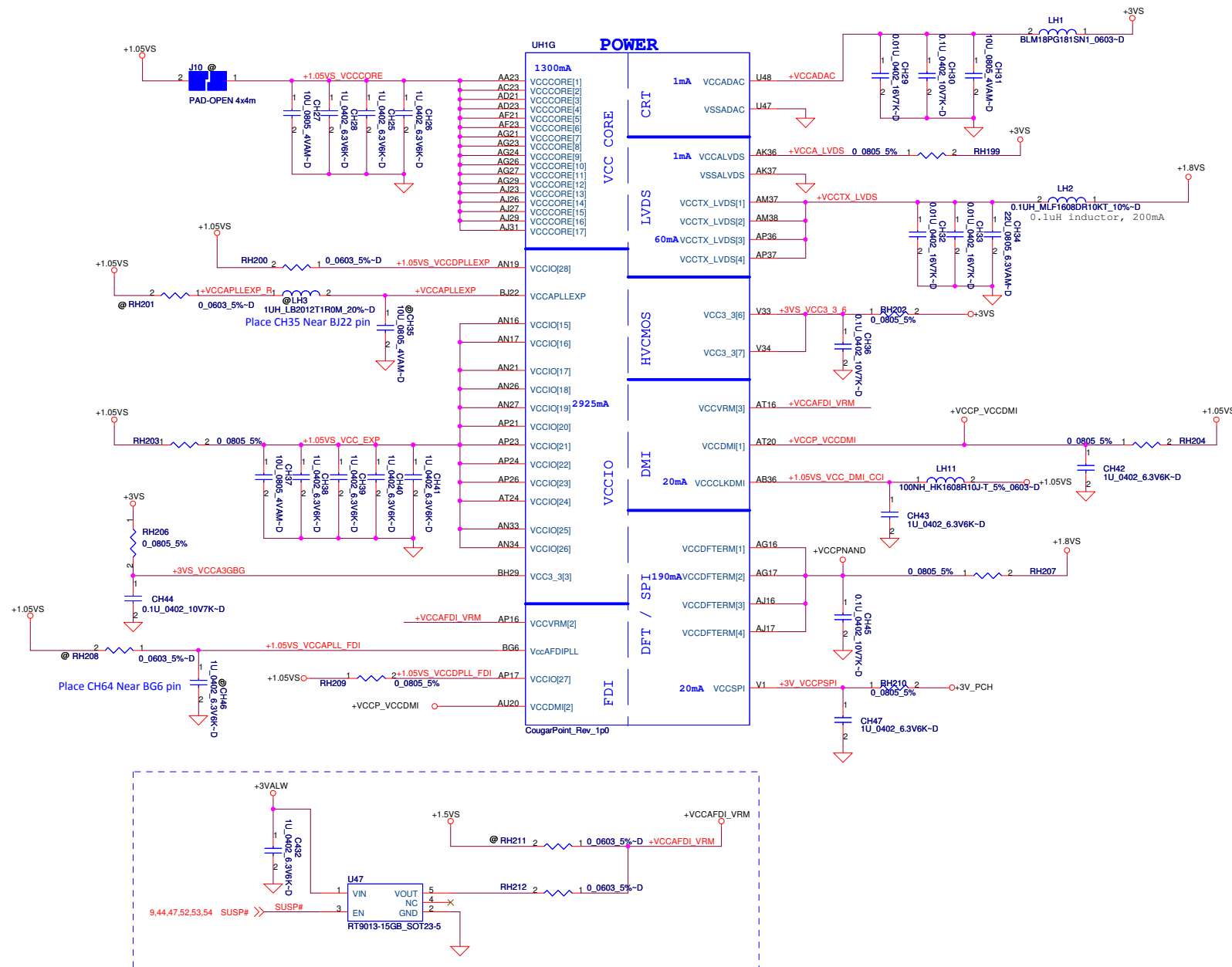












| PCH Power Rail Table |           |                       |
|----------------------|-----------|-----------------------|
| Voltage Rail         | Voltage   | S0 Iccmax Current (A) |
| V_PROC_IO            | 1.05      | 0.001                 |
| V5REF                | 5         | 0.001                 |
| V5REF_Sus            | 5         | 0.001                 |
| Vcc3_3               | 3.3       | 0.266                 |
| VccADAC              | 3.3       | 0.001                 |
| VccADPLLA            | 1.05      | 0.08                  |
| VccADPLLb            | 1.05      | 0.08                  |
| VccCore              | 1.05      | 1.3                   |
| VccDMI               | 1.05      | 0.042                 |
| VccIO                | 1.05      | 2.925                 |
| VccASW               | 1.05      | 1.01                  |
| VccSPI               | 3.3       | 0.02                  |
| VccDSW               | 3.3       | 0.003                 |
| VccpNAND             | 1.8       | 0.19                  |
| VccRTC               | 3.3       | 6 uA                  |
| VccSus3_3            | 3.3       | 0.119                 |
| VccSusHDA            | 3.3 / 1.5 | 0.01                  |
| VccVRM               | 1.8 / 1.5 | 0.16                  |
| VccCLKDMI            | 1.05      | 0.02                  |
| VccSSC               | 1.05      | 0.095                 |
| VccDIFFCLKN          | 1.05      | 0.055                 |
| VccALVDS             | 3.3       | 0.001                 |
| VccTX_LVDS           | 1.8       | 0.06                  |

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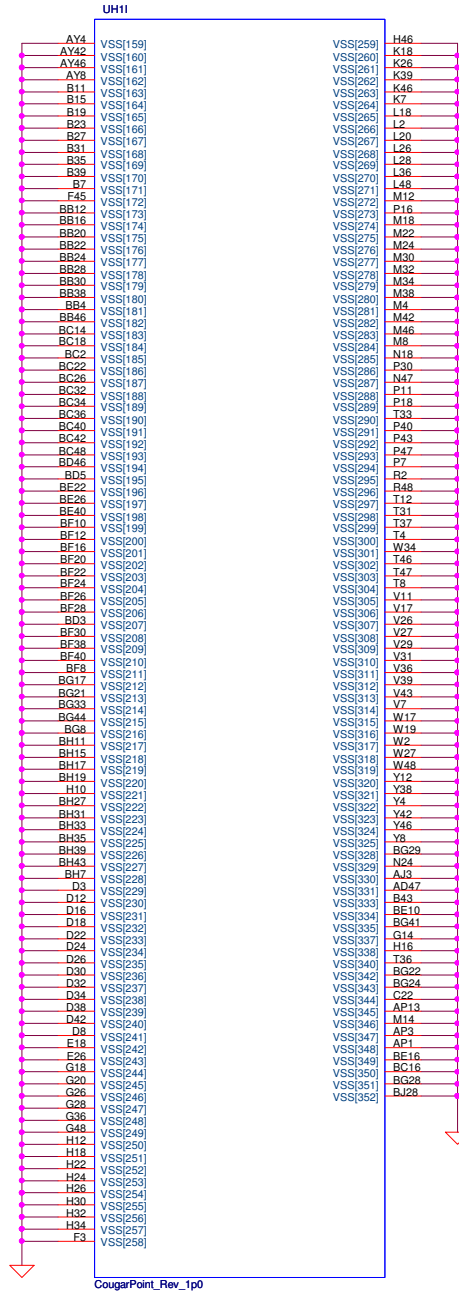
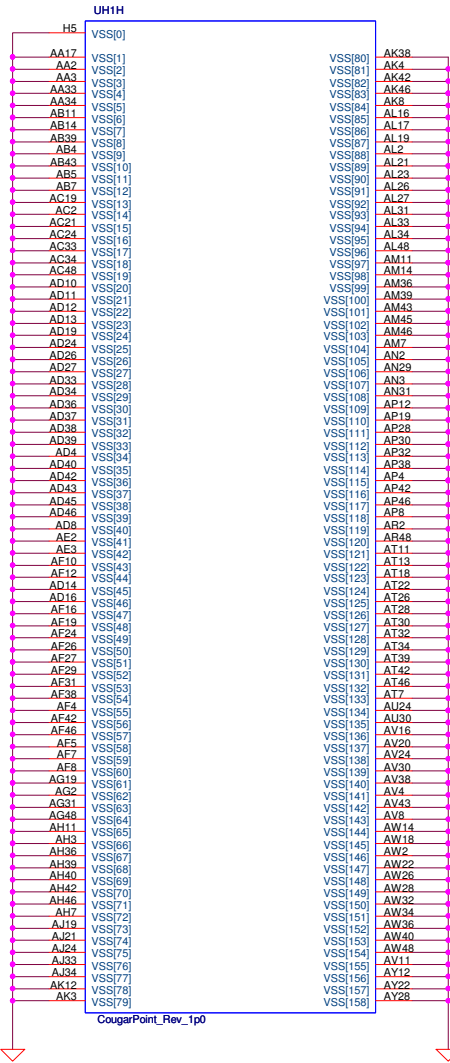
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|---------------|----------------------------|-------|----|-------|
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| PCH (6/8) PWR |                            |       |    |       |
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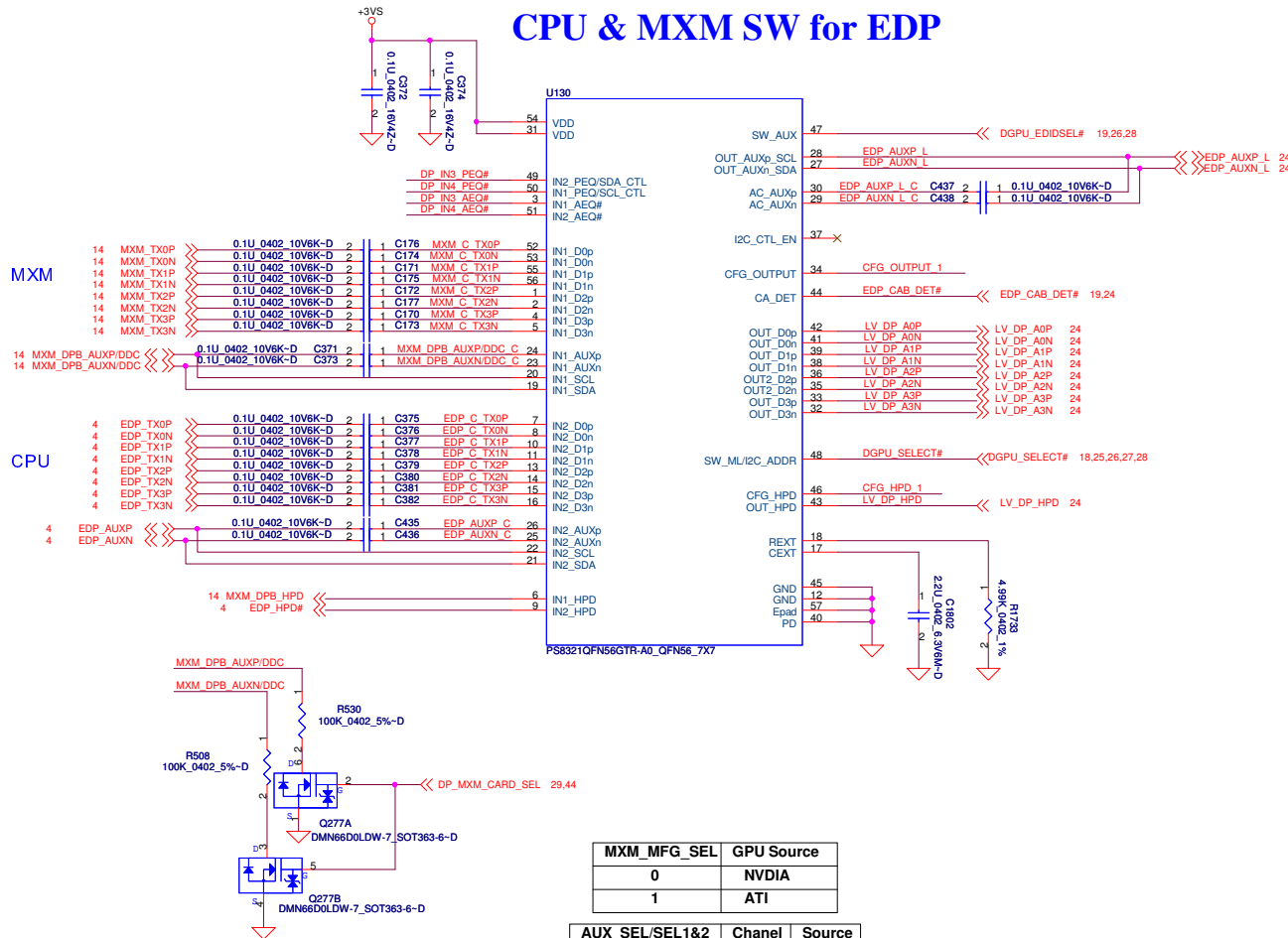
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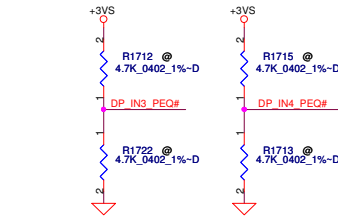
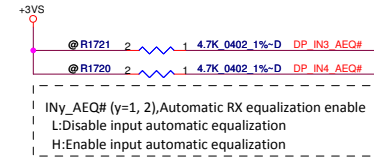
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| PCH (8/8) VSS                    |          |    |    |
| LA-6601P                         | Rev 1.0  |    |    |
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## CPU & MXM SW for EDP

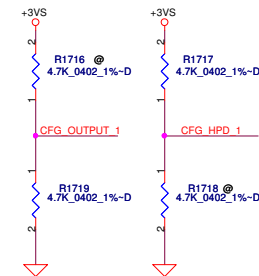


| MXM_MFG_SEL | GPU Source |
|-------------|------------|
| 0           | NVIDIA     |
| 1           | ATI        |

| AUX_SEL/SEL1&2 | Chanel | Source |
|----------------|--------|--------|
| 0              | A      | CPU    |
| 1              | B      | MXM    |



CFG\_OUTPUT: output configuration  
 L: Output is tracking DPCD register setting (auto interception)  
 H: Output swing level fixed at 600mV and no pre-emphasis  
 M: Output swing level is fixed at 400mV and no pre-emphasis



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eDP SW- GPU & CPU

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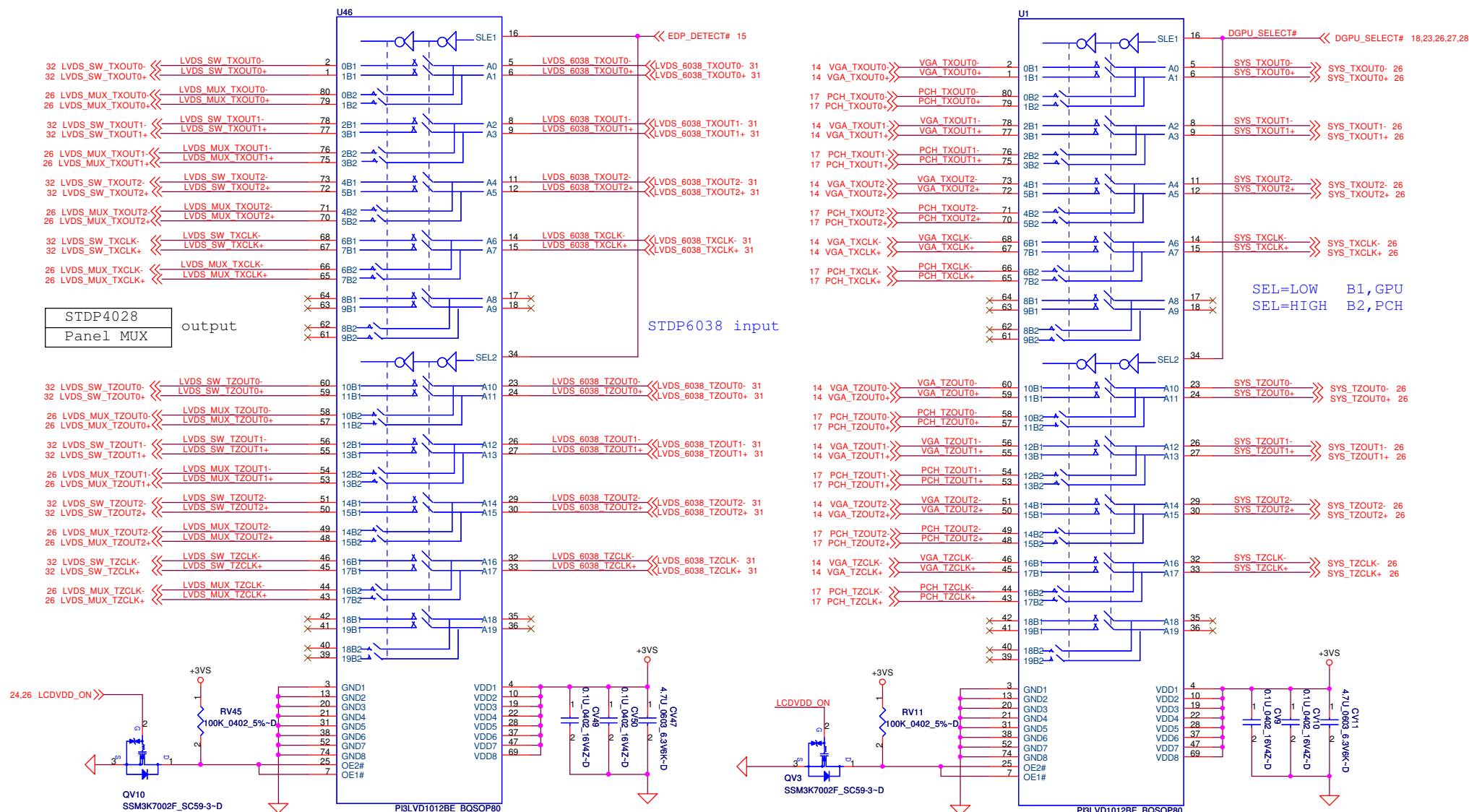
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## STDP6038 SW STDP4028 PCH/GPU AUX for LVDS

|     |     |
|-----|-----|
| SEL | Y   |
| L   | GPU |
| H   | PCH |



|     |           |
|-----|-----------|
| SEL | Y         |
| L   | STDP4028  |
| H   | Panel MUX |

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## LVDS SW- 1 to 2 & GPU/PCH

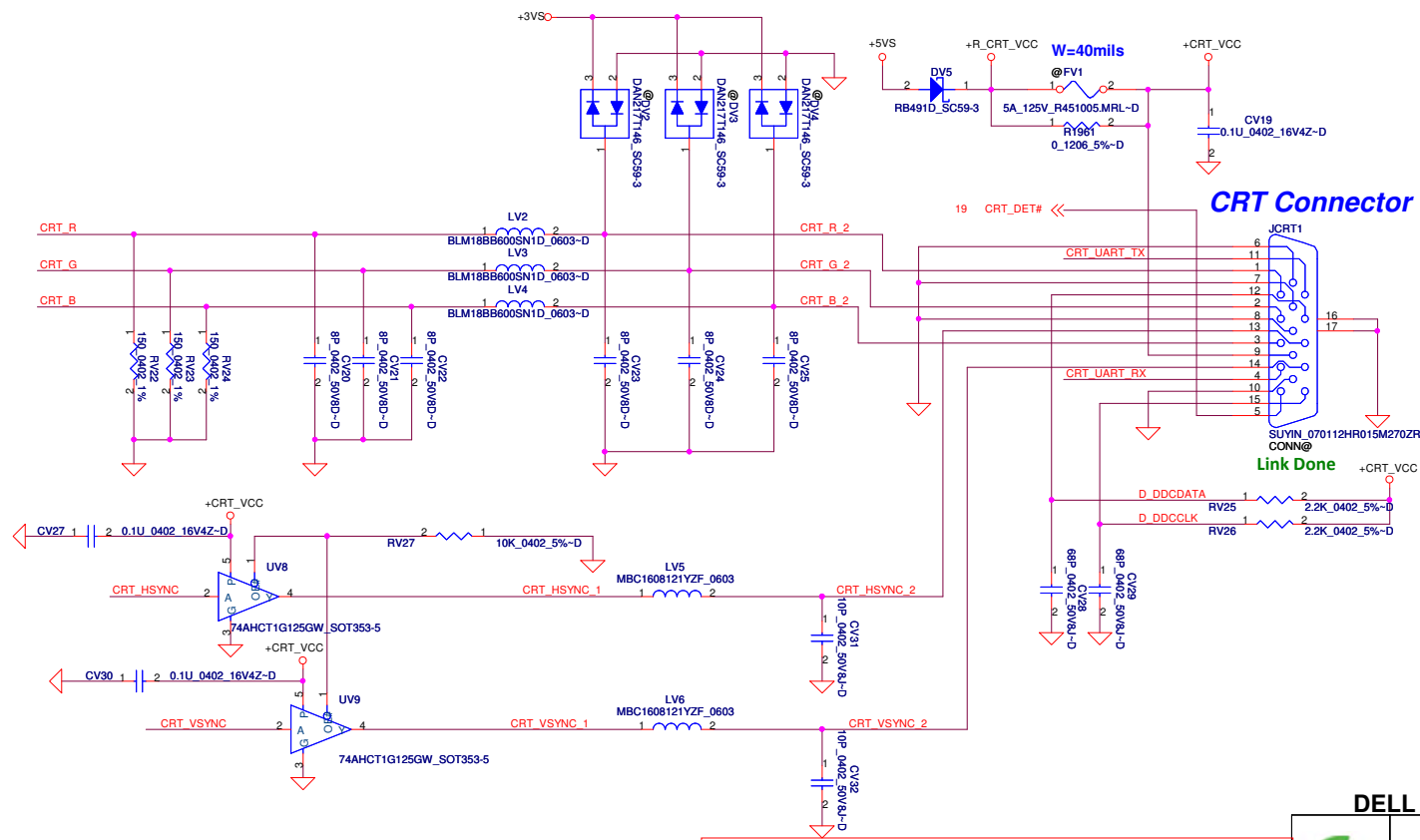
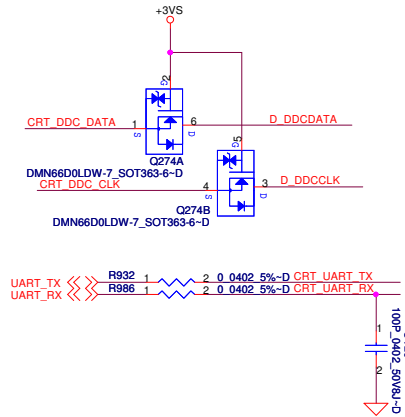
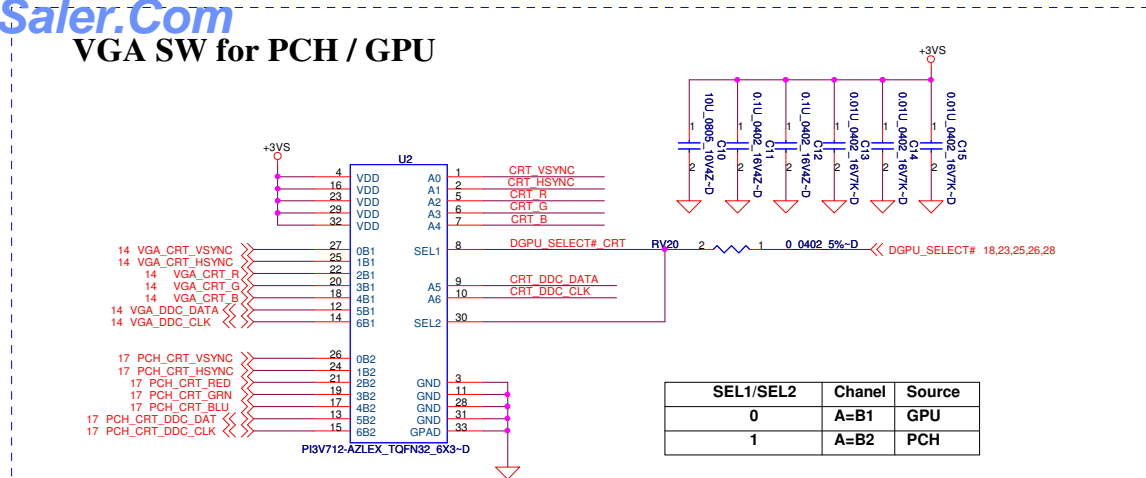
**LA-6601P**

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# VGA SW for PCH / GPU



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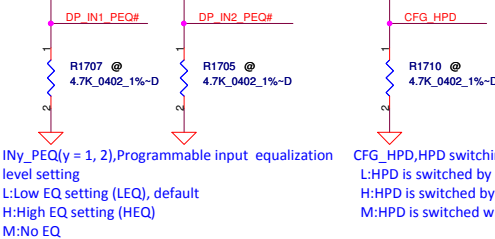
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|-------|----------------------------|-------|----------|
| Title |                            |       | LA-6601P |
| Size  | Document Number            | Rev   | 1.0      |
| Date  | Tuesday, November 30, 2010 | Sheet | 27 of 63 |

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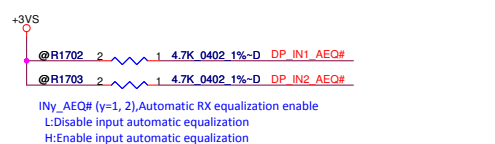


1.0

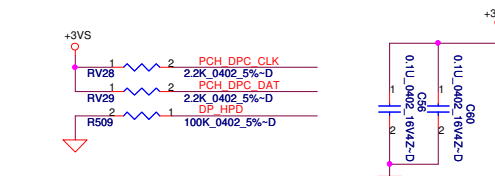
Date: Tuesday, November 30, 2010 Sheet 28 of 63



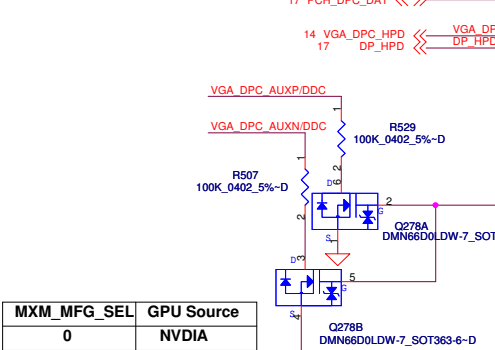
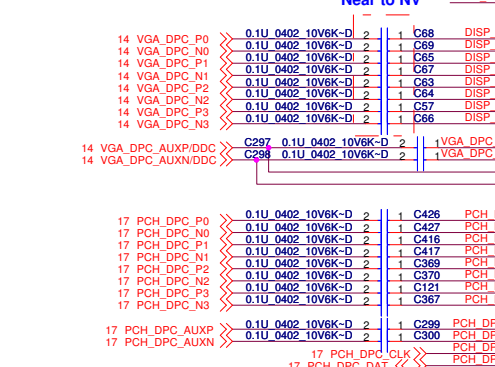
INy\_PEQ(y = 1, 2), Programmable input equalization level setting  
 L: Low EQ setting (LEQ), default  
 H: High EQ setting (HEQ)  
 M: No EQ



INy\_AEQ# (y=1, 2), Automatic RX equalization enable  
 L: Disable input automatic equalization  
 H: Enable input automatic equalization

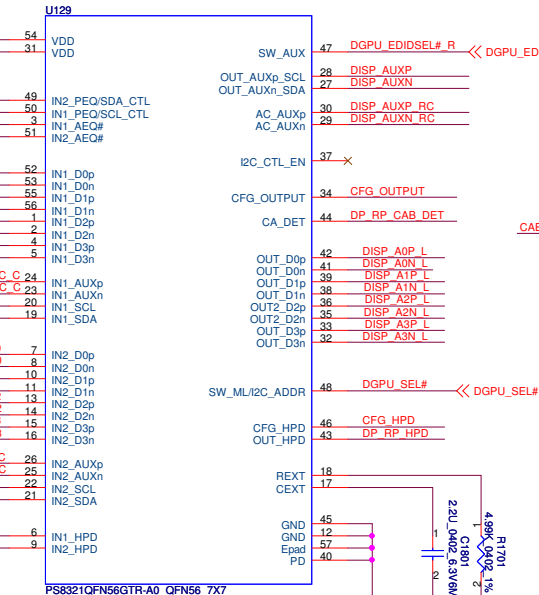


Near to NV



| MXM_MFG_SEL | GPU Source |
|-------------|------------|
| 0           | NVIDIA     |
| 1           | ATI        |

## PCH/GPU AUX&LANE SW for DPB



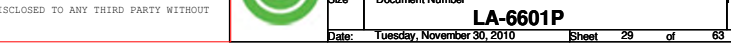
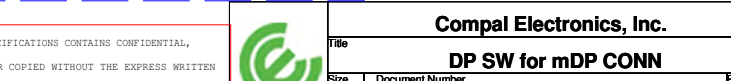
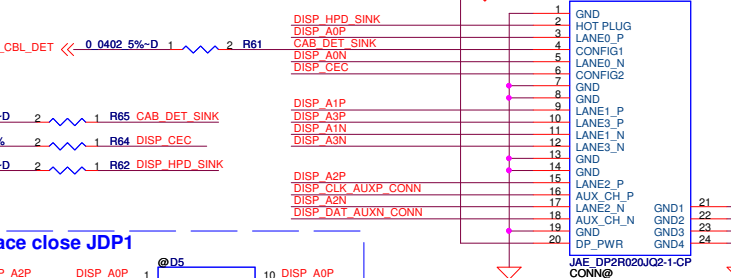
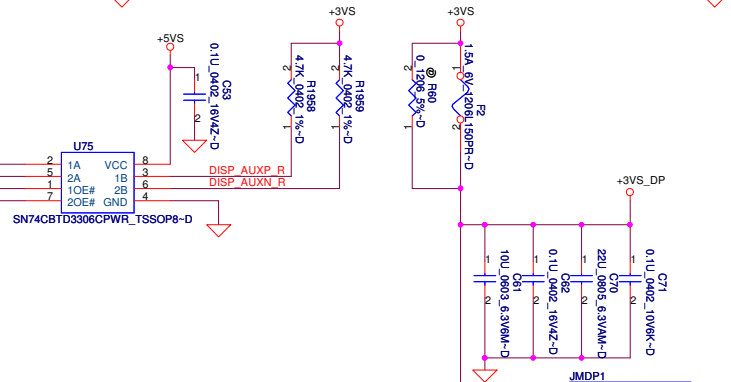
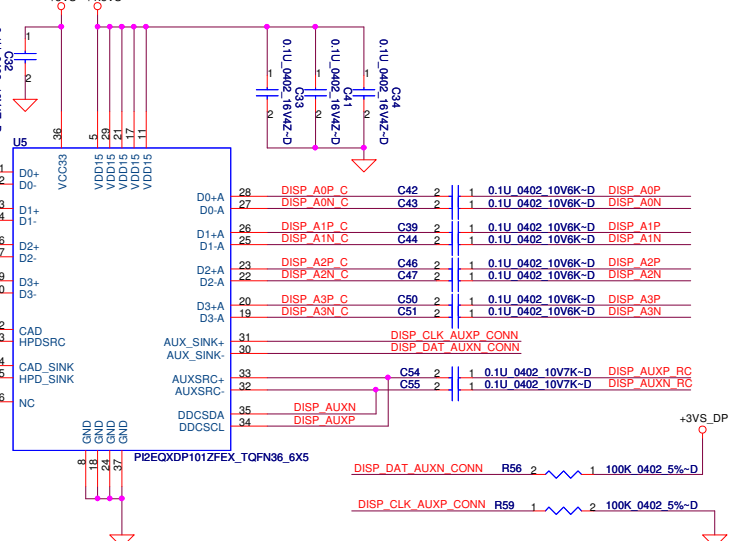
| SW_ML/I2C_ADDR | Chanel | Source |
|----------------|--------|--------|
| 0              | IN1    | GPU    |
| 1              | IN2    | PCH    |

DP\_MXM\_CARD\_SEL 23,44

|                |   |   |                   |                   |
|----------------|---|---|-------------------|-------------------|
| DISP A0P L C35 | 2 | 1 | 0.1U_0402_10V6K-D | PCH DISP A0P C 1  |
| DISP A0N L C36 | 2 | 1 | 0.1U_0402_10V6K-D | PCH DISP A0N C 2  |
| DISP A1P L C37 | 2 | 1 | 0.1U_0402_10V6K-D | PCH DISP A1P C 3  |
| DISP A1N L C38 | 2 | 1 | 0.1U_0402_10V6K-D | PCH DISP A1N C 4  |
| DISP A2P L C40 | 2 | 1 | 0.1U_0402_10V6K-D | PCH DISP A2P C 6  |
| DISP A2N L C45 | 2 | 1 | 0.1U_0402_10V6K-D | PCH DISP A2N C 7  |
| DISP A3P L C48 | 2 | 1 | 0.1U_0402_10V6K-D | PCH DISP A3P C 9  |
| DISP A3N L C49 | 2 | 1 | 0.1U_0402_10V6K-D | PCH DISP A3N C 10 |

| SW_AUX | Chanel | Source |
|--------|--------|--------|
| 0      | IN1    | GPU    |
| 1      | IN2    | PCH    |

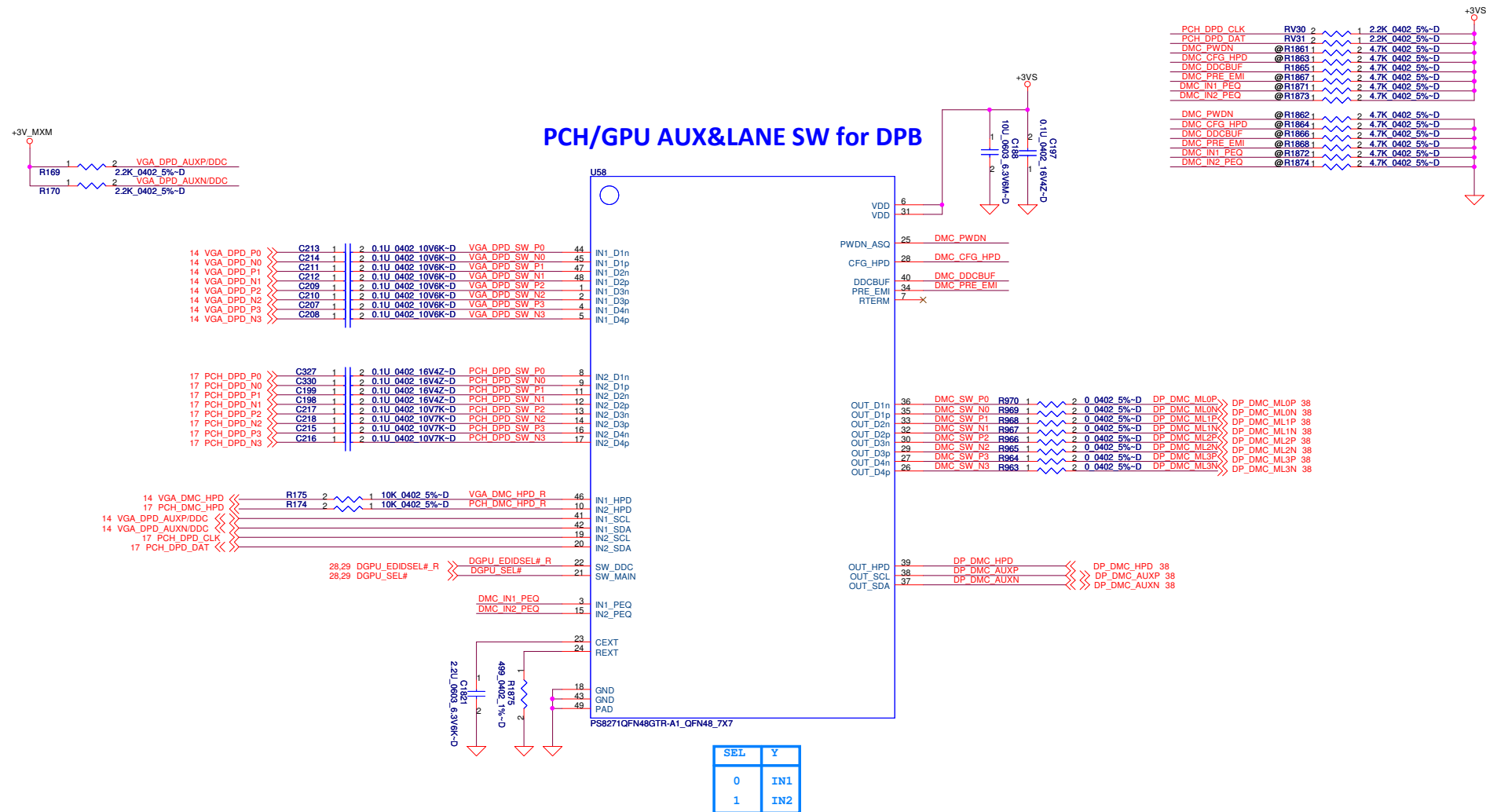
## DP Redriver



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| DP SW for mDP CONN       |                            |                |
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HDMI SW for DMC

LA-6601P

Rev 1.0

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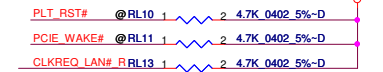
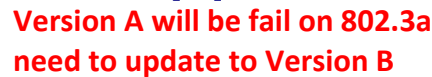
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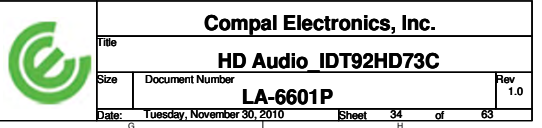


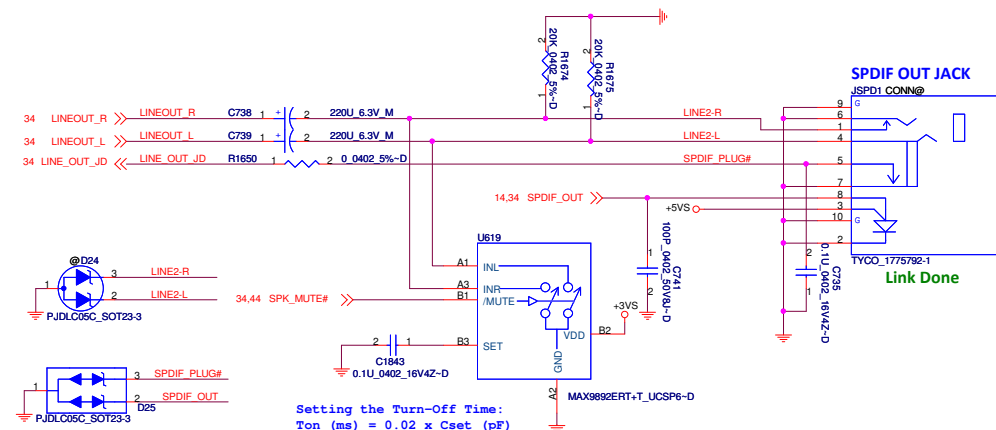
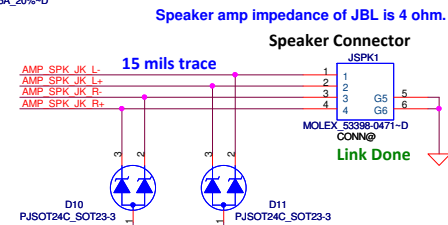


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1.0

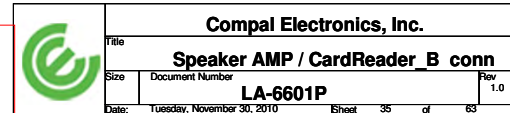
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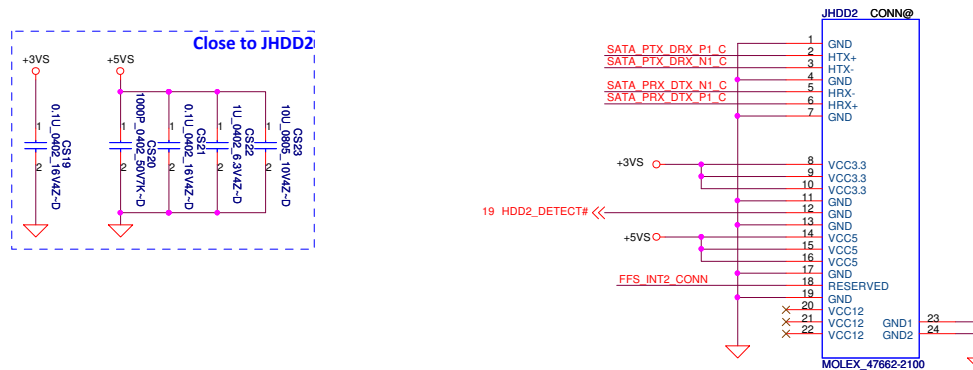
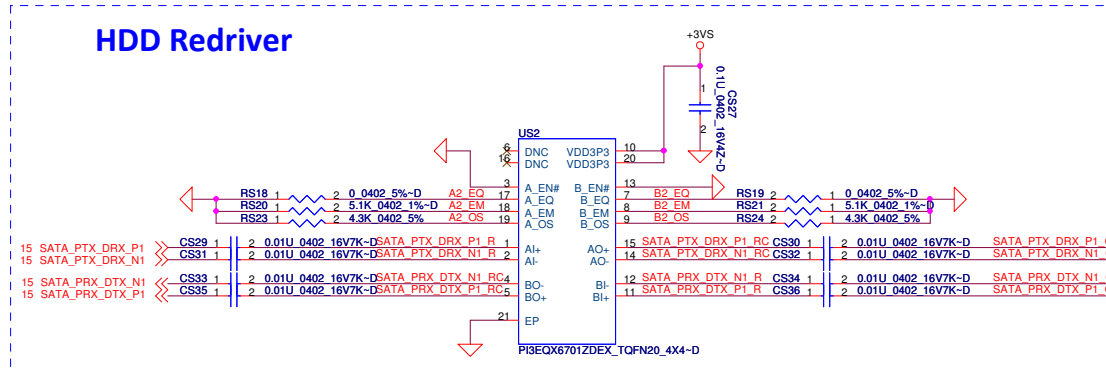
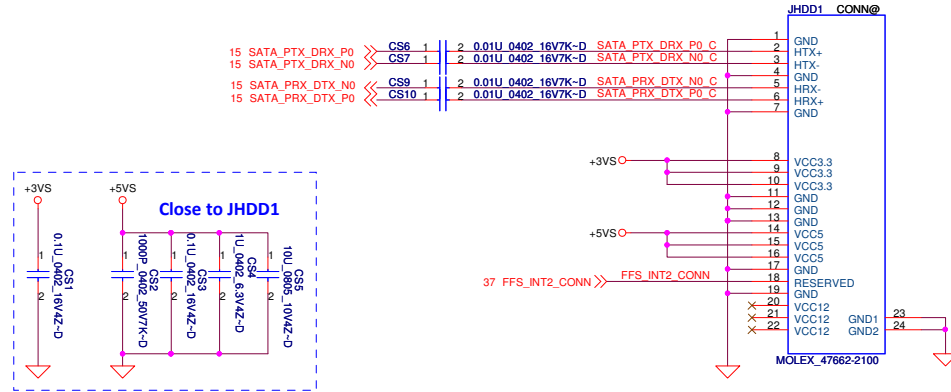




Setting the Turn-Off Time:  
 $T_{on} \text{ (ms)} = 0.02 \times C_{set} \text{ (pF)}$



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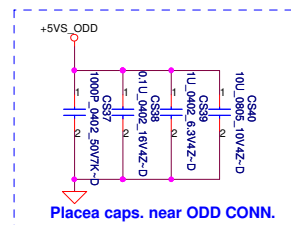
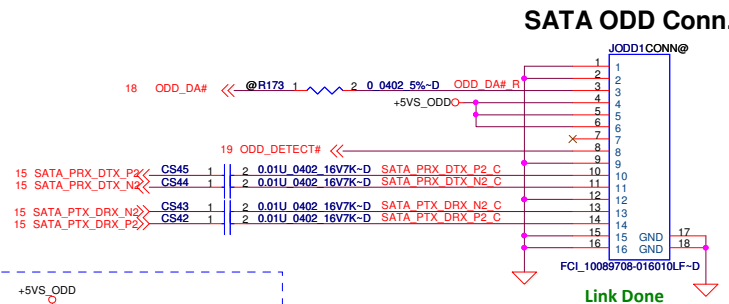
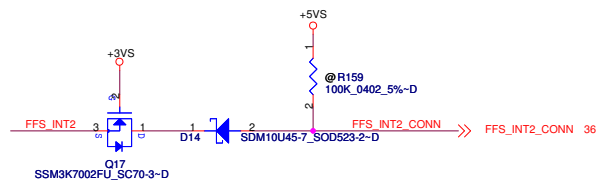
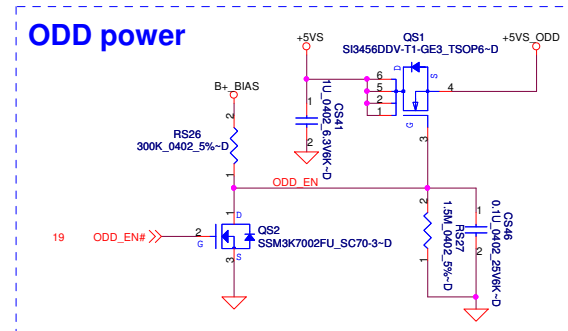
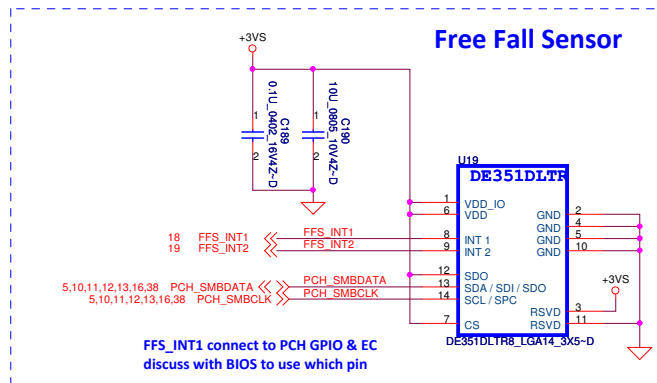


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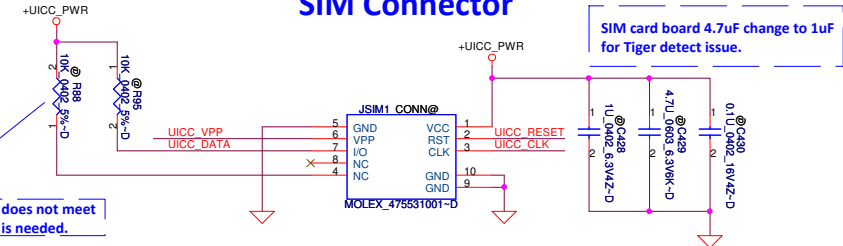
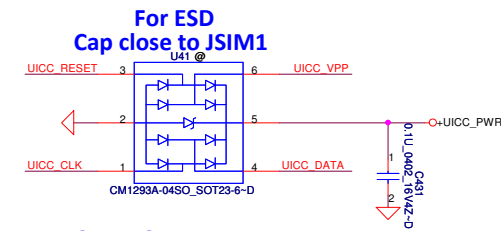
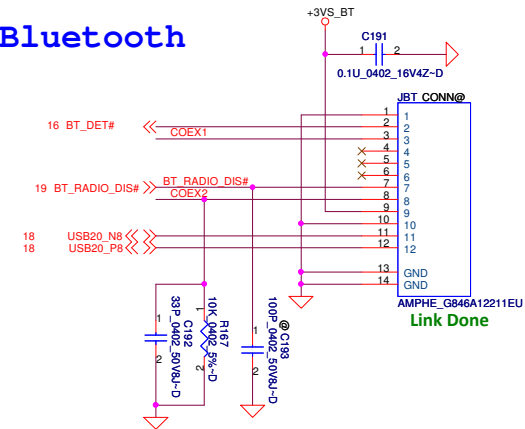
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|-------|----------------------------|------------------|----------|
| Title |                            | SATA HDD1 & HDD2 |          |
| Size  | Document Number            | LA-6601P         |          |
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| Rev   | 1.0                        |                  |          |

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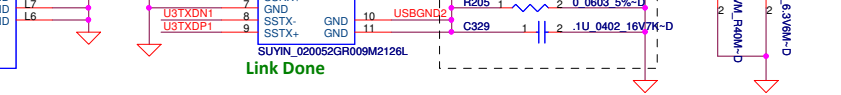
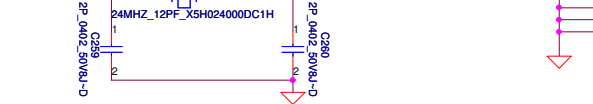
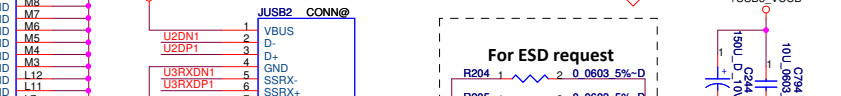
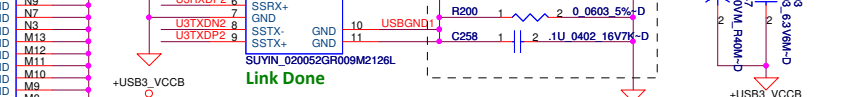
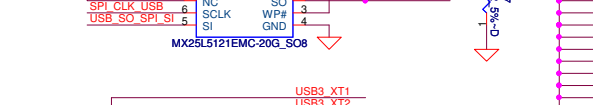
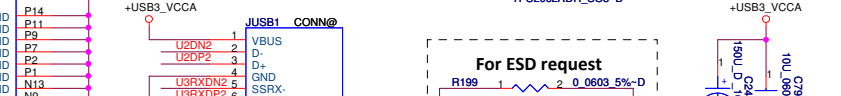
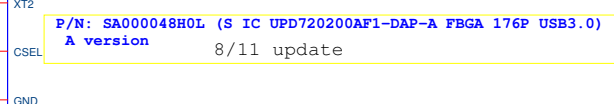
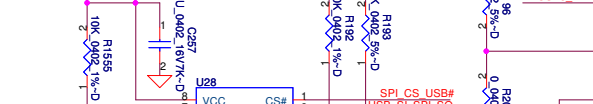
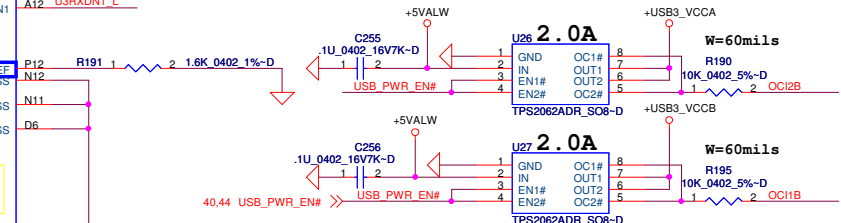
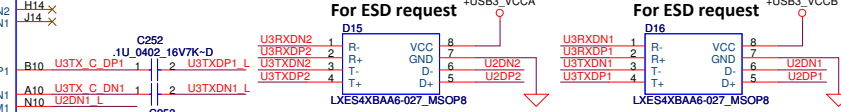
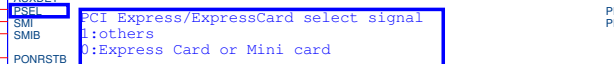
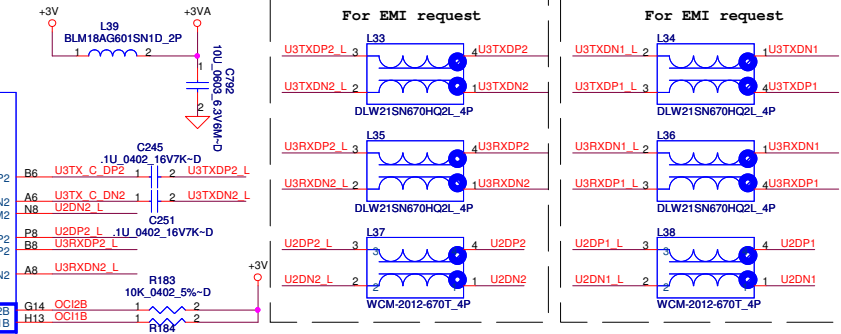
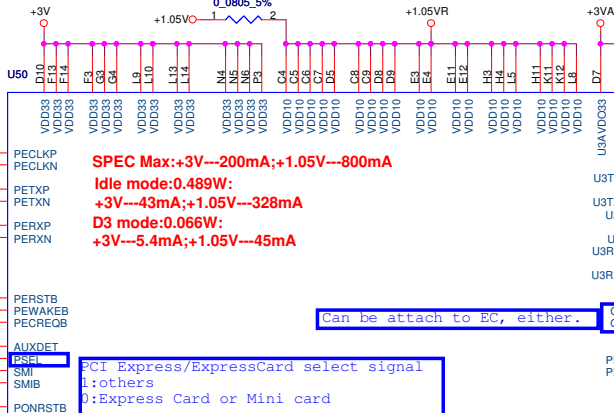
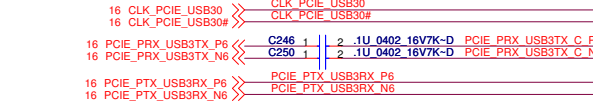
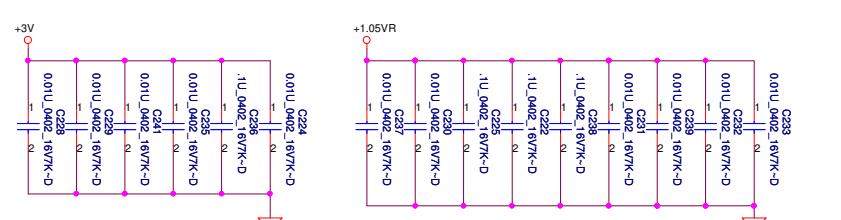
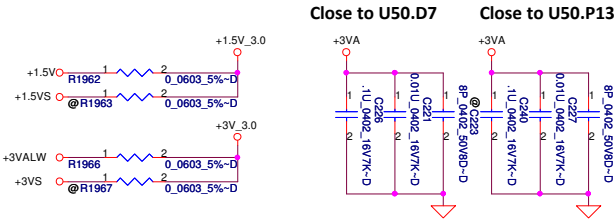
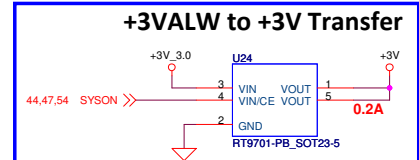
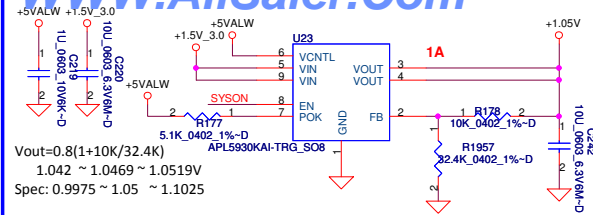


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| Title                         |                            | SATA HDD3 & ODD & FFS |         |
| Size                          | Document Number            | LA-6601P              | Rev 1.0 |
| Date:                         | Tuesday, November 30, 2010 | Sheet 37              | of 63   |







|                               | AUXDET(Pin J2)            | CSEL(Pin P6)       | CLK                                                               |
|-------------------------------|---------------------------|--------------------|-------------------------------------------------------------------|
| Support USB remote wakeup     | pull high<br>10k to VDD33 | Tied to GND        | Must use 24MHz crystal: mount Y1,R19,C40,C41                      |
| Not support USB remote wakeup | Tied to GND               | pull high to VDD33 | Can use either 48MHz or 24MHz When use 48MHz clock: mount R22,R25 |

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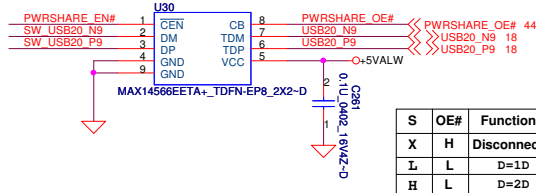
**Compal Electronics, Inc.**

## USB3.0 PD720200

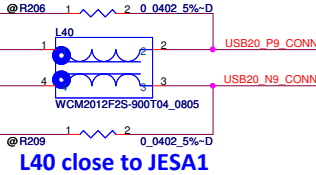
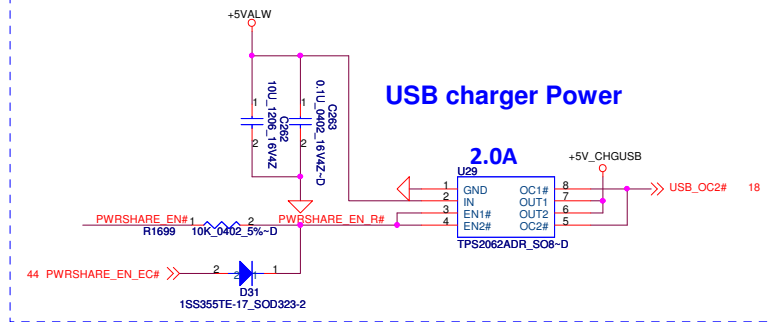
**LA-6601P**

Rev  
1.0

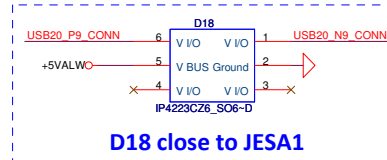
## Power share



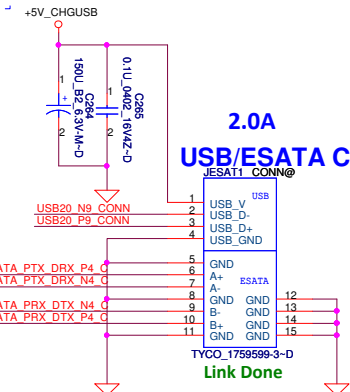
## USB charger Power



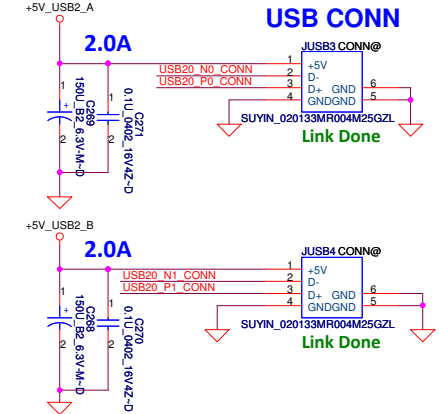
## D18 close to JESA1



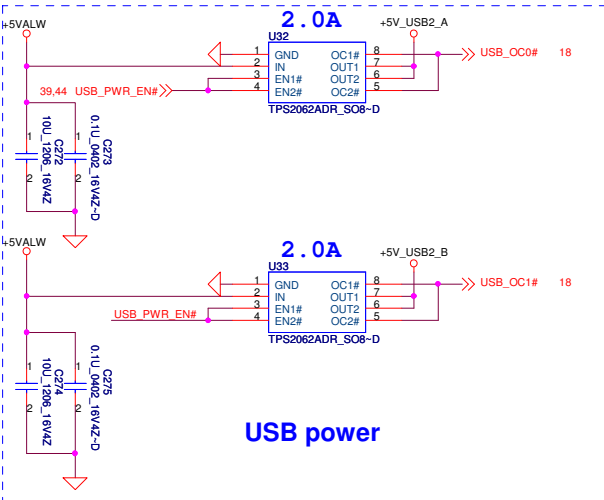
## 2.0A USB/ESATA CONN



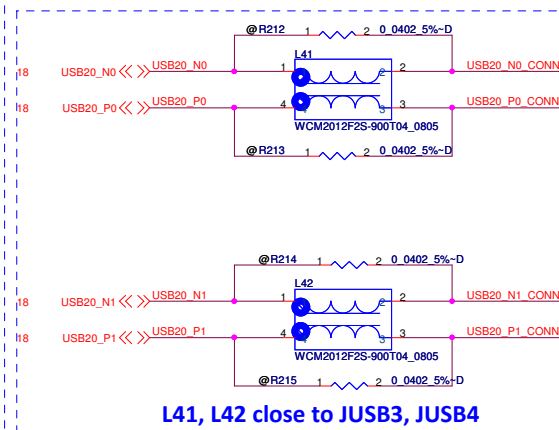
## USB CONN



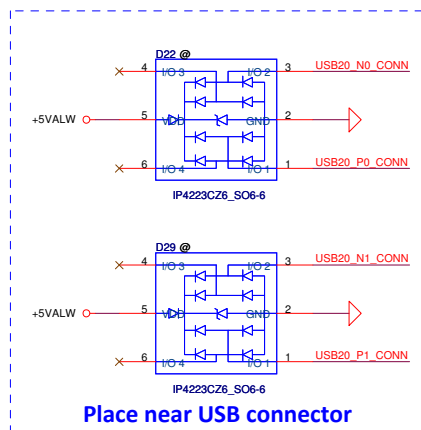
## USB power



## L41, L42 close to JUSB3, JUSB4



## Place near USB connector

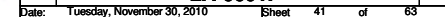


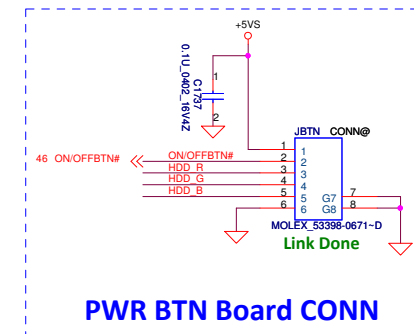
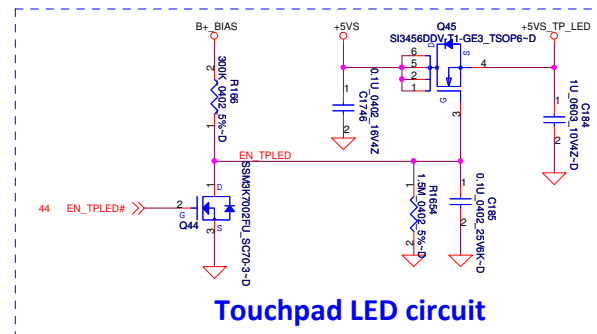
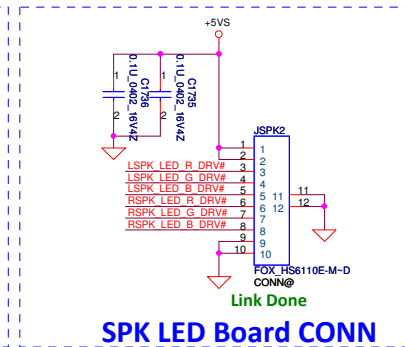
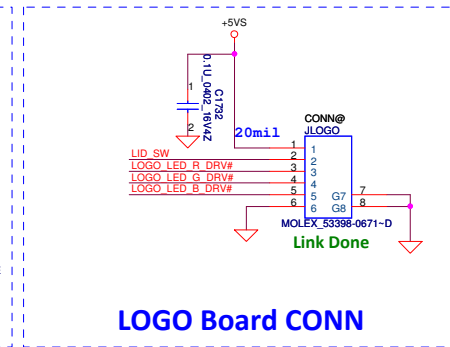
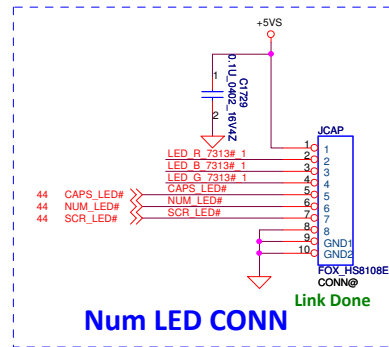
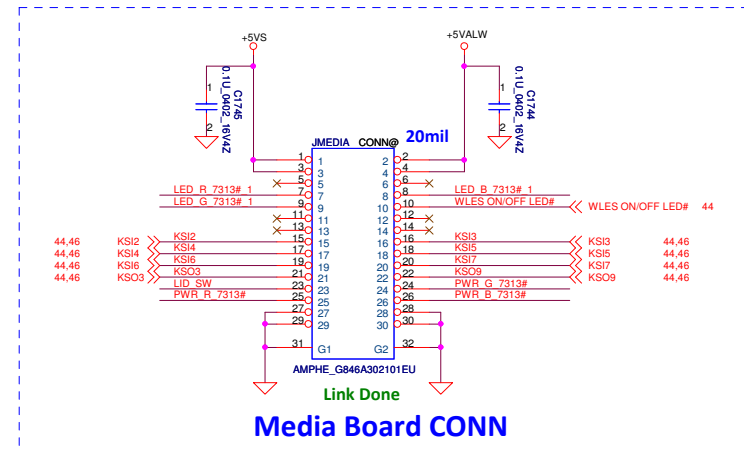
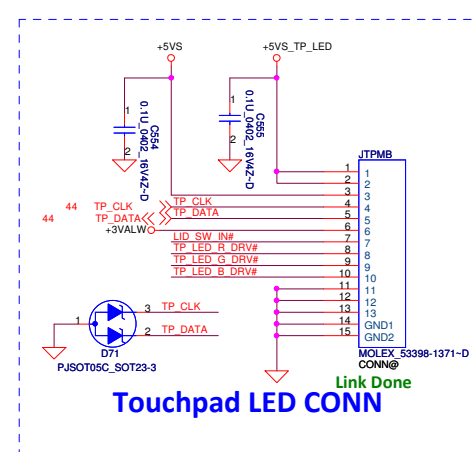
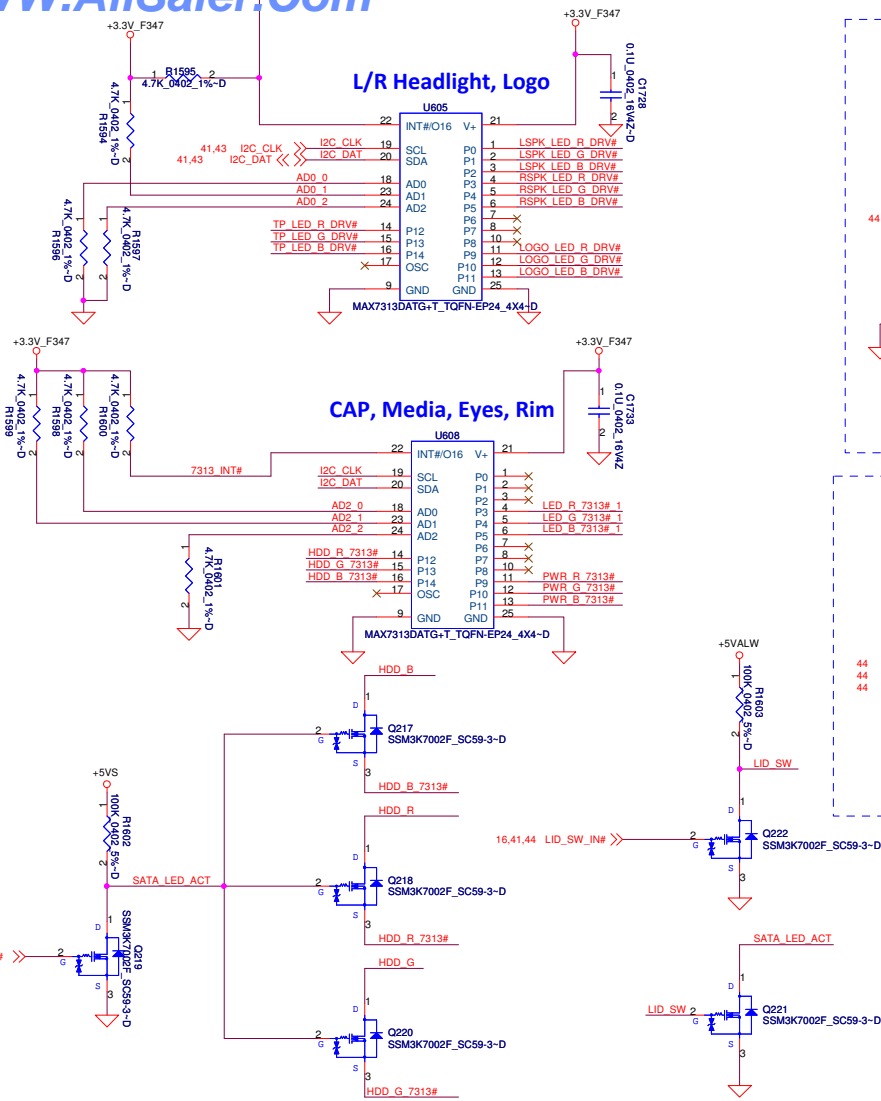
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| Compal Electronics, Inc. |                            |          |          |
|--------------------------|----------------------------|----------|----------|
| USB/ESATA TS3USB221R SER |                            |          |          |
| Size                     | Document Number            | LA-6601P | Rev 1.0  |
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| Reference | AD2 | AD1 | AD0 | MAX7313                                                                                                                                                          |
|-----------|-----|-----|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| U605      | 0   | 1   | 0   | L/R Headlight , Logo, TP                                                                                                                                         |
| U608      | 0   | 1   | 1   | Num, CAP , SCR<br>EJECT, REV, PLAY/PAUSE<br>FFWD, Vol_DWN, Vol_UP<br>Wireless ON/OFF<br>AWCC Button<br>Alien Adrenaline<br>Power Button Eyes<br>Power Button Rim |

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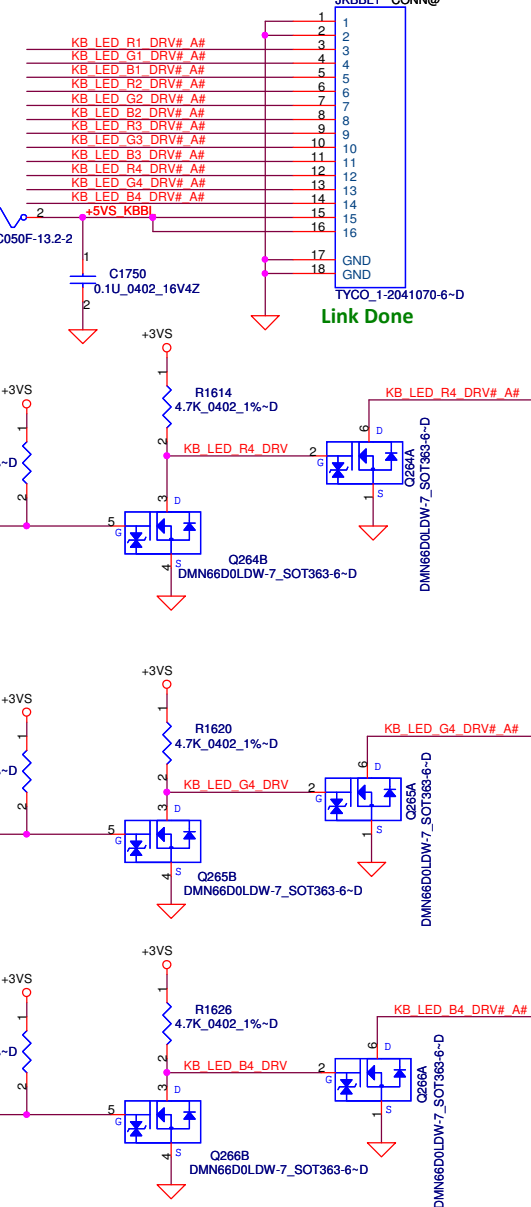
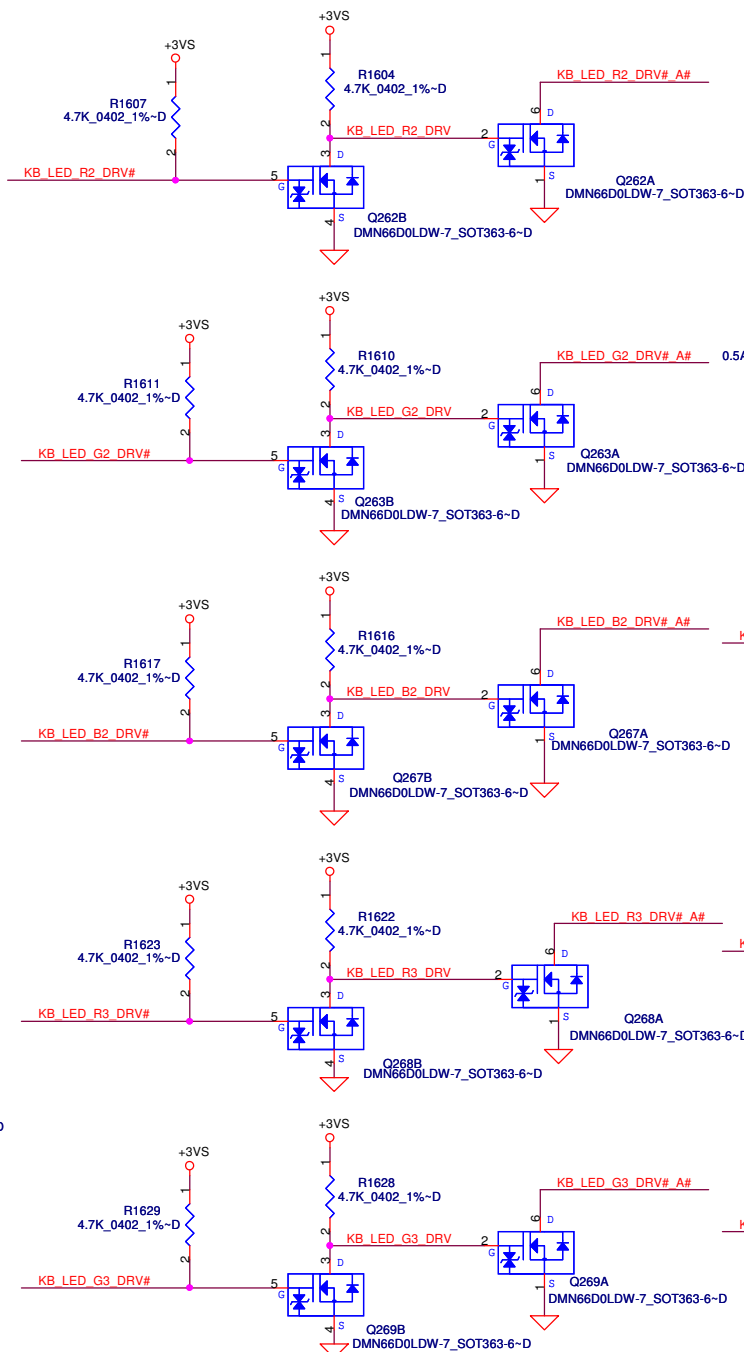
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**ELC (2)**

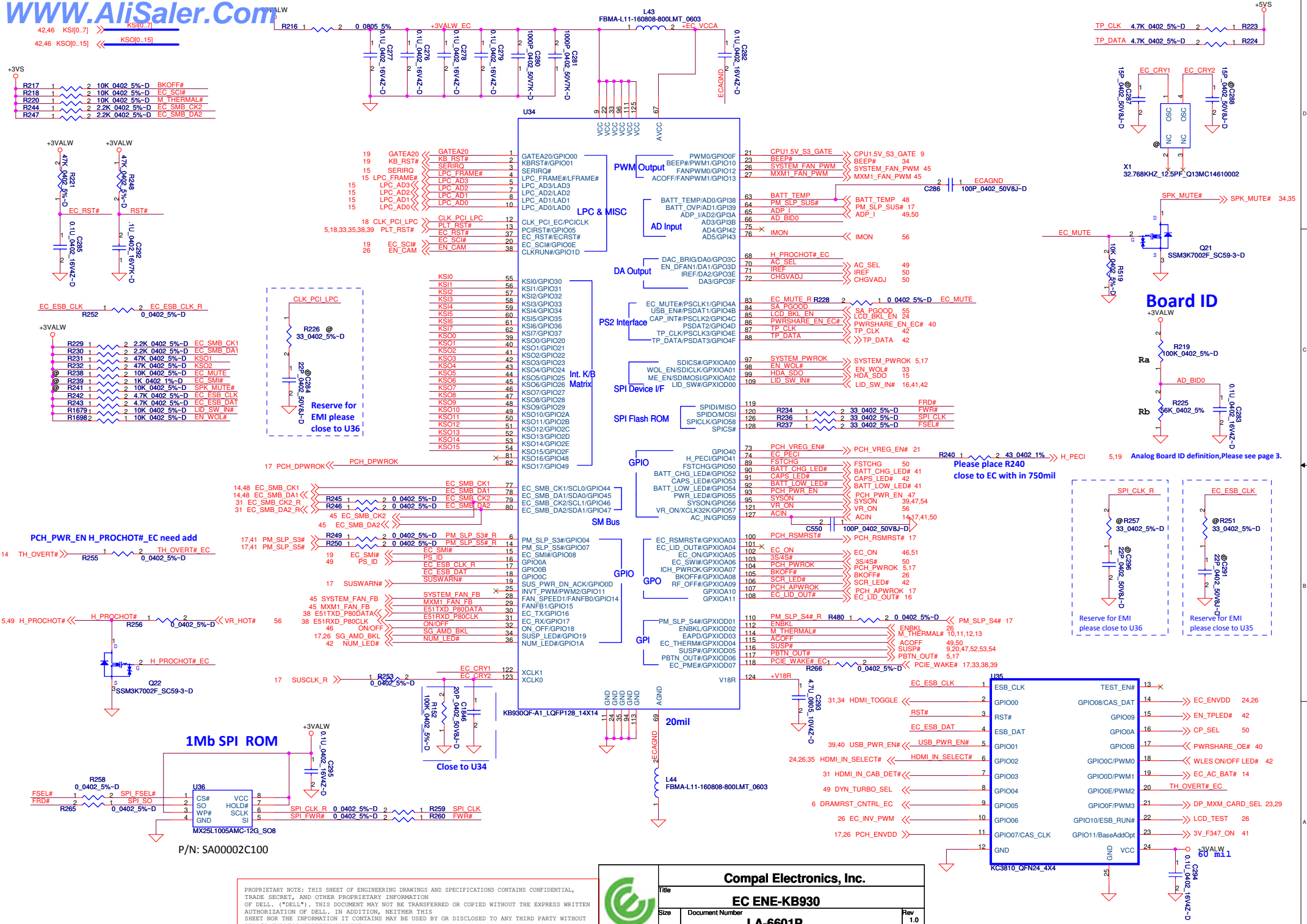
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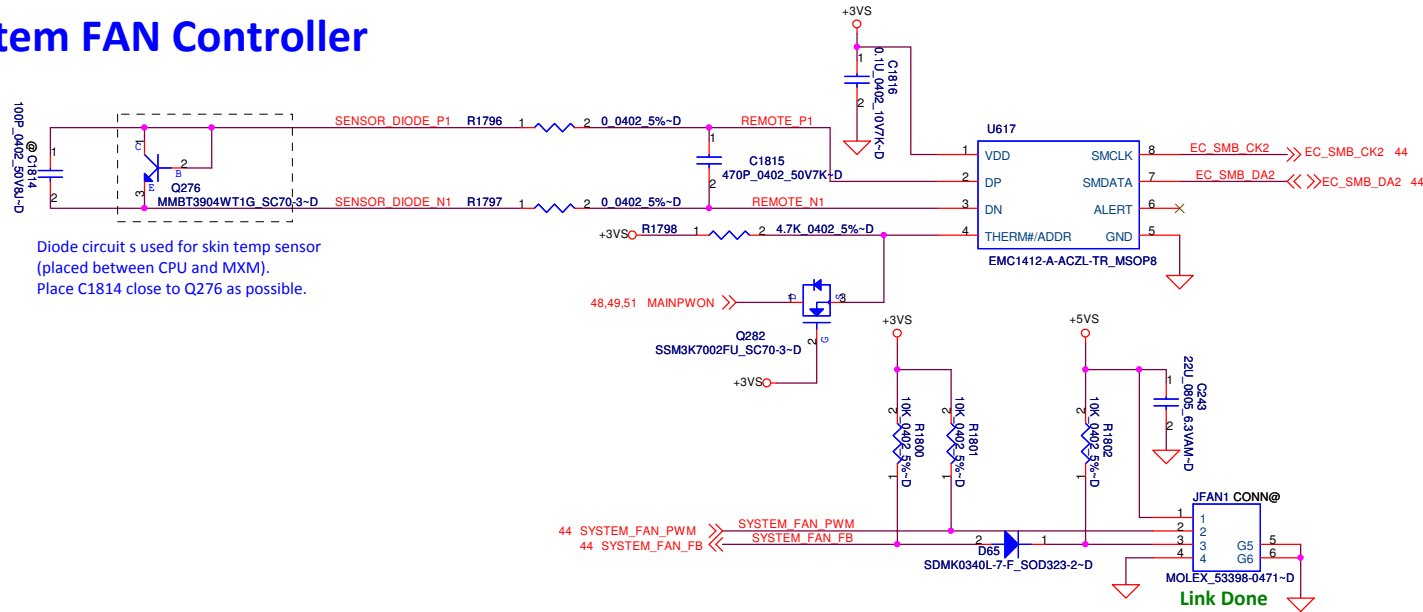
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| Size    | Document Number            |                | Rev |
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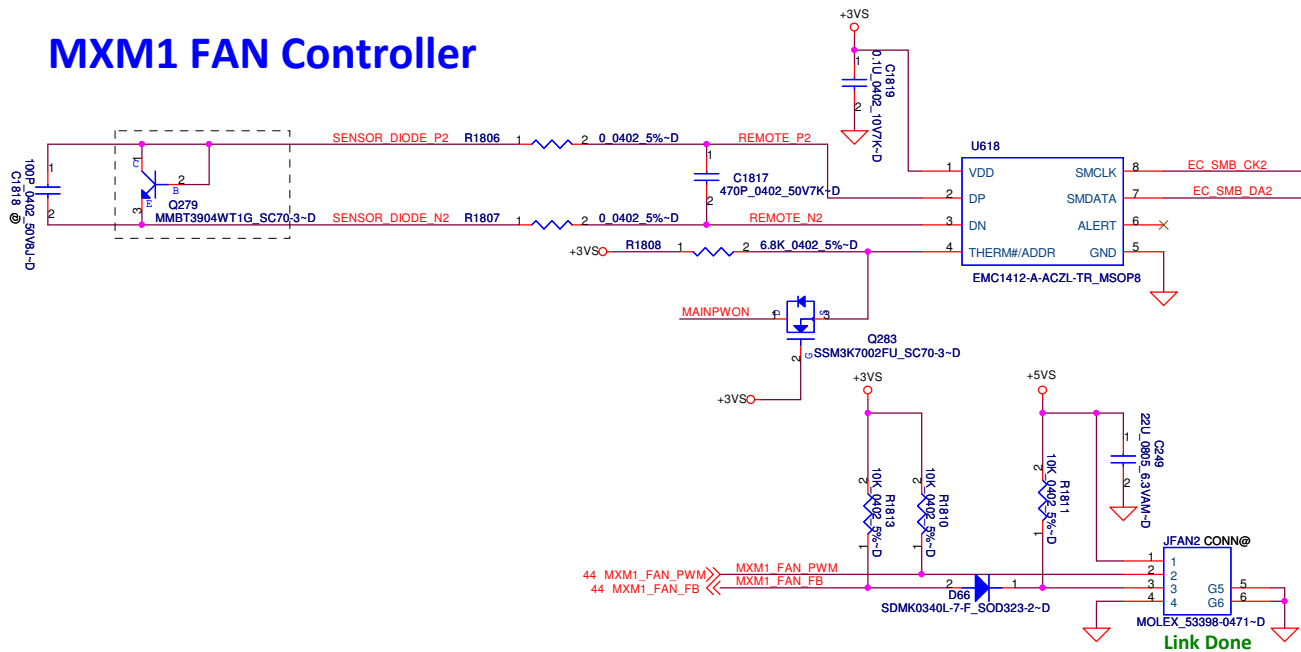




## System FAN Controller



## MXM1 FAN Controller



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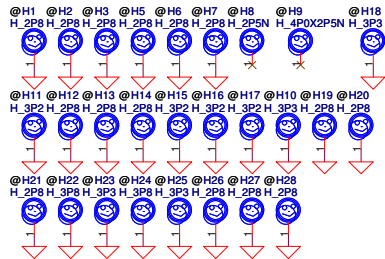
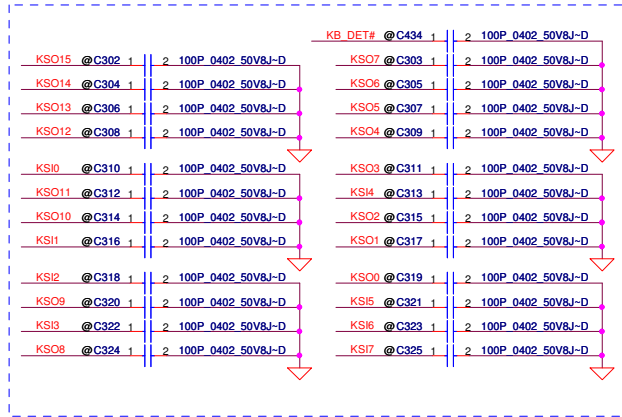
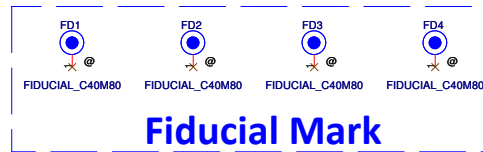
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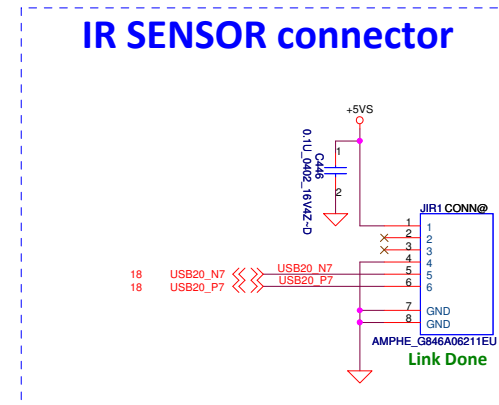
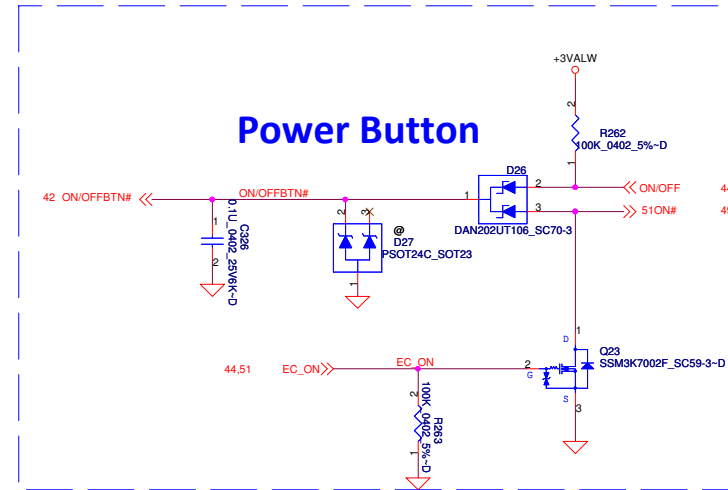
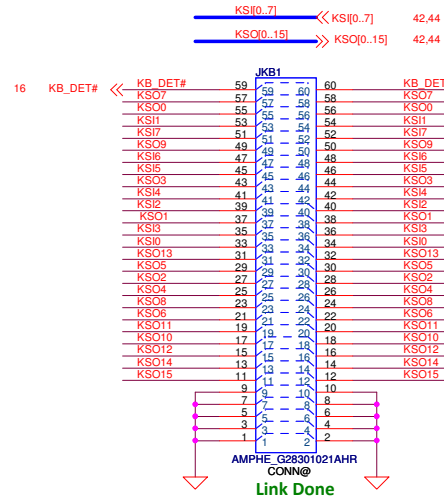
Thermal Sensor & FAN

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## INT\_KBD Conn.



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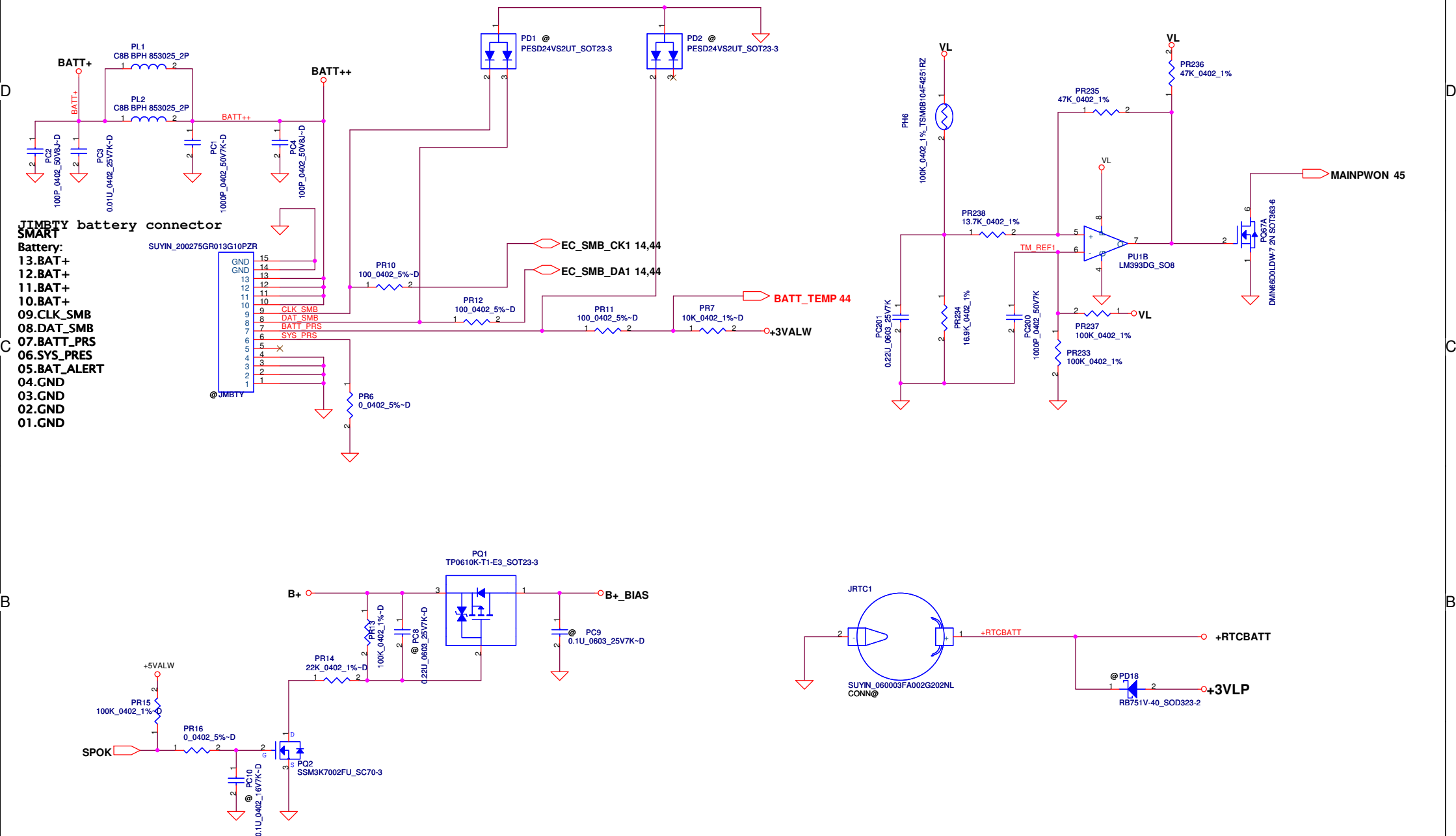
### KB & Power Button & IR

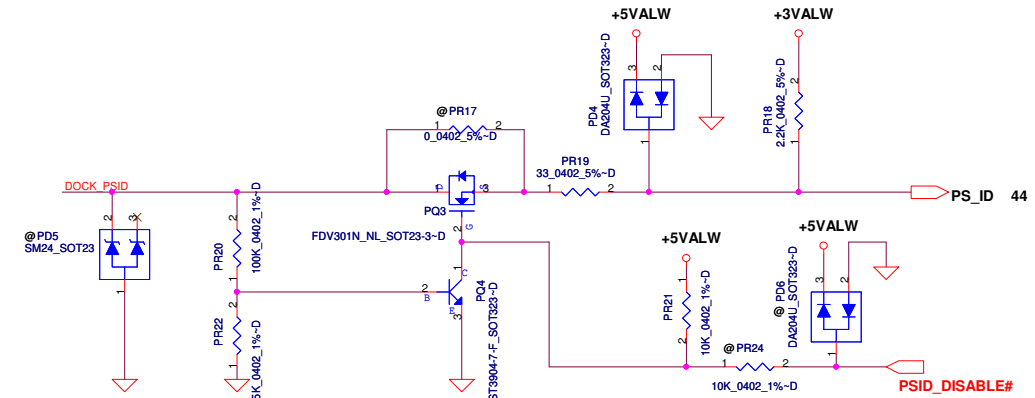
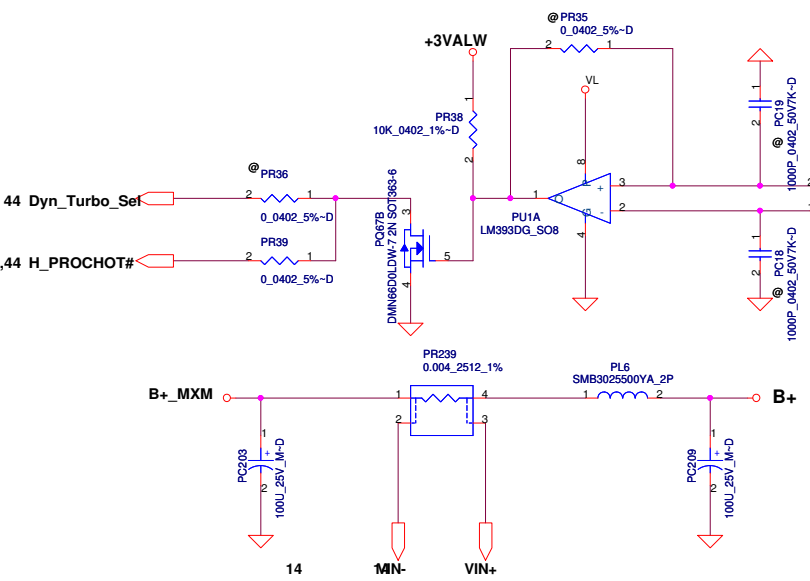
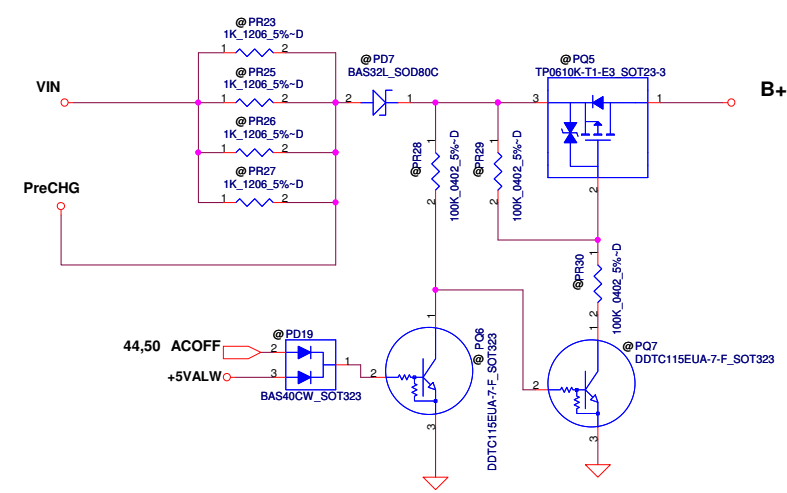
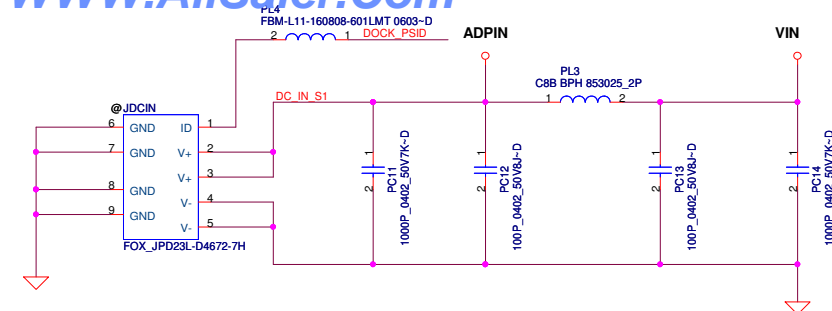
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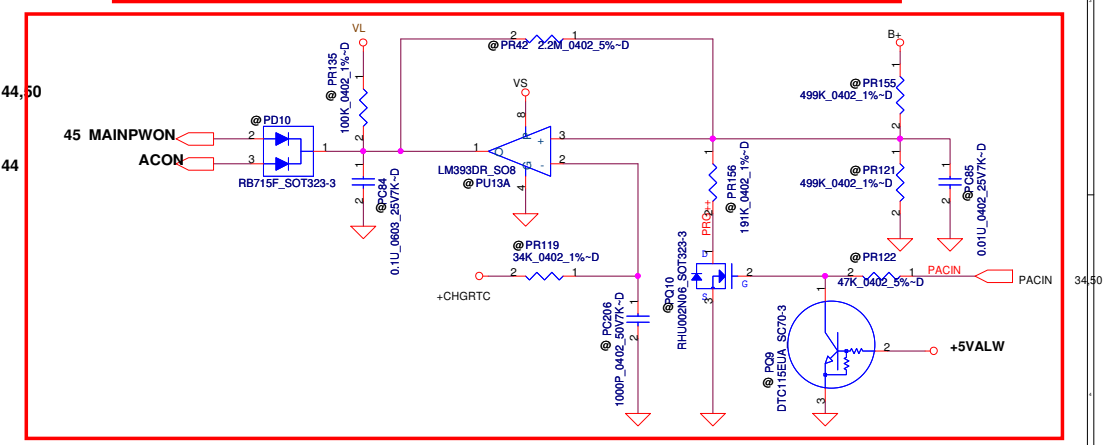
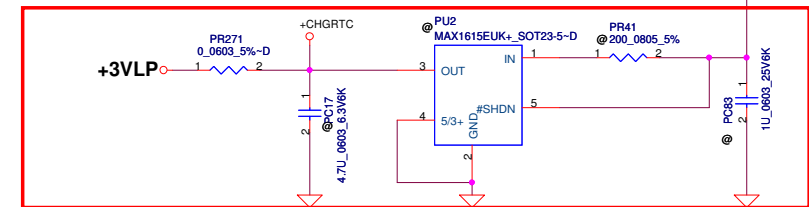
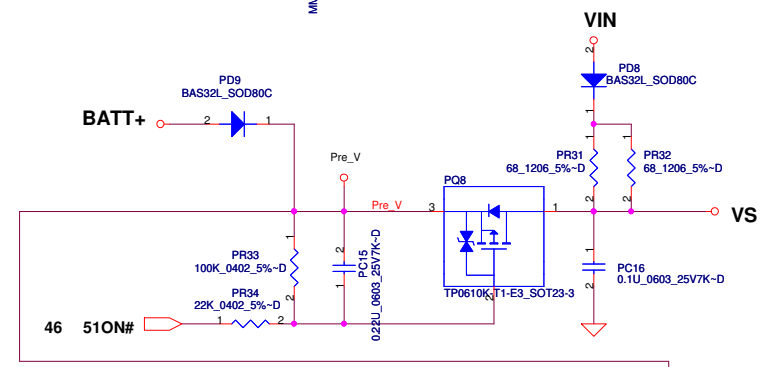




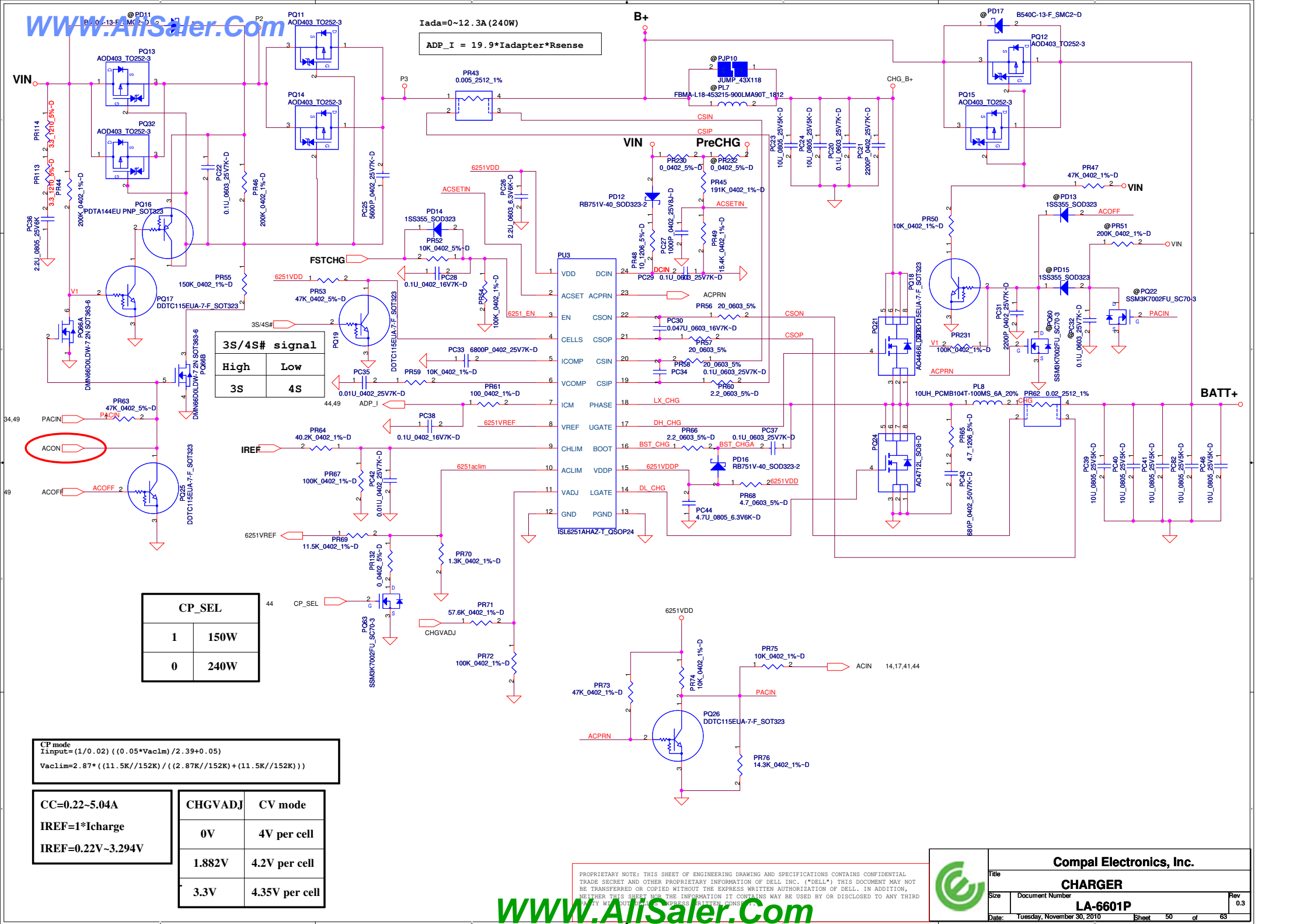
| ACIN  |                    |        |         |
|-------|--------------------|--------|---------|
|       | Precharge detector |        |         |
|       | Min.               | typ.   | Max.    |
| H-->L | 14.589V            | 14.84V | 15.243V |
| L-->H | 15.562V            | 15.97V | 16.388V |

| BATT ONLY |                    |        |       |
|-----------|--------------------|--------|-------|
|           | Precharge detector |        |       |
|           | Min.               | typ.   | Max.  |
| H-->L     | 4.92V              | 6.1V   | 5.25V |
| L-->H     | 6.062V             | 6.244V | 6.43V |

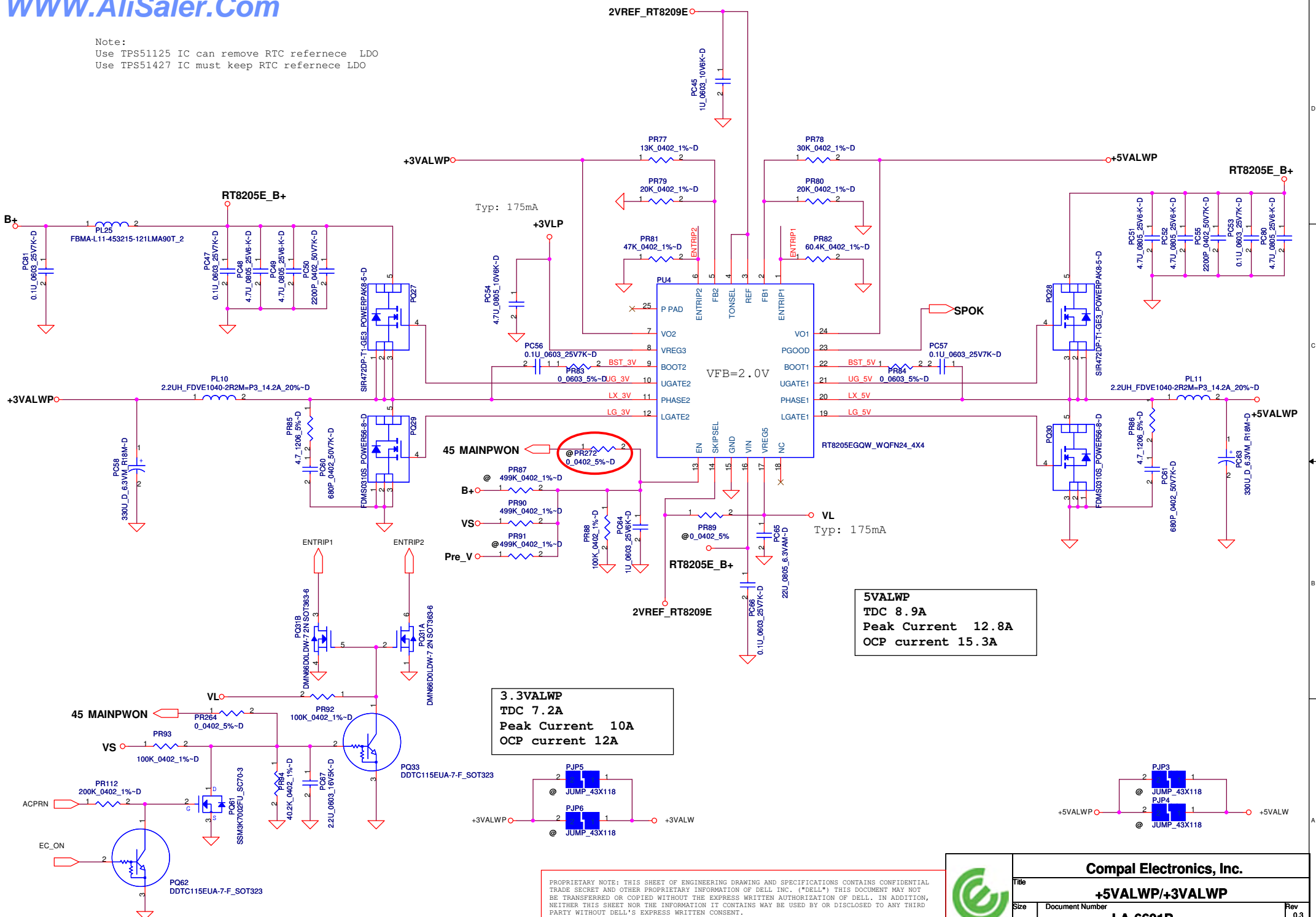


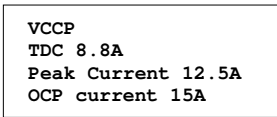
Add MXM power net for HW request.

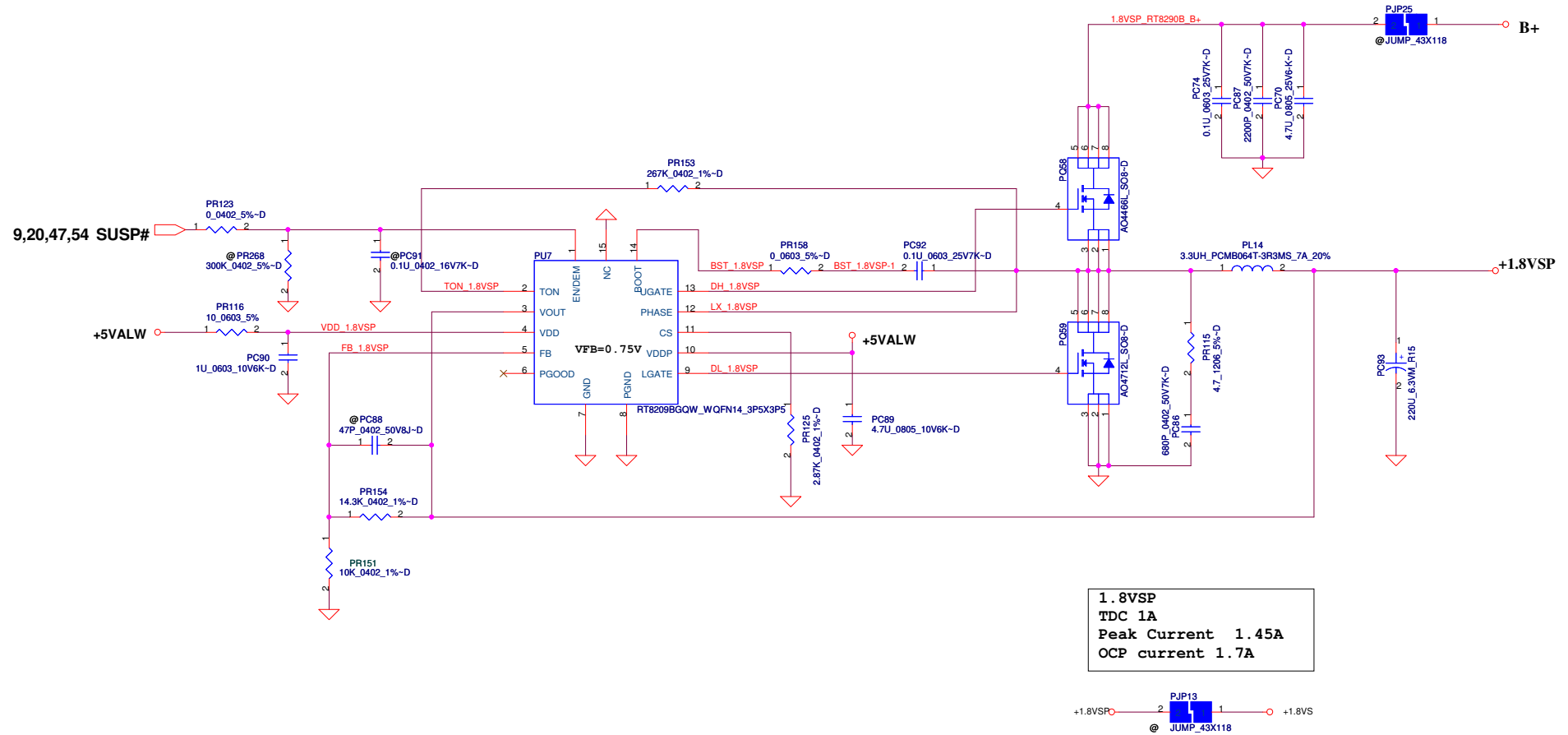




```
Use TPS51125 IC can remove RTC refernece LDO
Use TPS51427 IC must keep RTC refernece LDO
```

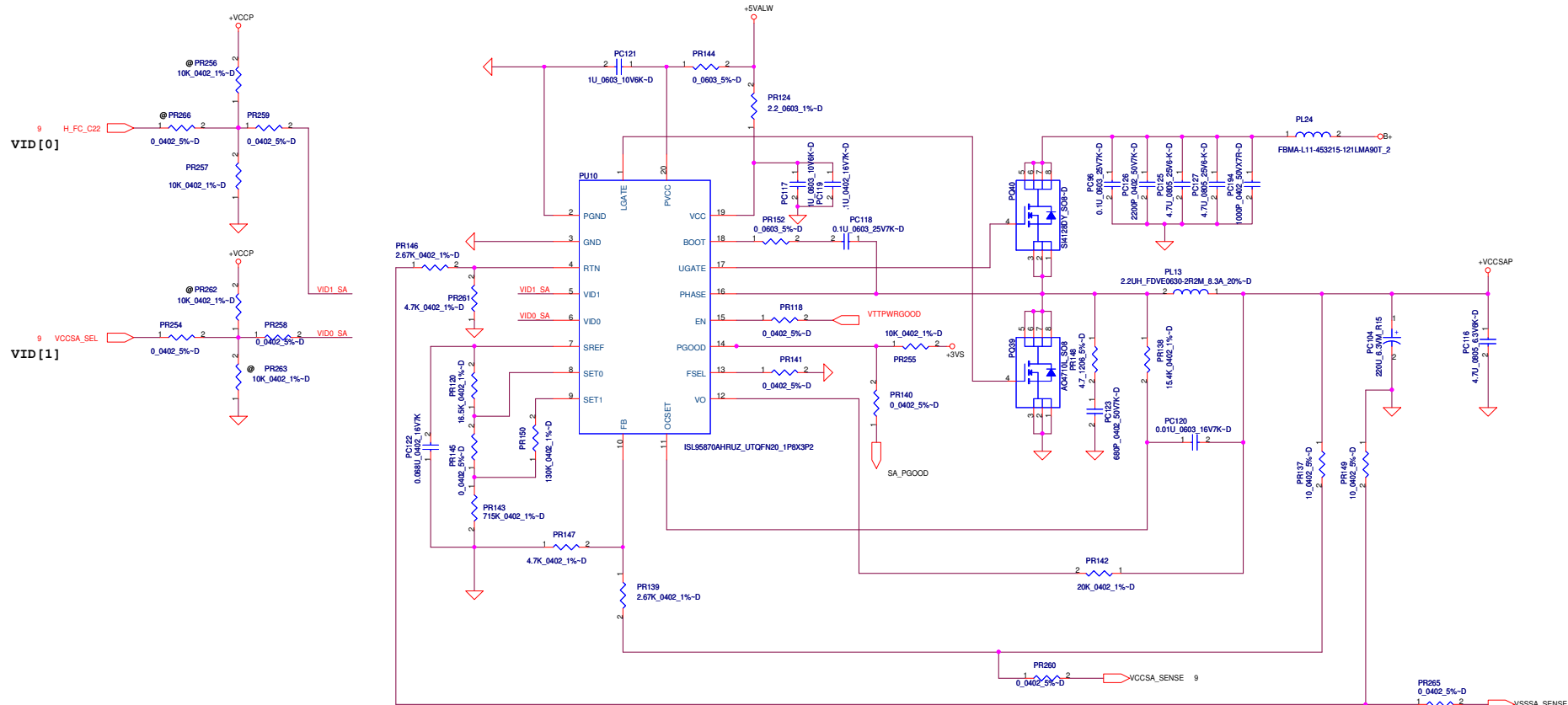






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Note:  
RTN pin need reference output GND

| VID[0] | VID[1] | VCCSA Vout | Required |     |     |
|--------|--------|------------|----------|-----|-----|
| 0      | 0      | 0.9V       | Yes      | Yes | Yes |
| 0      | 1      | 0.8V       | Yes      | Yes | Yes |

**+VCCSAP**  
TDC 4.2A  
Peak Current 6A  
OCP current 7.2A



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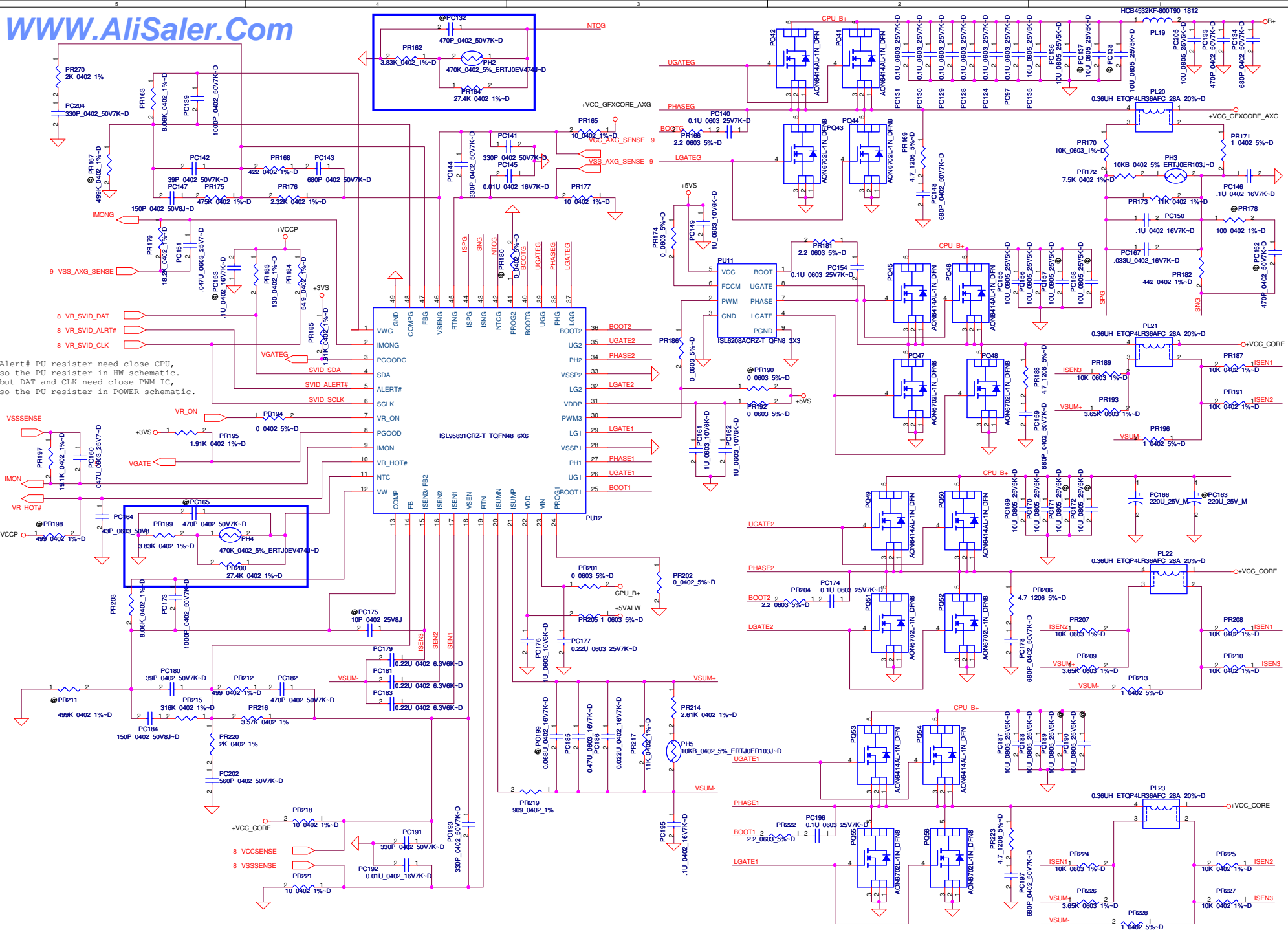
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PWR-VCCSA COREP

**Size**  
Document Number  
LA-6601P

**Date**  
Tuesday, November 30, 2010

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0.3



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|-----|-----|
| Rev | 0.3 |
|-----|-----|



| Item | Page#    | Title                                       | Date     | Request Owner | Issue Description                                        | Solution Description                                                                                                                                                                      | Rev. |
|------|----------|---------------------------------------------|----------|---------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 1    | 56       | CPU_CORE                                    | 10'06/17 | Compal_Alvin  | Improve thermal compensation.                            | Change PR164 from 0ohm to 27.4Kohm.                                                                                                                                                       | X00  |
| 2    | 51-57    | all DC-DC schematic                         | 10'06/17 | Compal_Alvin  | Improve dc to dc power efficiency.                       | Delete all snuber for all dc-dc.<br>Delete PR85, PR86, PR98, PR115, PR129, PR148, PR169, PR188, PR206, PR223.<br>Delete PC60, PC61, PC78, PC86, PC108, PC123, PC148, PC159, PC178, PC197. | X00  |
| 3    | 50       | Charger                                     | 10'07/22 | Compal_Alvin  | Voltage rating enhancement.                              | Change PR49 form 14.3K to 15K.                                                                                                                                                            | X01  |
| 4    | 50       | Charger                                     | 10'07/22 | Compal_Alvin  | Output capacitor rating enhancement.                     | Add PC46 10uF 0805 to output.                                                                                                                                                             | X01  |
| 5    | 51       | +5VALWP/+3VALWP                             | 10'07/22 | Compal_Alvin  | Enhance Input capacitor rating and switch waveform.      | Add PC80 4.7uF 0805 to input and change low side to FDM50310S.                                                                                                                            | X01  |
| 6    | 56       | CPU_CORE                                    | 10'07/22 | Compal_Alvin  | Improve EMC solution.                                    | Add PC97, PC124, PC128, PC129, PC130, PC131 0.1uF 0603.                                                                                                                                   | X01  |
| 7    | 51       | +5VALWP/+3VALWP                             | 10'07/22 | Compal_Alvin  | Improve EMC solution.                                    | Add PC80 0.1uF 0603.                                                                                                                                                                      | X01  |
| 8    | 54       | +1.5VP/0.75VSP                              | 10'07/22 | Compal_Alvin  | Improve EMC solution.                                    | Add PC168 0.1uF 0603.                                                                                                                                                                     | X01  |
| 9    | 55       | VCCSAP                                      | 10'07/22 | Compal_Alvin  | Improve EMC solution.                                    | Add PL24 120ohm bead, and PC194 1000pF 0402.                                                                                                                                              | X01  |
| 10   | 53       | +1.8VSP                                     | 10'07/22 | Compal_Alvin  | Improve low side switching waveform.                     | Change PQ59 from A04466 to A04712L                                                                                                                                                        | X01  |
| 11   | 49       | DCIN/DECTOR                                 | 10'08/03 | Compal_Alvin  | Add dynmatic trubo function to control trubo.            | Add dynamatic trubo function.                                                                                                                                                             | X01  |
| 12   | 52       | +VCCPP                                      | 10'08/10 | Compal_Alvin  | For met Intel SPEC.                                      | Change VCCPP output CAP to 470uF.                                                                                                                                                         | X01  |
| 13   | 56       | CPU_CORE                                    | 10'08/10 | Compal_Alvin  | Adjust the CPU loadline and transient to met Intel SPEC. | PC167 and PC186.<br>PR216, PR219, PR202, PR180, PR176, PR179, PR182, PR167, PR186.                                                                                                        | X01  |
| 14   | 56       | CPU_CORE                                    | 10'09/28 | Compal_Alvin  | Improve CPUCore PWRGOOD signal.                          | Change VDD power rail from 5VS to 5VALW and add PR220 and PC202.                                                                                                                          | X02  |
| 15   | 55       | VCCSAP                                      | 10'09/28 | Compal_Alvin  | Improve VCCSA PWRGOOD signal.                            | Change VCC power rail from 5VS to 5VALW.                                                                                                                                                  | X02  |
| 16   | 49/50    | DCIN/DECTOR<br>BATTERY CONN/OTP             | 10'09/28 | Compal_Alvin  | Saving S4/S5 power consumption.                          | Change PU1 Pin8 from Pre_V to VL.                                                                                                                                                         | X02  |
| 17   | 51/52/54 | +5VALWP/+3VALWP<br>+VCCPP<br>+1.5VP/0.75VSP | 10'10/12 | Compal_Alvin  | For EMI solution.                                        | Add PL25, PL26, PL27 P/N:SM01000DJ00 (S SUPPRE_FBMA-L11-453215-121LMA90T 1812)<br>Add 10uF PC205 and change PC23, PC24 to 10uF.<br>Pop PC133 and PC134.                                   | X02  |

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| Item | Page# | Title               | Date     | Request Owner | Issue Description                                | Solution Description                                                                                                                                                              | Rev. |
|------|-------|---------------------|----------|---------------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 18   | 51-56 | all DC-DC schematic | 10'10/13 | Compal_Alvin  | EMI solution.                                    | Add all snubber for all dc-dc.<br>Add PR85, PR86, PR98, PR115, PR129, PR148, PR169, PR188, PR206, PR223.<br>Add PC60, PC61, PC78, PC86, PC108, PC123, PC148, PC159, PC178, PC197. | X02  |
| 19   | 50    | Charger             | 10'11/02 | Compal_Alvin  | Precharger schematic bom change for old solution | Delete PD13, PD15, PR51, PQ22, PC32.<br>Add PQ60, PR231.                                                                                                                          | X02  |

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| Item | Page# | Title                       | Date     | Request Owner  | Issue Description                                                          | Solution Description                                                                                                                                                                                     | Rev. |
|------|-------|-----------------------------|----------|----------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 1    | 29    | DP SW for mDP CONN          | 10'07/22 | Compal_Yungmao | Mini DP no function                                                        | Modified JMDP1 pin define                                                                                                                                                                                | X00  |
| 2    | 39    | USB 3.0 PD720200            | 10'08/10 | Compal_Yungmao | USB3.0 transfer speed is too low                                           | L33 swap pin3 with pin4, net U3TXDN2_L, U3TXDN2<br>L34 swap pin3 with pin4, net U3TXDP1_L, U3TXDP1<br>L35 swap pin3 with pin4, net U3RXDN2_L, U3RXDN2<br>L36 swap pin3 with pin4, net U3RXDP1_L, U3RXDP1 | X00  |
| 3    | 31    | HDMI input - STDP6038       | 10'07/22 | Compal_Yungmao | HDMI-IN no function                                                        | Change U7 pin111, 112 to U7 pin72,pin71                                                                                                                                                                  | X00  |
| 4    | 34-35 | HD Audio_IDT92HD73C         | 10'08/3  | Compal_Yungmao | S/PDIF jack no function                                                    | net LINE_OUT_JD connect to R1677 pin2<br>delete R721, R722, C740                                                                                                                                         | X00  |
| 5    | 38    | Mini Card -WLAN / DMC / BT  | 10'08/11 | Compal_Yungmao | Install Bluetooth module might be cause system can't bootable              | remove net name BT_ACTIVE                                                                                                                                                                                | X00  |
| 6    | 33    | GLAN AR8151 AL1A            | 10'08/9  | Compal_Yungmao | LOM can't work in 1000Mbps speed and no LED is on                          | swap JLAN1 pin11 with pin13, net LAN_LINK#, LAN_LED2#                                                                                                                                                    | X00  |
| 7    | 34    | HD Audio_IDT92HD73C         | 10'08/10 | Compal_Yungmao | Audio left and right channel reverse                                       | swap U9, U16 pin6 with pin8                                                                                                                                                                              | X00  |
| 8    | 40    | USB/ESATA TS3USB221RSER     | 10'08/3  | Compal_Yungmao | USB charging Device can't be charging in S4/S5 with" AC and Battery " mode | change D18 from +5VS to +5VALW                                                                                                                                                                           | X00  |
| 9    | 14    | MXMIII Connector A          | 10'07/22 | Compal_Yungmao | -9% of 3.3V (3.003) will cause no display when system power on             | add R1817, R1816, Q281                                                                                                                                                                                   | X00  |
| 10   | 5     | PROCESSOR(2/6) PM,XDP,CLK   | 10'07/15 | Compal_Yungmao | for EMI/EDS requirement                                                    | add RC121,RC125,RC126,RC127,RC128                                                                                                                                                                        | X00  |
| 11   | 10-13 | DDRIII DIMMA ~ DDRIII DIMMD | 10'07/15 | Compal_Yungmao | for DDR3 module can select serial address                                  | add RD35,RD36,RD37,RD38,RD39,RD47,RD49                                                                                                                                                                   | X00  |
| 12   | 14    | MXMIII Connector A          | 10'08/4  | Compal_Yungmao | for MXM3.0 module power saving                                             | add R1818, R1819 pull high                                                                                                                                                                               | X00  |
| 13   | 25    | LVDS SW- 1 to 2 & GPU/PCH   | 10'07/13 | Compal_Yungmao | STDP6038 chipset vendor require to add for debug used                      | add R313, R314                                                                                                                                                                                           | X00  |
| 14   | 04    | PROCESSOR(6/6)              | 10'09/20 | Compal_Ray     | derating fail                                                              | QC4 change to SB000000090L                                                                                                                                                                               | X02  |
| 15   | 14    | MXMIII Connector            | 10'09/20 | Compal_Ray     | battery can't charge                                                       | R1818, R1819 depop, change connection<br>EC_SMB_DA1 to VGA_SMB_DA1                                                                                                                                       | X02  |
| 16   | 17    | PCH (3/8)                   | 10'09/20 | Compal_Ray     | can't boot when plug bluetooth module.                                     | pop RH95                                                                                                                                                                                                 | X02  |
| 17   | 26    | LVDS SW & CONN              | 10'09/20 | Compal_Ray     | Web CAM can't work.                                                        | Change CAM power to 3VS                                                                                                                                                                                  | X02  |

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| Title |                            |       | EE PIR(1) |
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| Item          | Page#         | Title                | Date                | Request Owner         | Issue Description                              | Solution Description                                                                         | Rev.           |
|---------------|---------------|----------------------|---------------------|-----------------------|------------------------------------------------|----------------------------------------------------------------------------------------------|----------------|
| 17            | 28            | HDMI SW              | 10'09/20            | Compal_Ray            | Follow A18 +HDMI_5V_OUT circuit                | remove QV5,CV40,RV35,QV6,RV34,Add R1896                                                      | X02            |
| 18            | 28            | HDMI SW              | 10'09/20            | Compal_Ray            | HDMI can't work                                | Change UV2 HPD connection                                                                    | X02            |
| 19            | 30            | HDMI SW for DMC      | 10'09/20            | Compal_Ray            | DP can't work                                  | pop R1865<br>add R1958,R1959, remove C52,C53                                                 | X02            |
| 20            | 40            | USB/ESATA            | 10'09/20            | Compal_Ray            | eSATA can't work                               | remove RS12                                                                                  | X02            |
| 21            | 40            | USB/ESATA            | 10'09/20            | Compal_Ray            | update for eSATA power share function          | PWRSHARE_EN# GPIO assign to EC pin 86<br>Add R97 for PWRSHARE_EN# pull down<br>add R1699,D31 | X02            |
| 22            | 15            | PCH (1/8)            | 10'09/20            | Compal_Ray            | ME position redifned for HDD.                  | Swap HDD1(Port 1) ,HDD2(Port 0)                                                              | X02            |
| 23            | 39            | USB3.0 PD720200      | 10'09/27            | Compal_Ray            | USB3.0 can't work                              | depop R201, pop R202 0 ohm                                                                   | X02            |
| 24            | 17            | PCH (3/8)            | 10'09/27            | Compal_Ray            | AV17 doesn't support deep sleep mode           | pop RH126, add RH159 and depop it<br>depop RH139 ,RH134                                      | X02            |
| <del>25</del> | <del>15</del> | <del>PCH (1/8)</del> | <del>10'09/27</del> | <del>Compal_Ray</del> | <del>Add HDA BUS ON/OFF control circuit,</del> | <del>add CH17,UH9,RH30,RH50,QH10,RH267</del>                                                 | <del>X02</del> |
| 26            | 15            | PCH (1/8)            | 10'09/27            | Compal_Ray            | follow Design guide                            | Add RH47 for BBS_BIT0_R                                                                      | X02            |
| 27            | 17            | PCH (3/8)            | 10'09/27            | Compal_Ray            | follow Design guide                            | Add R1687 for PCH_RSMRST# pull down                                                          | X02            |
| 28            | 17            | PCH (3/8)            | 10'09/27            | Compal_Ray            | Change ACIN connection                         | Remove RH150 ,RH137,Add R1900,R1899,QH11                                                     | X02            |
| 29            | 35            | Speaker AMP          | 10'09/27            | Compal_Ray            | To solve po noise when HDMI IN toggling        | add Q10                                                                                      | X02            |
| 30            | 04            | PROCESSOR(6/6)       | 10'09/27            | Compal_Ray            | derating fail                                  | QC4 change to SB00000090L                                                                    | X02            |
| 31            | 34            | HD Audio             | 10'09/27            | Compal_Ray            | Add HDMI IN audio sense circuit.               | add Q284 R1902,R1903                                                                         | X02            |
| 32            | 34            | HD Audio             | 10'09/27            | Compal_Ray            | to solve backdrive issue on +3VS               | add D54                                                                                      | X02            |
| 33            | 15            | PCH (1/8)            | 10'09/27            | Compal_Ray            | follow DG1.5 recommand                         | Add R1960                                                                                    | X02            |

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| 34   | 16      | PCH (4/8)        | 10'09/27 | Compal_Ray    | PLTREST_VGA issue                                                                 | Add R28 D13 and change RH170 to 0 ohm                                                                         | X02  |
| 35   | 28      | HDMI SW          | 10'10/01 | Compal_Ray    | Add R58 for HMI_SW_DETECT bypass direct due to it's desn't need level shift to 5V | Add R58                                                                                                       | X02  |
| 36   | 35      | Speaker AMP      | 10'10/01 | Compal_Ray    | add mute siwtch to solve po noise issue                                           | Add U619 ,C1843                                                                                               | X02  |
| 37   | 33      | GLAN AR8151 AL1A | 10'10/01 | Compal_Ray    | Change CL39 to 3KV spec for Hi-port test                                          | change CL39 to 1000P_1808_3KV7K~D                                                                             | X02  |
| 38   | 15      | PCH              | 10'10/07 | Compal_Ray    | Rename location                                                                   | Change CLIP1 to COMS1 and CLIP2 to ME1                                                                        | X02  |
| 39   | 39      | USB 3.0          | 10'10/07 | Compal_Ray    | Add power option                                                                  | Add R1964,R1965,R1966,R1967 for U37 power option                                                              | X02  |
| 40   | 31      | HDMI             | 10'10/07 | Compal_Ray    | For double pull high                                                              | Remove R81,R83                                                                                                | X02  |
| 41   | 15      | PCH              | 10'10/07 | Compal_Ray    | Change RTC circuit                                                                | Change RTC circuit and change DH1 to CHN202UPT,Reomve RH250                                                   | X02  |
| 42   | 33      | GLAN AR8151 AL1A | 10'10/07 | Compal_Ray    | Crystal EA result                                                                 | Change CL18,CL19 to 15pF by crystal EA result                                                                 | X02  |
| 43   | 9,10,11 | CPU              | 10'10/07 | Compal_Ray    | Remove XDP 0 ohm resistor                                                         | CPU XDP depop, Remove:RC68~RC71, Change to depop RC59,RC61~RC67,RC121,RC121,RC125~RC128,RC50,RC51 Add T51~T54 | X02  |
| 44   | 16      | PCH              | 10'10/07 | Compal_Ray    | Crystal EA result                                                                 | Change YH2 to X5H025000DC1H-H, CH23,CH24 to 12pF by crystal EA result                                         | X02  |
| 45   | 5       | CPU              | 10'10/07 | Compal_Ray    | Follow Design guide 1.5                                                           | Add RC113 to reserve PCH_PWROK for VDDPWGOOD                                                                  | X02  |
| 46   | 31      | ST6038           | 10'10/07 | Compal_Ray    | Derating issue                                                                    | Change L13 to BLM18AG601SN1D for derating issue                                                               | X02  |
| 47   | 9       | CPU              | 10'10/07 | Compal_Ray    | S3 issue                                                                          | Reserve CC178 for CPU1.5V_S3_GATE timing delay                                                                | X02  |
| 48   | 31      | ST6038           | 10'10/07 | Compal_Ray    | By vendor review                                                                  | Follow vendor to depop R1744                                                                                  | X02  |
| 49   | 32      | ST4028           | 10'10/07 | Compal_Ray    | By vendor review                                                                  | Change U607 to M25PE20                                                                                        | X02  |
| 50   | 31      | ST6038           | 10'10/08 | Compal_Ray    | Timing issue                                                                      | Add R172 for LDO timing enable timing delay                                                                   | X02  |

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| 51   | 16     | Codec        | 2010/10/8  | Compal_Ray    | Mute issue                                     | Add U620,C1844,U621,C1845 for mute                                                              | X02  |
| 52   | 28     | MXM          | 2010/10/8  | Compal_Ray    | Follow A18                                     | Change AC_BATT# to EC_AC_BAT# , and remove R1817,D72, add U622,C1823                            | X02  |
| 53   | 35     | USB3.0       | 2010/10/8  | Compal_Ray    | EMI issue                                      | Change L33~L38 to DLW21SN670HQ2L                                                                | X02  |
| 54   | 26     | LVDS SW      | 2010/10/8  | Compal_Ray    | Remove resistor for double pull high           | Remove R323 ,R326                                                                               | X02  |
| 55   | 35     | Audio        | 2010/10/12 | Compal_Ray    | By Maxim review result                         | Change C154,C158 to .022uF and R140,R145 to 20K                                                 | X02  |
| 56   | 15     | PCH          | 2010/10/12 | Compal_Ray    | Reserve 0 ohm for HDA_SDOUT                    | Add RH51                                                                                        | X02  |
| 57   | 44     | ENE          | 2010/10/12 | Compal_Ray    | Change GPIO                                    | Change GPIO46 to VGA_ON and depop RH118                                                         | X02  |
| 58   | 24, 44 | ENE          | 2010/10/12 | Compal_Ray    | Change GPIO, and add backlight control circuit | Change VGA_ON to LCD_BKL_EN, and add backlight control circuit, add Q39,C332,R422,R423,Q28,C331 | X02  |
| 59   | 29     | DP           | 2010/10/12 | Compal_Ray    | DP dual mode can't display                     | Remove C301,C308                                                                                | X02  |
| 60   | 35     | Audio        | 2010/10/12 | Compal_Ray    | To reach 16dB                                  | Change R137,R142 to 16.2K                                                                       | X02  |
| 61   | 15     | PCH          | 2010/10/22 | Compal_Ray    | Pop RH50 for ME lock issue                     | Pop RH50                                                                                        | A00  |
| 62   | 37     | ODD          | 2010/10/22 | Compal_Ray    | Re define ODD pin                              | For ODD power require, add one more power pin                                                   | A00  |
| 63   | 37     | ODD          | 2010/10/22 | Compal_Ray    | Remove zero power ODD switch.                  | Remove SW1 and add R173 0 ohm for ODD_DA#                                                       | A00  |
| 64   | 46     | power switch | 2010/10/22 | Compal_Ray    | Remove reserve power switch                    | Remove SW4,SW5                                                                                  | A00  |
| 65   | 24, 44 | LCD          | 2010/10/22 | Compal_Ray    | Correct net name                               | Rename LCD_BKL_EN# to LCD_BKL_EN                                                                | A00  |
| 66   | 44     | BID          | 2010/10/22 | Compal_Ray    | Change BID                                     | Change BID, R225 to 56K                                                                         | A00  |
| 67   | 34     | BID          | 2010/10/22 | Compal_Ray    | HDMI in audio issue.                           | change HDMI_IN_SELECT# to HDMI_TOGGLE                                                           | A00  |

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