

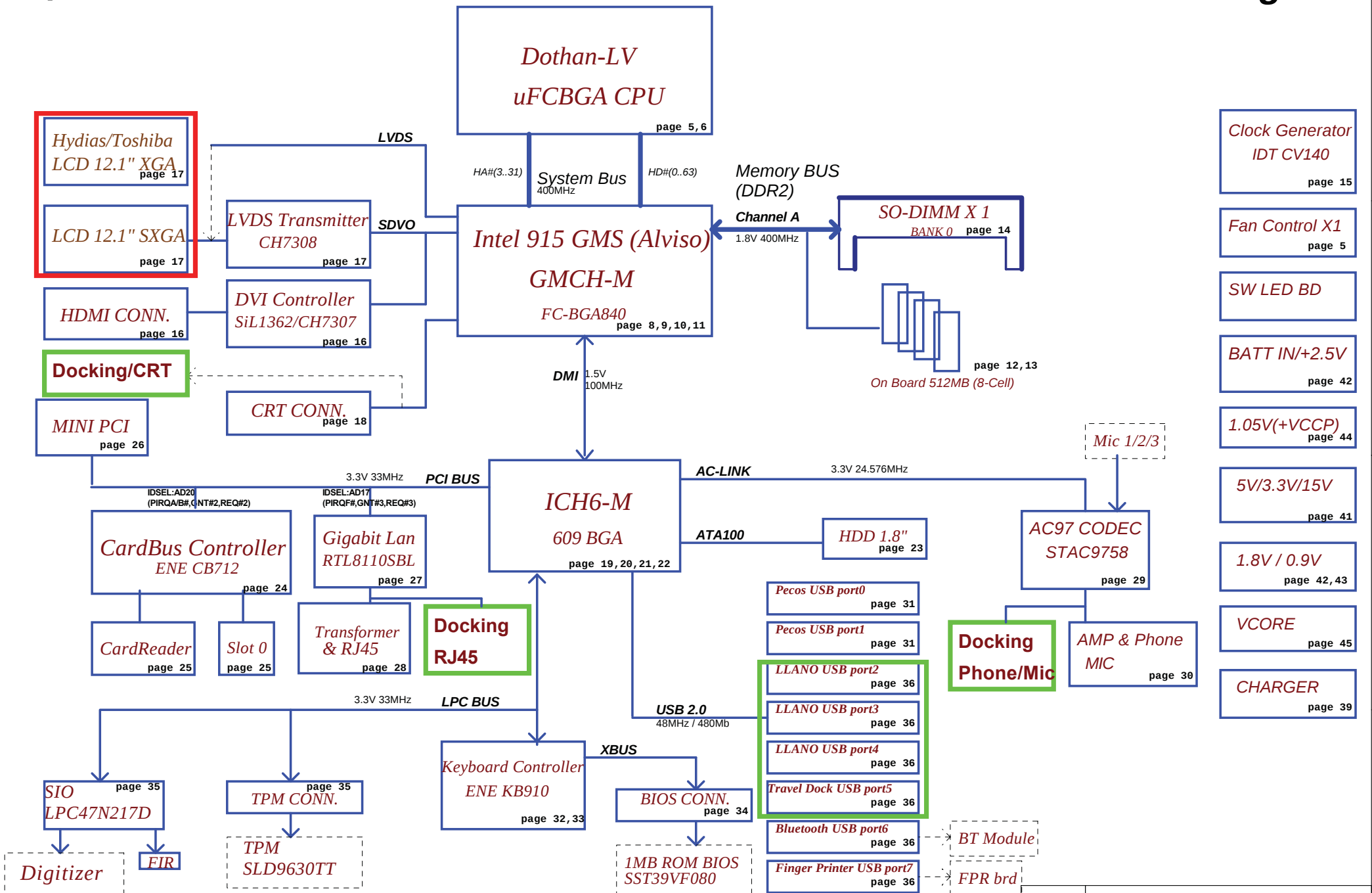
MODEL NAME : EDX20  
PCB NO : LA-2481  
PVT

COMPAL CONFIDENTIAL

EDX20 Schematics Document  
2005-02-22  
REV: 0.5

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### External PCI Devices

| DEVICE   | IDSEL # | REQ / GNT # | PIRQ |
|----------|---------|-------------|------|
| Mini-PCI | AD18    | 1           | G, H |
| CARD BUS | AD20    | 2           | A, B |
| LAN      | AD17    | 3           | F    |

### ICH6M SM Bus Address

| DEVICE          | Address    |
|-----------------|------------|
| Clock Generator | 1101 001Xb |
| DDR2 On Board   | 1010 000Xb |
| DDR2 DIMM1      | 1010 001Xb |
| TPM             |            |

### EC SM Bus1 Address

| DEVICE                  | Address        |
|-------------------------|----------------|
| Smart Battery 1         | 0001 011Xb     |
| AT24C16AN-10SI-2.7(U24) | 1011 XXX R/W#b |

### EC SM Bus2 Address

| DEVICE             | Address    |
|--------------------|------------|
| Smart Battery 2    | 0001 011Xb |
| ALS TSL2550T       |            |
| ADM1032            | 1001 100Xb |
| TC74A1-5.0VCT(U34) | 1001 001Xb |
| TC74A2-5.0VCT(U43) | 1001 010Xb |

| Signal<br>State      | +12VALW<br>+5VALW<br>+3VALW | +1.8V | +5VS<br>+3VS<br>+1.8VS<br>+2.5VS<br>+1.5VS<br>+0.9VS<br>+VCCP<br>+CPU_CORE |
|----------------------|-----------------------------|-------|----------------------------------------------------------------------------|
|                      |                             |       |                                                                            |
| S0                   | ON                          | ON    | ON                                                                         |
| S1                   | ON                          | ON    | ON                                                                         |
| S3                   | ON                          | ON    | OFF                                                                        |
| S5 S4/AC             | ON                          | OFF   | OFF                                                                        |
| S5 S4/AC don't exist | OFF                         | OFF   | OFF                                                                        |

### Voltage Rails

| Power Plane | Description                                           | S0-S1 | S3  | S5  |
|-------------|-------------------------------------------------------|-------|-----|-----|
| VIN         | Adapter power supply (19V)                            | N/A   | N/A | N/A |
| B+          | AC or battery power rail for power circuit            | N/A   | N/A | N/A |
| +CPU_CORE   | Core voltage for CPU                                  | ON    | OFF | OFF |
| +VCCP       | 1.05V power rail for Processor I/O and MCH core power | ON    | OFF | OFF |
| +0.9VS      | 0.9V switched power rail for DDRII Vtt                | ON    | OFF | OFF |
| +1.5VS      | 1.5V switched power rail for PCI-E interface          | ON    | OFF | OFF |
| +1.8V       | 1.8V power rail for DDRII                             | ON    | ON  | OFF |
| +1.8VS      | 1.8V switched power rail                              | ON    | OFF | OFF |
| +2.5VS      | 2.5V switched power rail for MCH video PLL            | ON    | OFF | OFF |
| +3VALW      | 3.3V always on power rail                             | ON    | ON  | ON* |
| +3VS        | 3.3V switched power rail                              | ON    | OFF | OFF |
| +5VALW      | 5V always on power rail                               | ON    | ON  | ON* |
| +5VS        | 5V switched power rail                                | ON    | OFF | OFF |
| +12VALW     | 12V always on power rail                              | ON    | ON  | ON* |
| RTCVCC      | RTC power                                             | ON    | ON  | ON  |

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

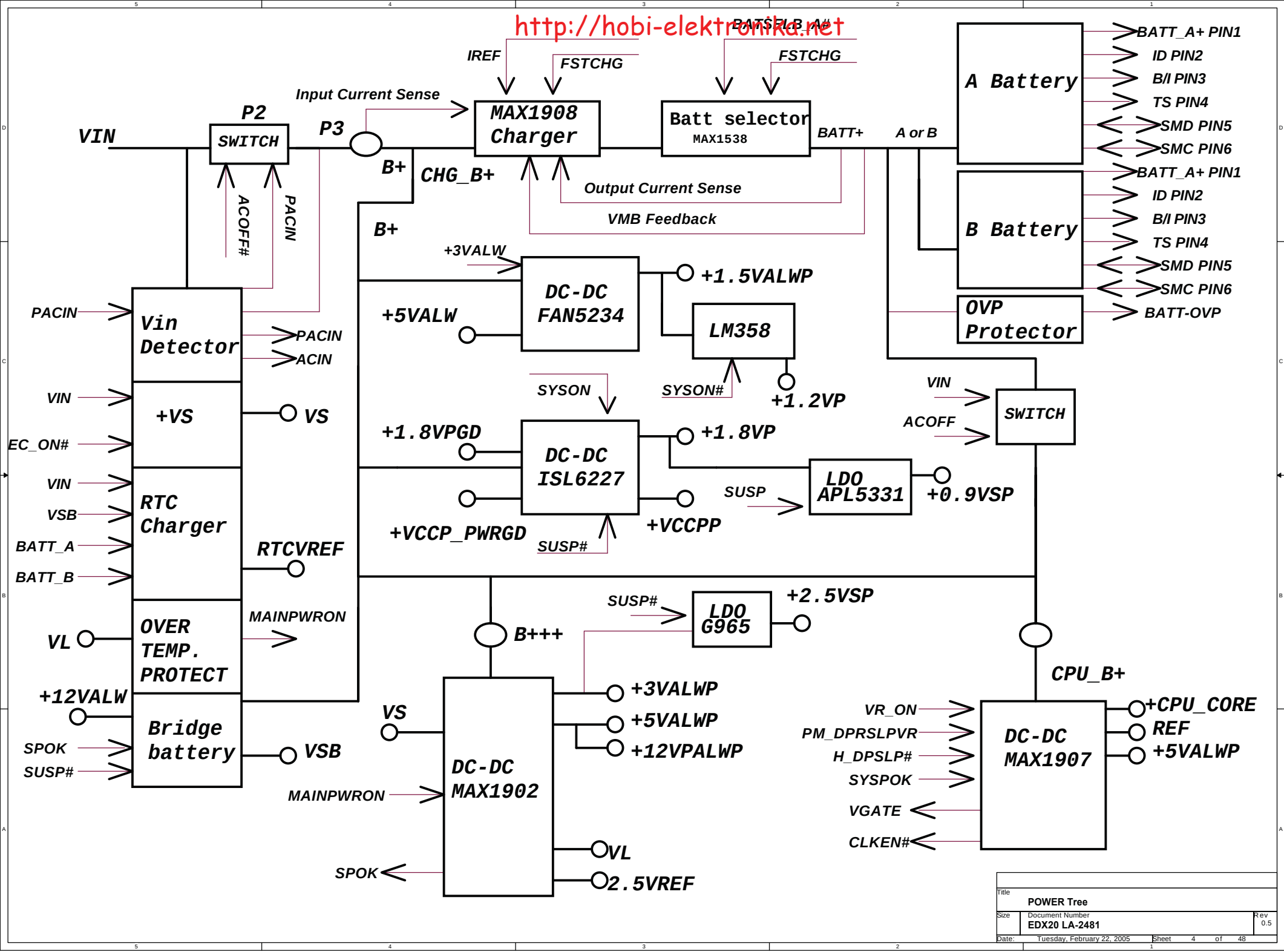
### USB PORT TABLE

| PORT   | FUNCTION       |
|--------|----------------|
| PORT 0 | PECOS PORT 0   |
| PORT 1 | PECOS PORT 1   |
| PORT 2 | LLANO PORT 2   |
| PORT 3 | LLANO PORT 0   |
| PORT 4 | LLANO PORT 1   |
| PORT 5 | TRAVEL DOCKING |
| PORT 6 | BLUETOOTH      |
| PORT 7 | FINGER PRINTER |

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**+1.8VS FOR NON-LV/ULV PROCESSOR**  
**+1.5VS FOR LV/ULV PROCESSOR**

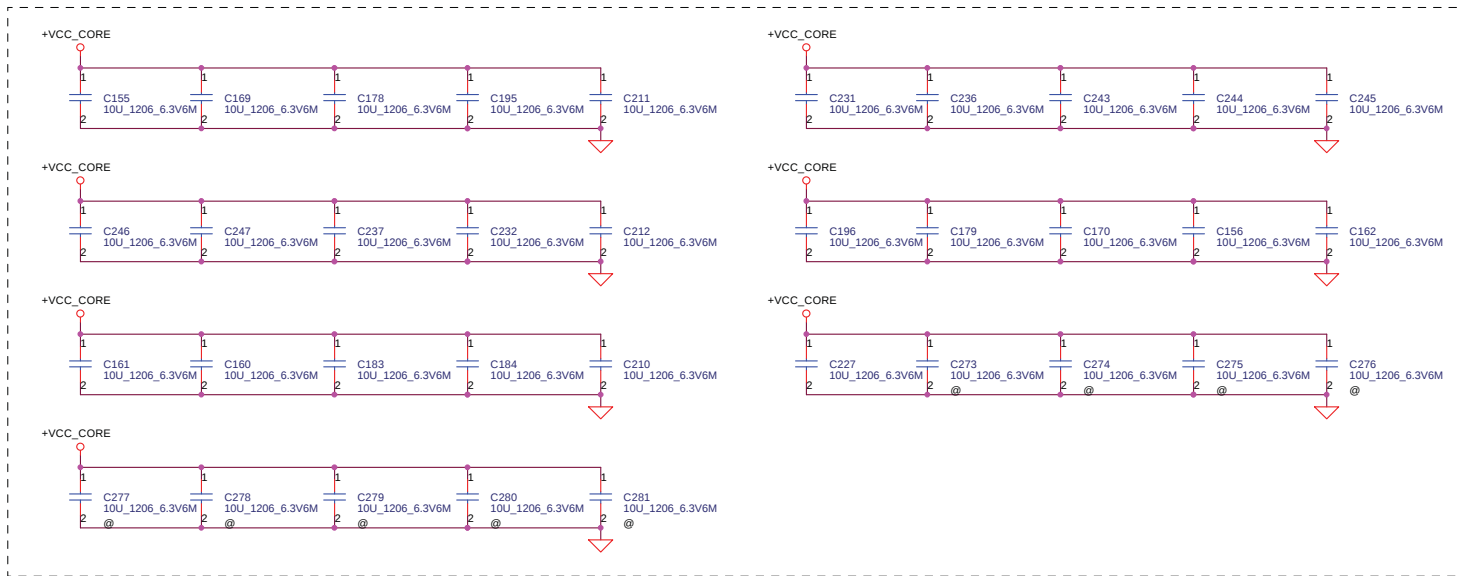
Resistor placed within 0.5" of CPU pin. Trace should be at least 25 miles away from any other toggling signal.

Resistor placed within 0.5" of CPU pin. Trace should be at least 25 miles away from any other toggling signal.

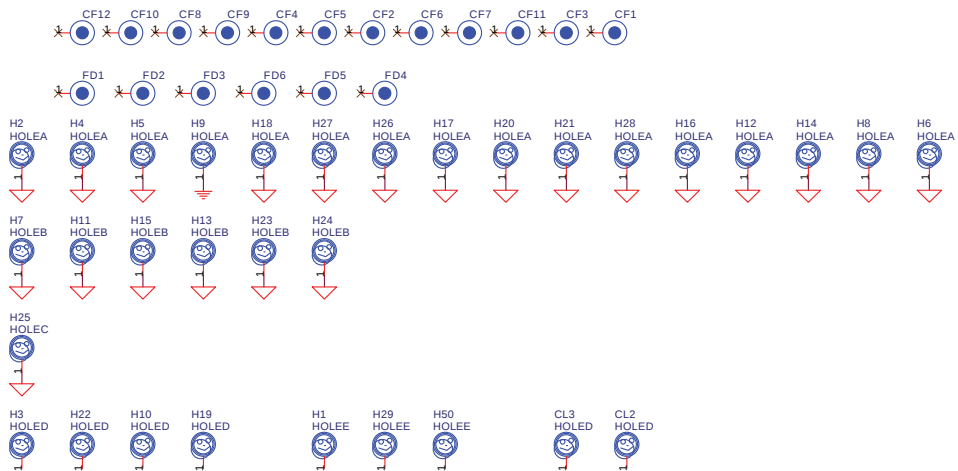
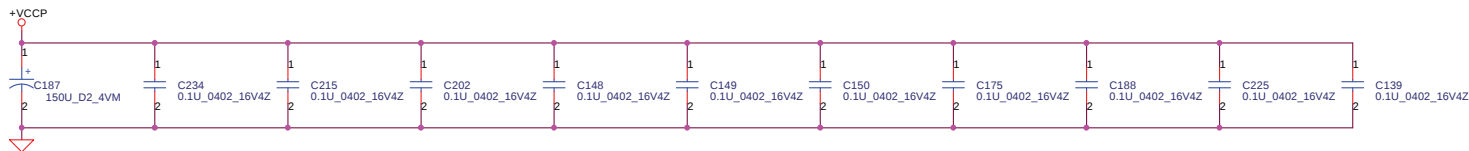
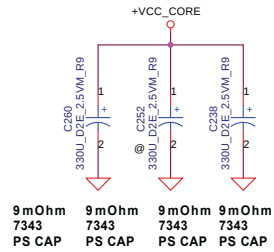
Dothan

Dothan

POWER, GROUND

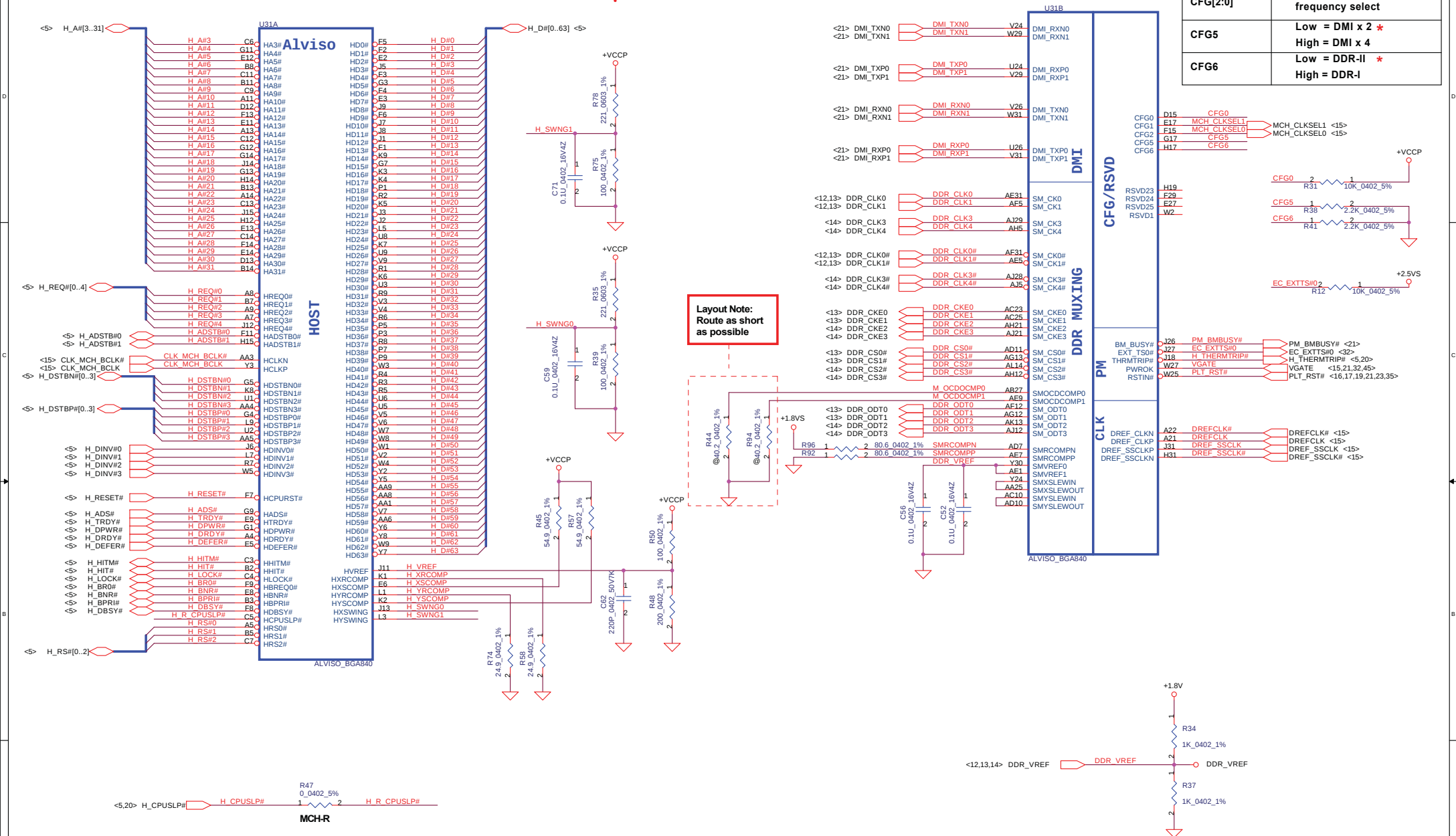


Near VCORE regulator.

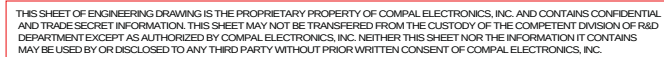


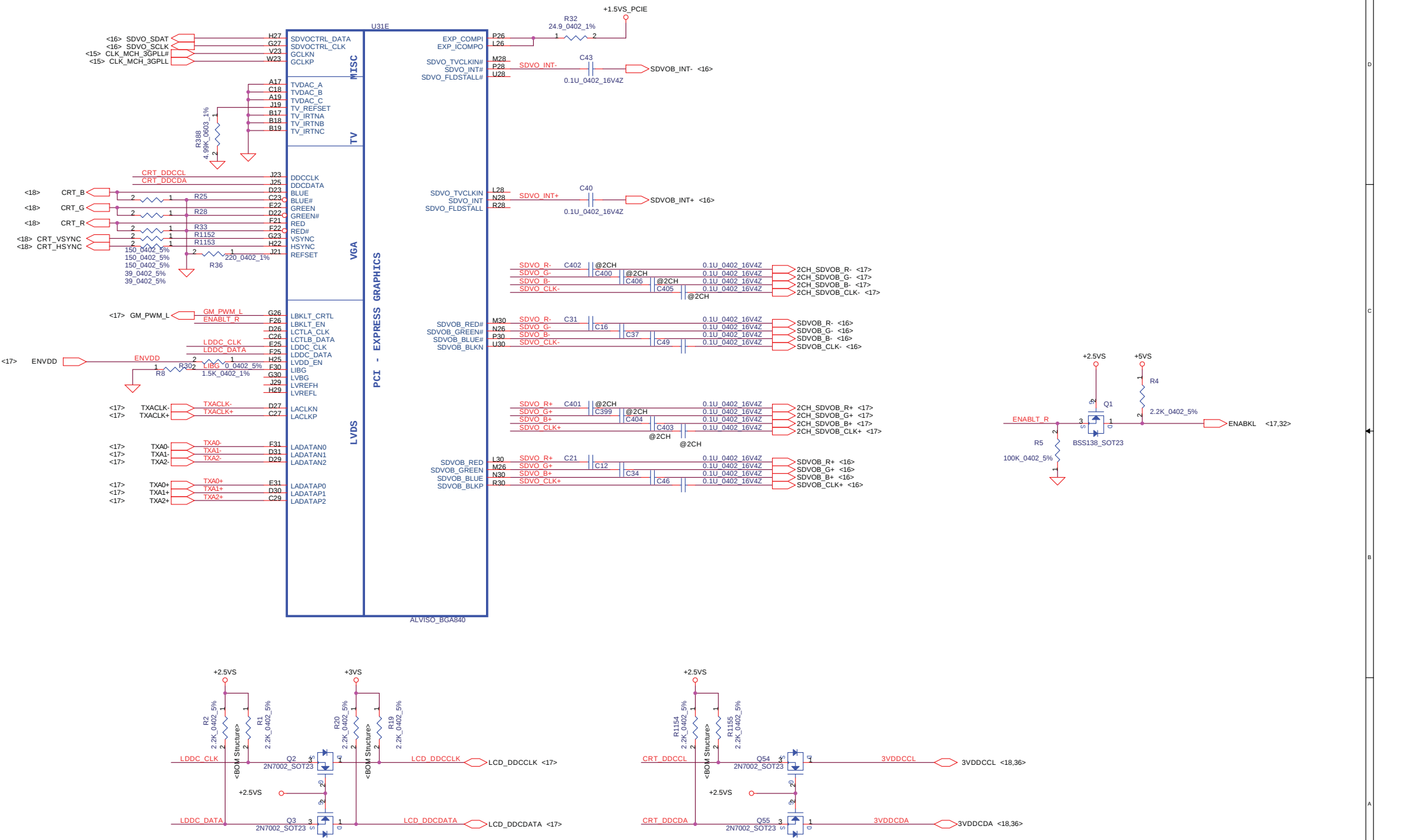
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|                                        |                            |       |         |
|----------------------------------------|----------------------------|-------|---------|
| Compal Electronics, Inc.<br>CPU Bypass |                            |       |         |
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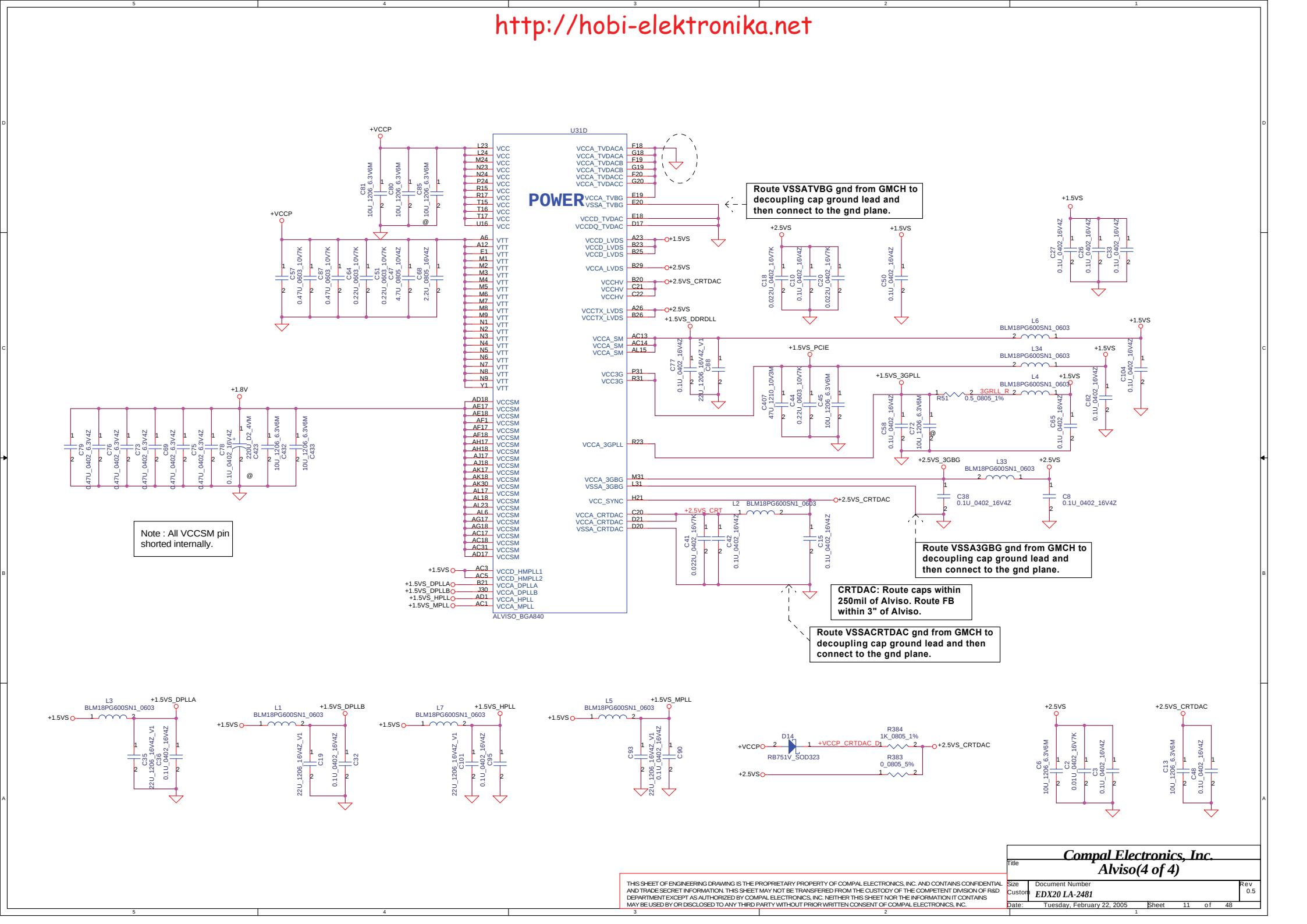
**Note:**  
Not install MCH-R for Dothan-A,  
Install MCH-R for Dothan-B"

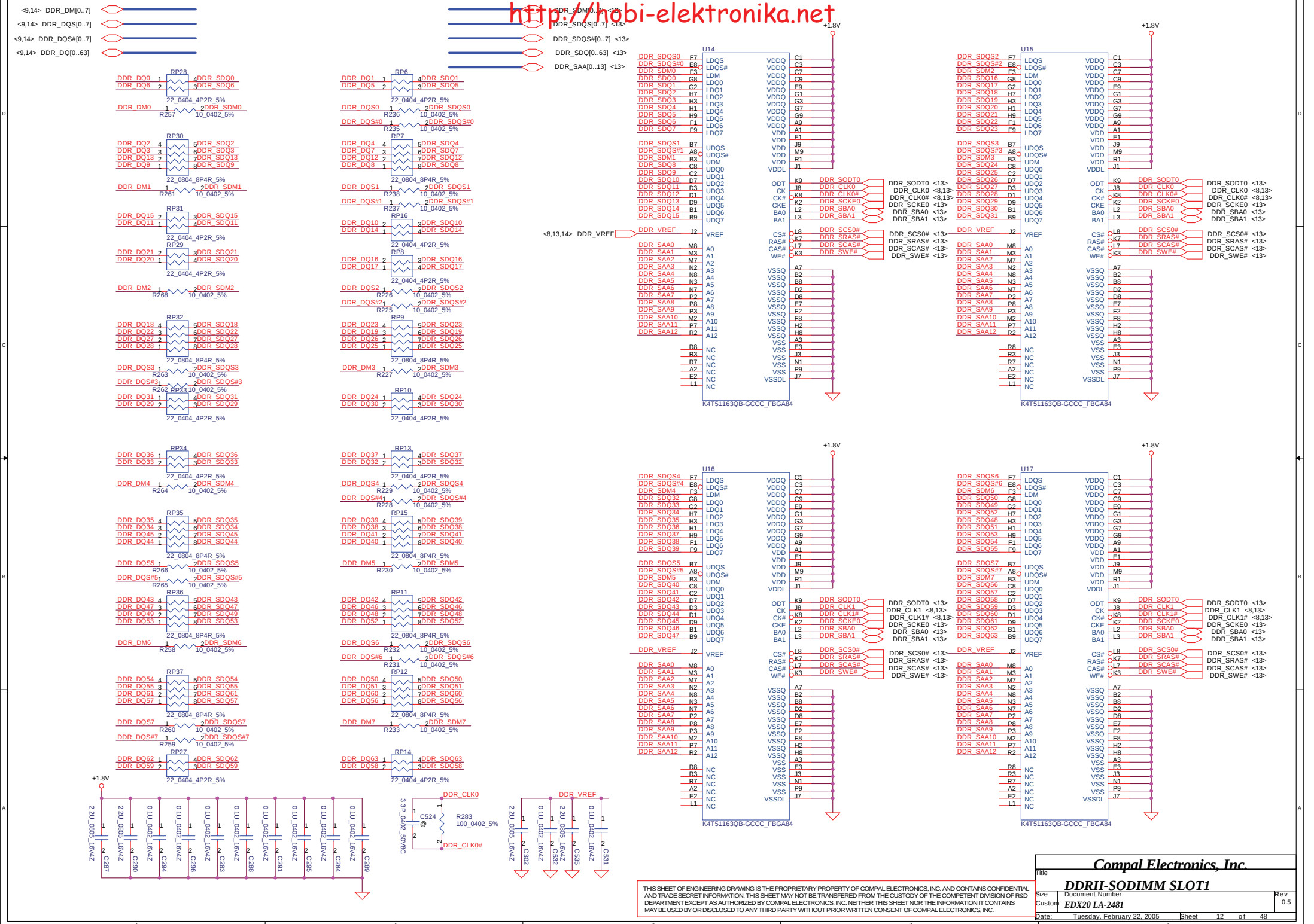




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<8> DDR\_CKE1 

|           |   |      |   |           |
|-----------|---|------|---|-----------|
| DDR_CKE1# | 1 | RP60 | 8 | DDR_SCKE1 |
| DDR_AA12  | 2 |      | 7 | DDR_SAA12 |
| DDR_AA7   | 3 |      | 6 | DDR_SAA7  |
| DDR_AA8   | 4 |      | 5 | DDR_SAA8  |

  
 10 0B04\_8P4R\_5%  
 RP59
 

|         |   |  |   |          |
|---------|---|--|---|----------|
| DDR_AA6 | 1 |  | 8 | DDR_SAA6 |
| DDR_AA5 | 2 |  | 7 | DDR_SAA5 |
| DDR_AA4 | 3 |  | 6 | DDR_SAA4 |
| DDR_AA3 | 4 |  | 5 | DDR_SAA3 |

  
 10 0B04\_8P4R\_5%  
 RP58
 

|          |   |  |   |           |
|----------|---|--|---|-----------|
| DDR_CKE0 | 1 |  | 8 | DDR_SCKE0 |
| DDR_AA0  | 2 |  | 7 | DDR_SAA0  |
| DDR_AA1  | 3 |  | 6 | DDR_SAA1  |
| DDR_AA2  | 4 |  | 5 | DDR_SAA2  |

  
 10 0B04\_8P4R\_5%  
 RP57
 

|           |   |  |   |           |
|-----------|---|--|---|-----------|
| DDR_AA11  | 1 |  | 8 | DDR_SAA11 |
| DDR_ABA0  | 2 |  | 7 | DDR_SBA0  |
| DDR_AWE#  | 3 |  | 6 | DDR_SWE#  |
| DDR_ARAS# | 4 |  | 5 | DDR_SRAS# |

  
 10 0B04\_8P4R\_5%  
 RP56
 

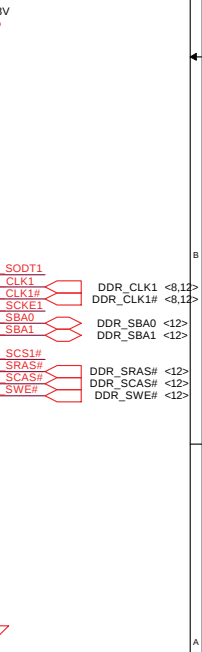
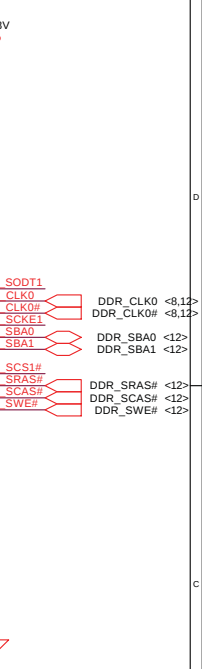
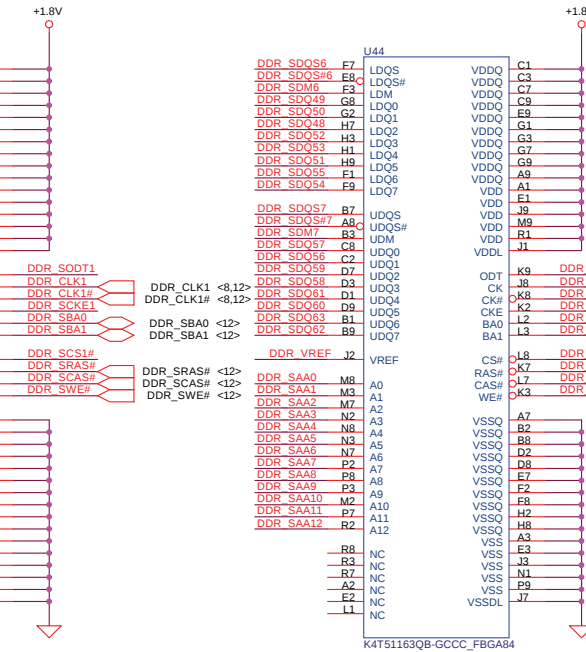
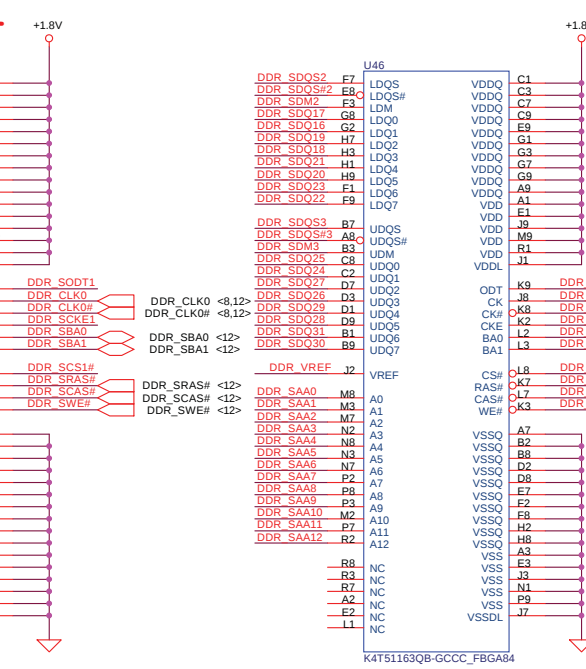
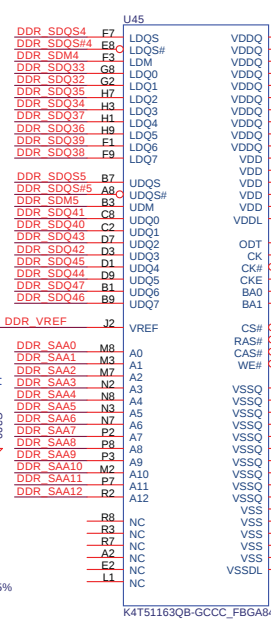
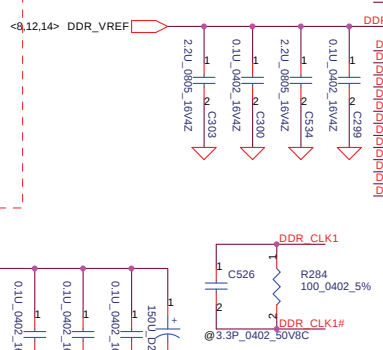
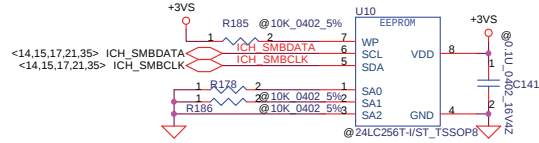
|          |   |  |   |           |
|----------|---|--|---|-----------|
| DDR_AA9  | 1 |  | 8 | DDR_SAA9  |
| DDR_CS1# | 2 |  | 7 | DDR_SCS1# |
| DDR_ABA1 | 3 |  | 6 | DDR_SBA1  |
| DDR_ODT0 | 4 |  | 5 | DDR_SODT0 |

  
 10 0B04\_8P4R\_5%  
 RP55
 

|           |   |  |   |           |
|-----------|---|--|---|-----------|
| DDR_ODT1  | 1 |  | 8 | DDR_SODT1 |
| DDR_ACAS# | 2 |  | 7 | DDR_SCS#  |
| DDR_CS0#  | 3 |  | 6 | DDR_SCS0# |
| DDR_AA10  | 4 |  | 5 | DDR_SAA10 |

  
 10 0B04\_8P4R\_5%

The diagram illustrates a 16-channel multiplexer circuit. It features two 16:1 multiplexers, C281 and C287, connected in series. The top multiplexer (C281) has 16 data inputs (0.1U\_0402\_16V4Z) and 16 select inputs (C282-C287). Its output is connected to the input of the bottom multiplexer (C287). The bottom multiplexer has 16 data inputs (0.1U\_0402\_16V4Z) and 16 select inputs (C288-C293). The output of the bottom multiplexer is connected to the output of the top multiplexer. The circuit is powered by a +0.9VS supply and a +1.8V supply. The output of the bottom multiplexer is labeled 0.1U\_0402\_16V4Z.



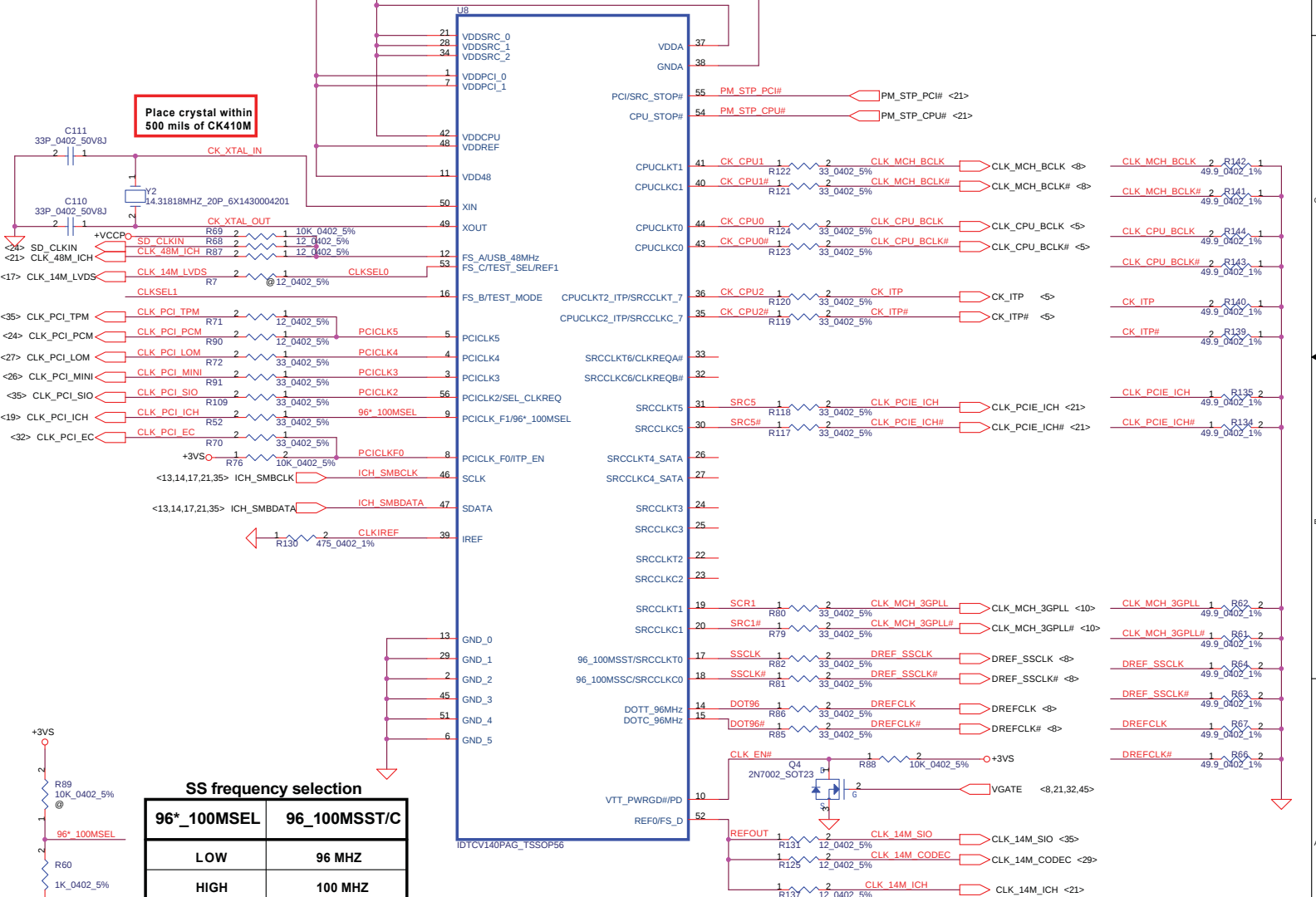
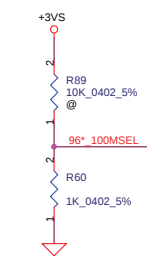


| FSC<br>CLKSEL0 | FSB<br>CLKSEL1 | FSA<br>CLKSEL2 | CPU<br>MHz | SRC<br>MHz | PCI<br>MHz |
|----------------|----------------|----------------|------------|------------|------------|
| 1              | 0              | 1              | 133        | 100        | 33.3       |
| 0              | 0              | 1              | 100        | 100        | 33.3       |

| FSC<br>CLKSEL0 | FSB<br>CLKSEL1 | FSA<br>CLKSEL2 | CPU<br>MHz | SRC<br>MHz | PCI<br>MHz |
|----------------|----------------|----------------|------------|------------|------------|
| 0              | 0              | 1              | 133        | 100        | 33.3       |
| 1              | 0              | 1              | 100        | 100        | 33.3       |

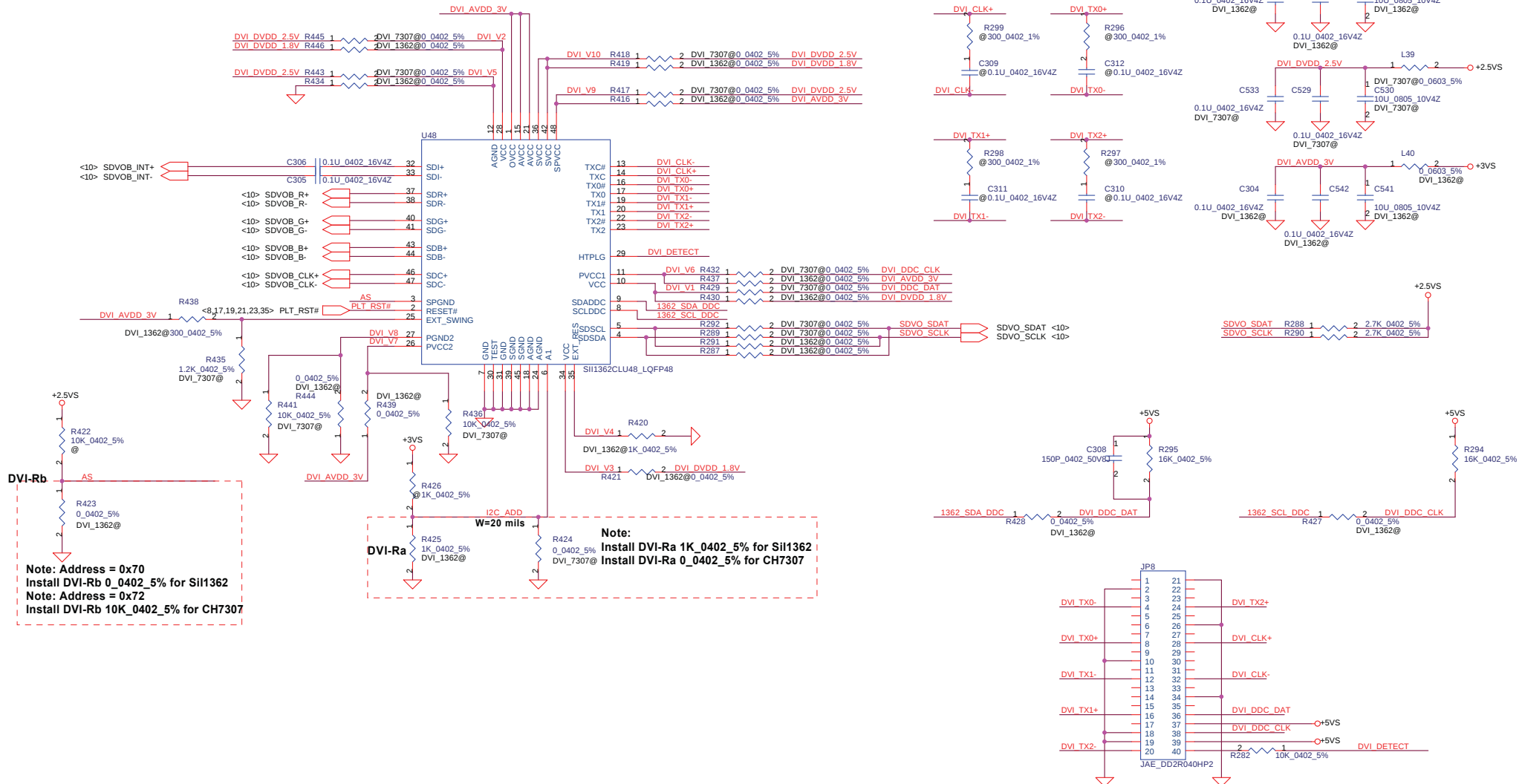


| SS frequency selection |              |
|------------------------|--------------|
| 96*_100MSEL            | 96_100MSST/C |
| LOW                    | 96 MHZ       |
| HIGH                   | 100 MHZ      |



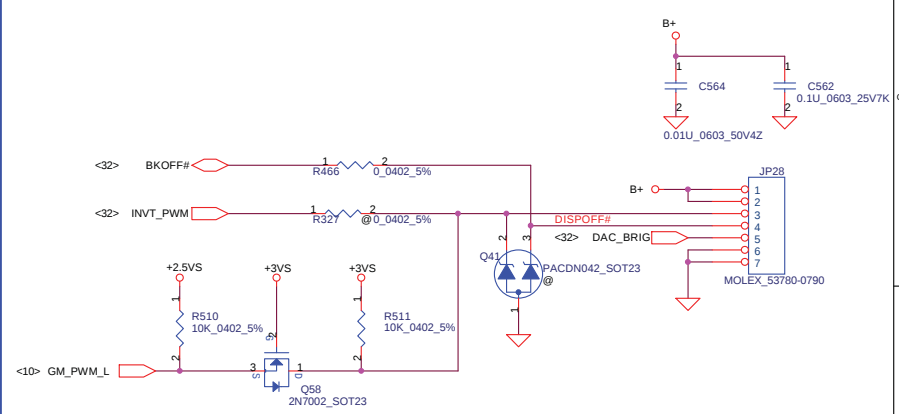
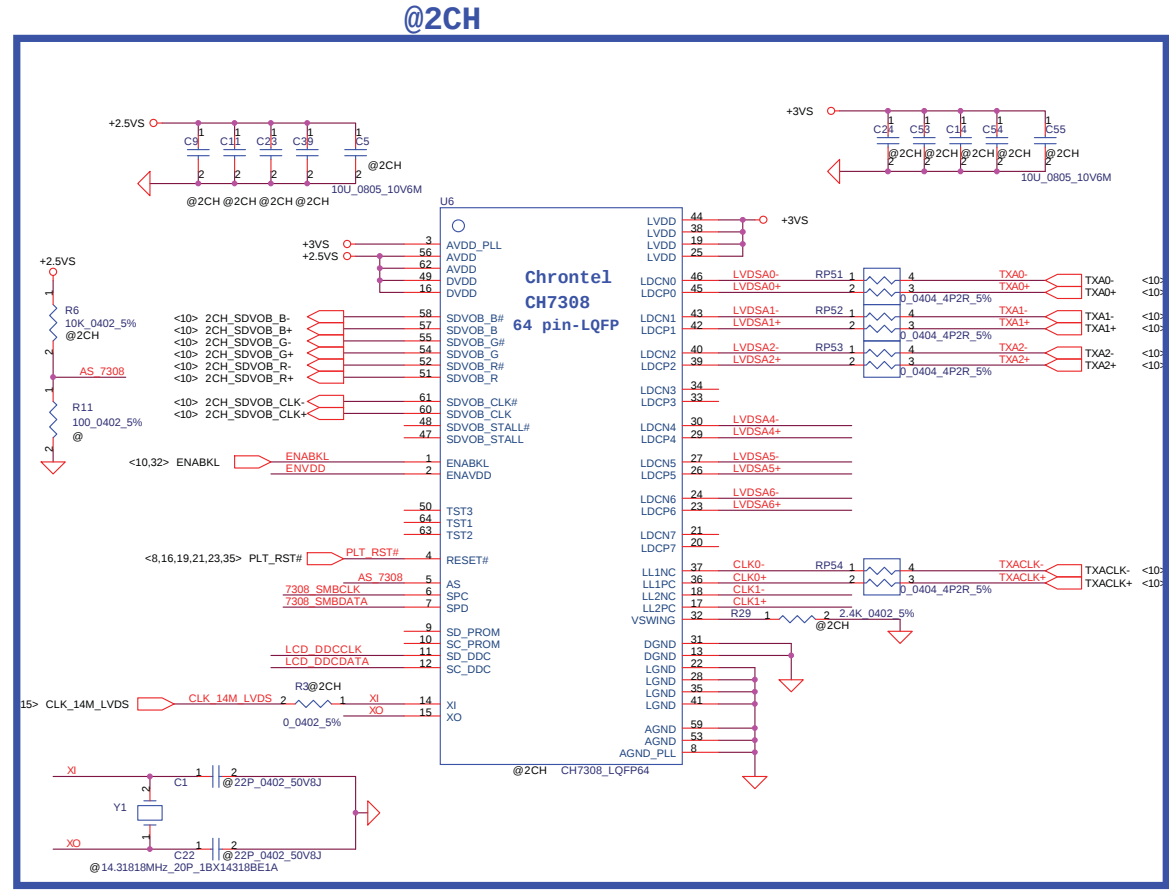
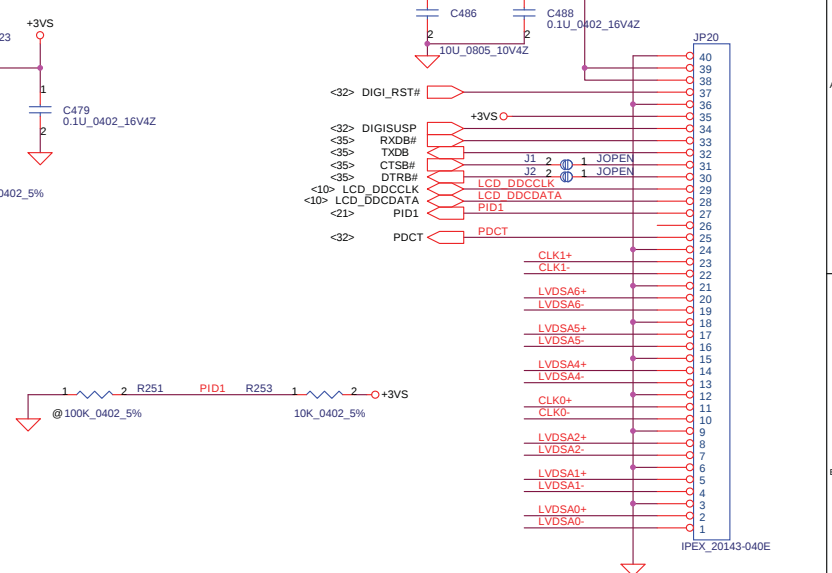
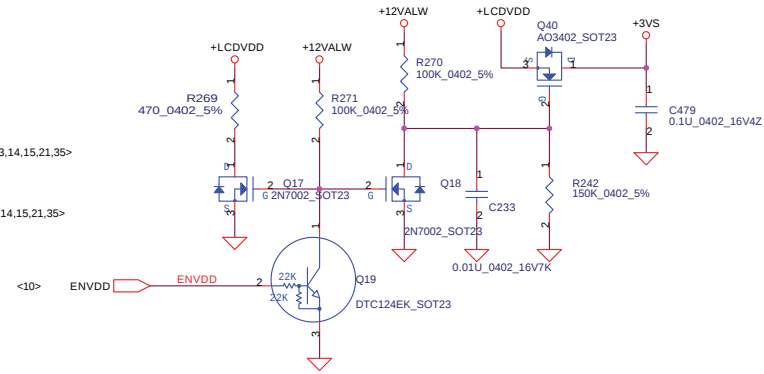
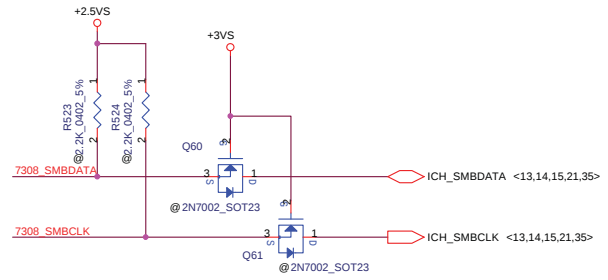
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## DVI CONTROLLER



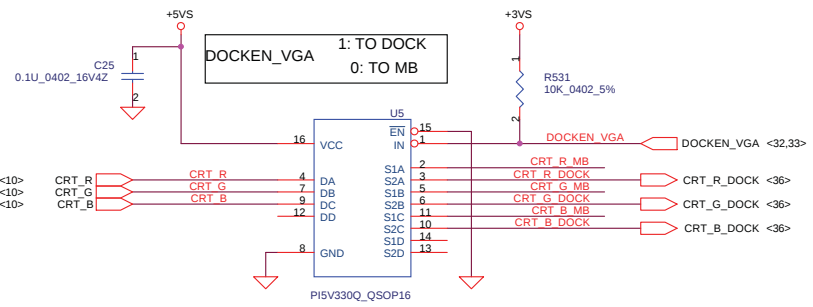
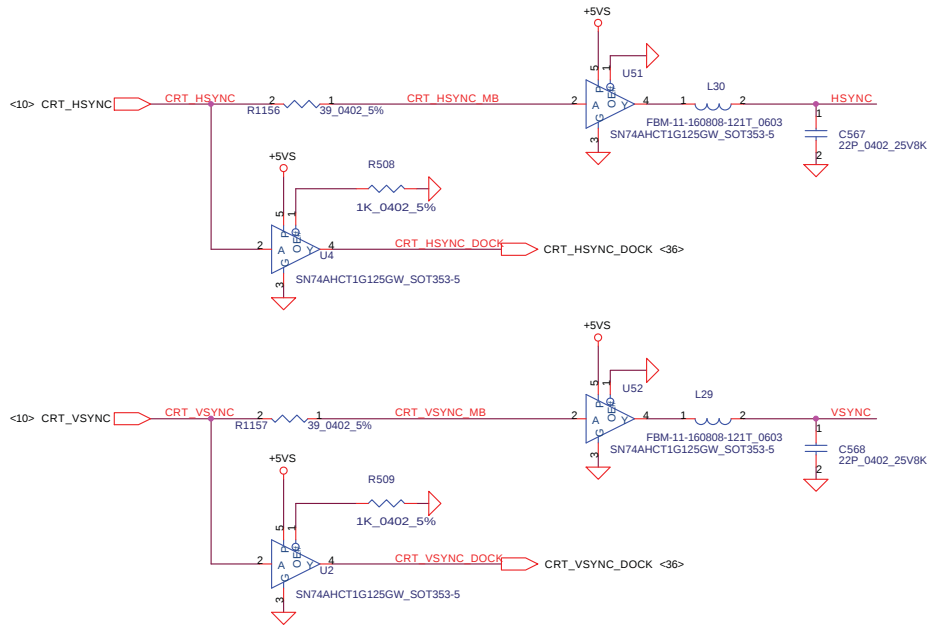
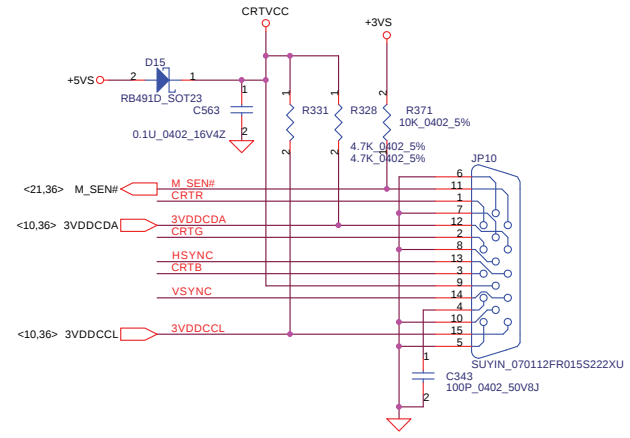
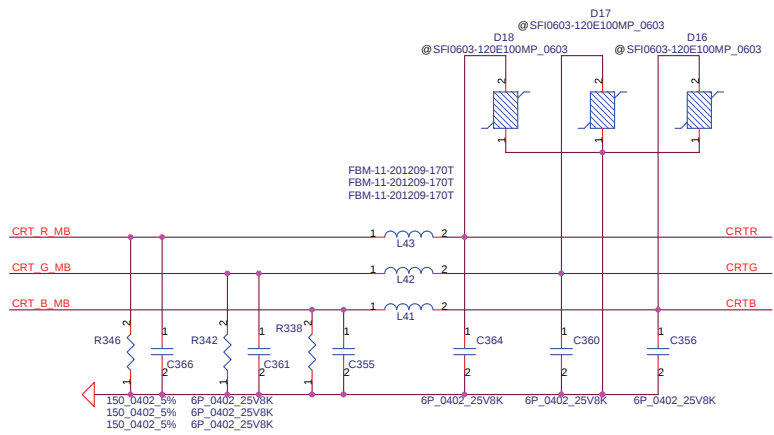
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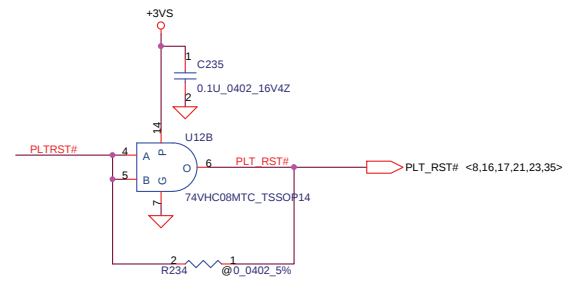
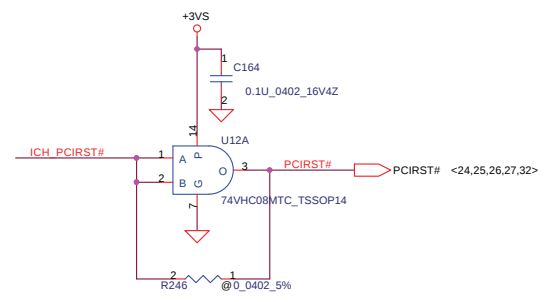
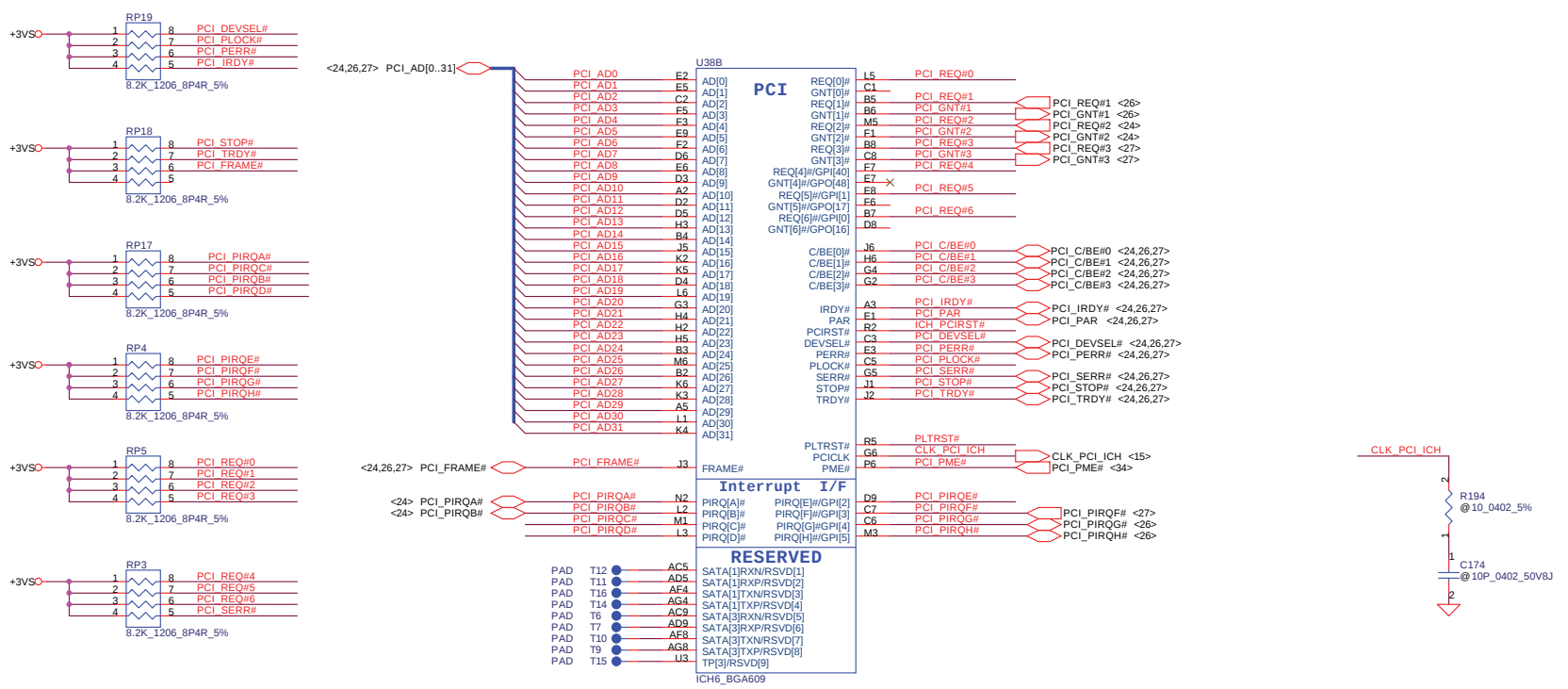
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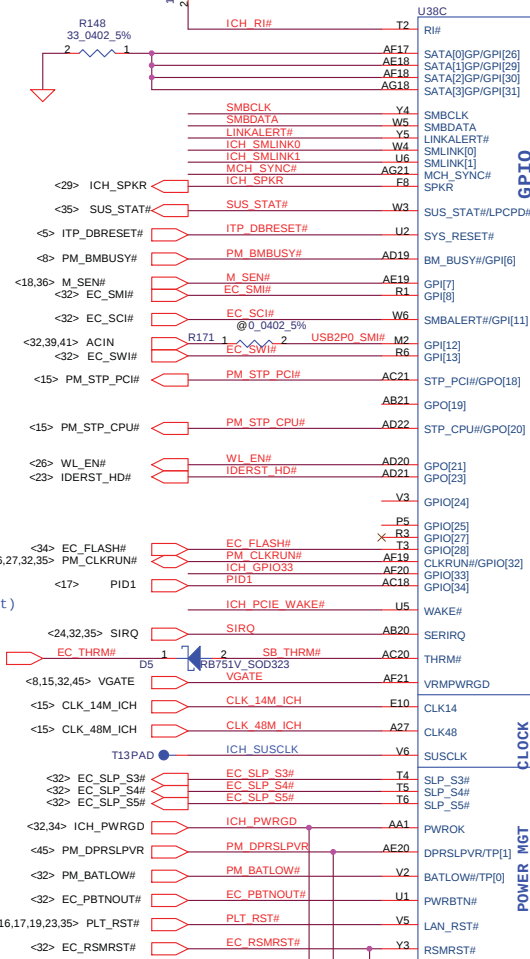
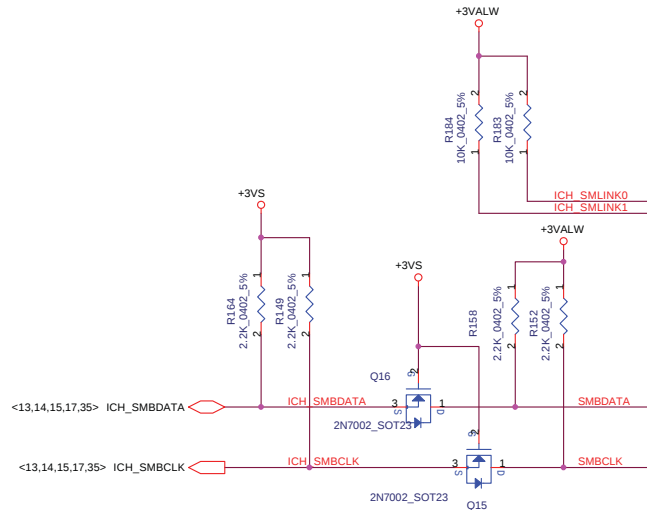
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| LCD Conn&Inverter        |                            |       |          |
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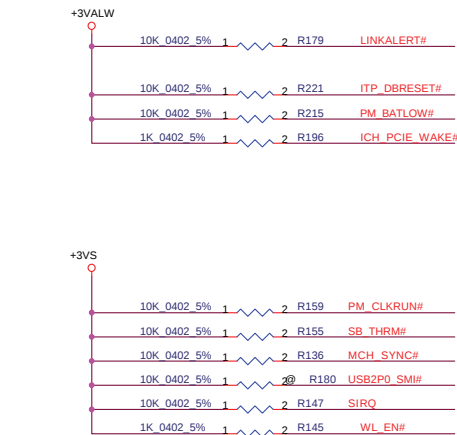




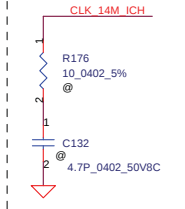




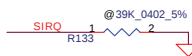
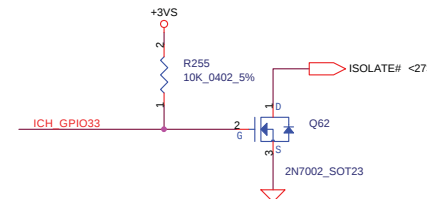
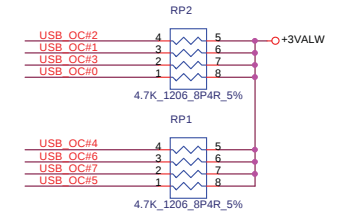
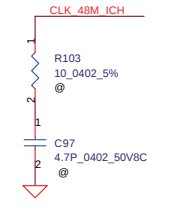
(PCI Express Wake Event)



Place closely pin E10

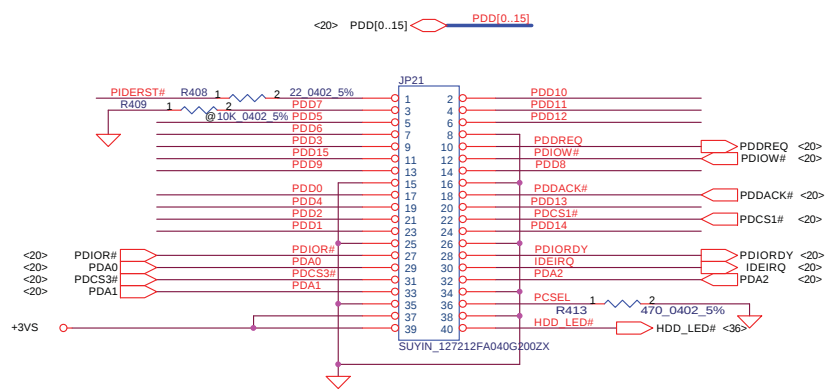
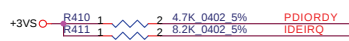
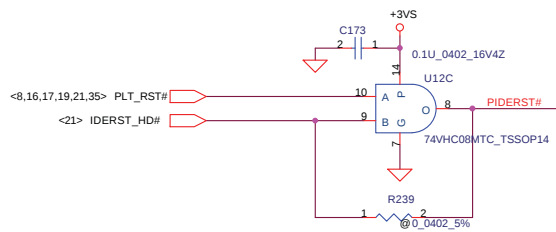


Place closely pin A27

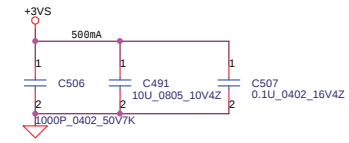


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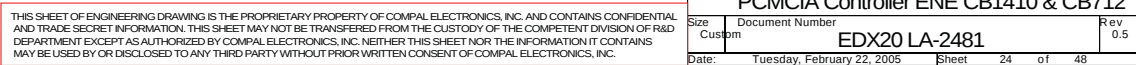


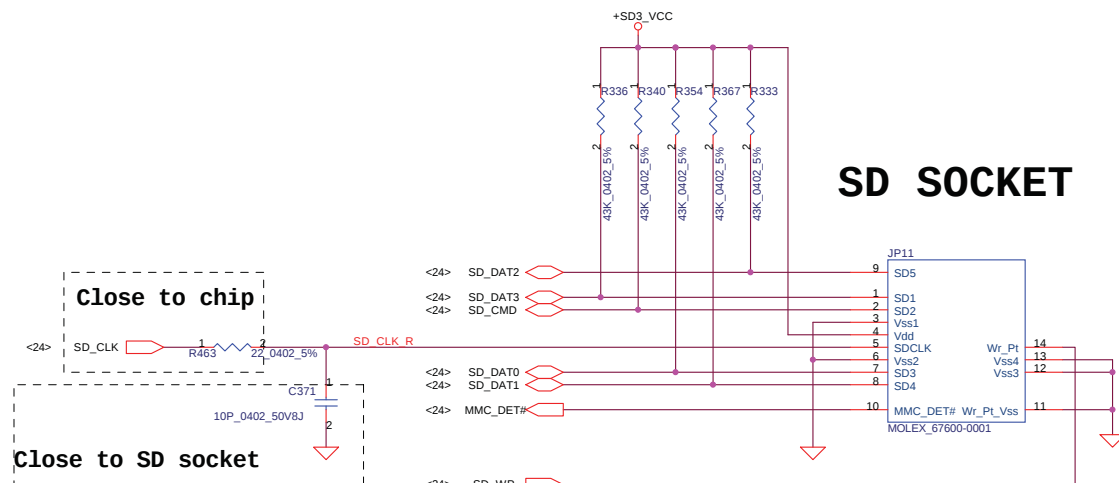
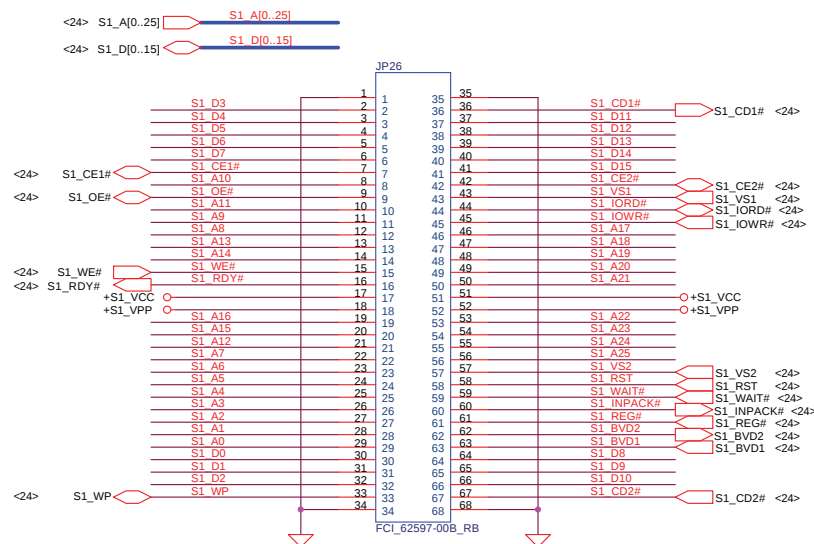
Place caps. near HDD  
CONN.      Layout Note: +VPHDD trace  
width 60 mil



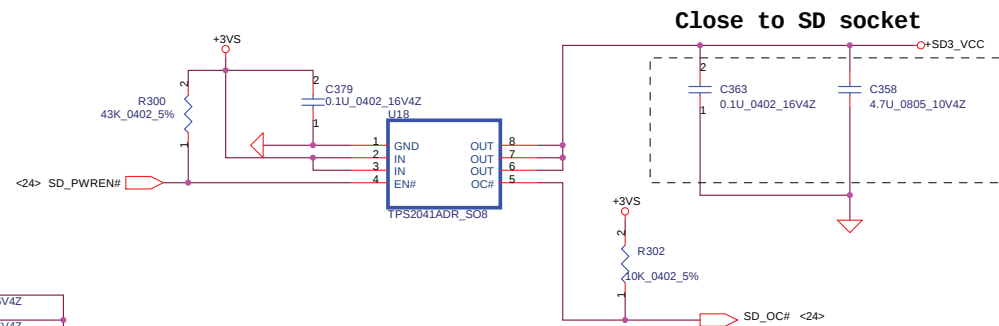
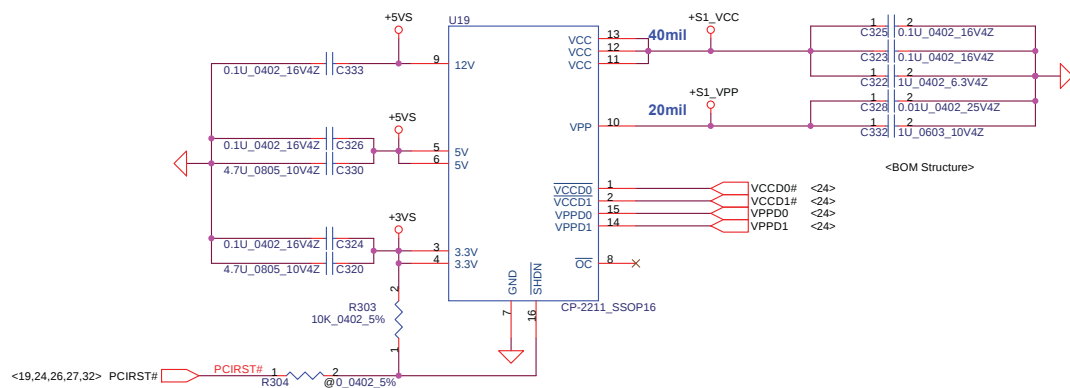
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| Compal Electronics, Inc.         |                 |       |          |
|----------------------------------|-----------------|-------|----------|
| Title                            |                 |       |          |
| ICH4-M PIDE&ICH Pull-up          |                 |       |          |
| Size                             | Document Number |       | Rev      |
|                                  | EDX20 LA-2481   |       | 0.5      |
| Date: Tuesday, February 22, 2005 |                 | Sheet | 23 of 48 |

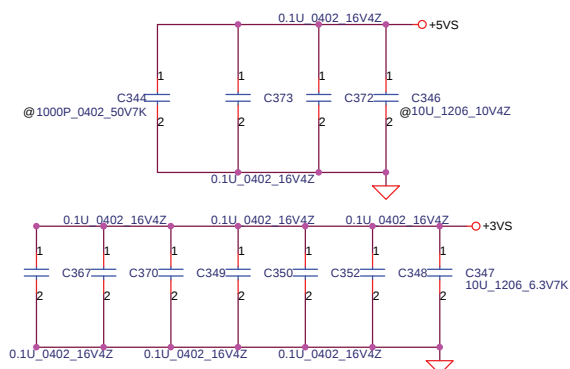
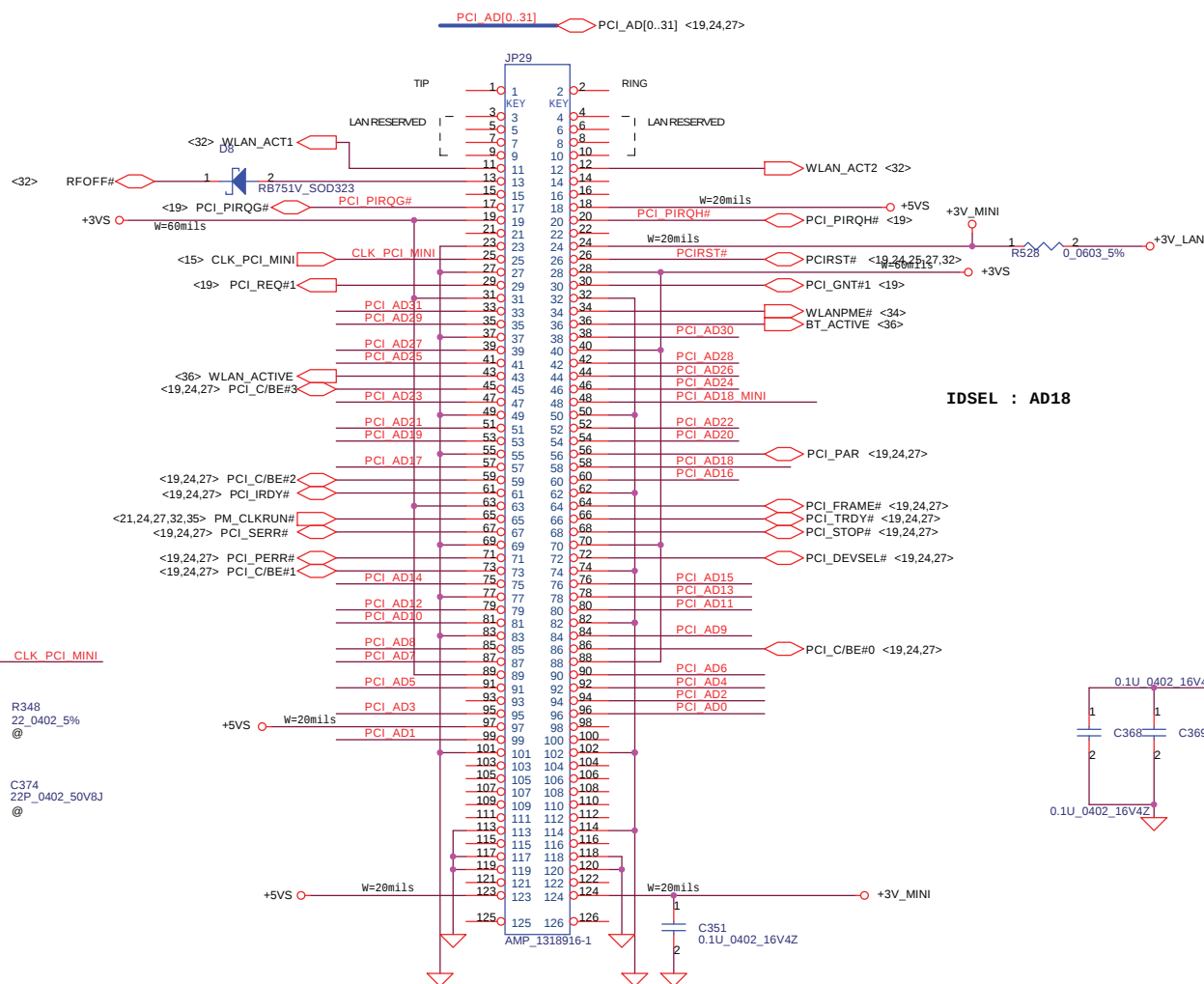




## PCMCIA Power Controller



```
-+5VS limited to 100mA
-+3.3VAUX--Normal:
375mA, D3: 200mA,
-+3VS_MINIPCI: 500mA
for wireless LAN
```



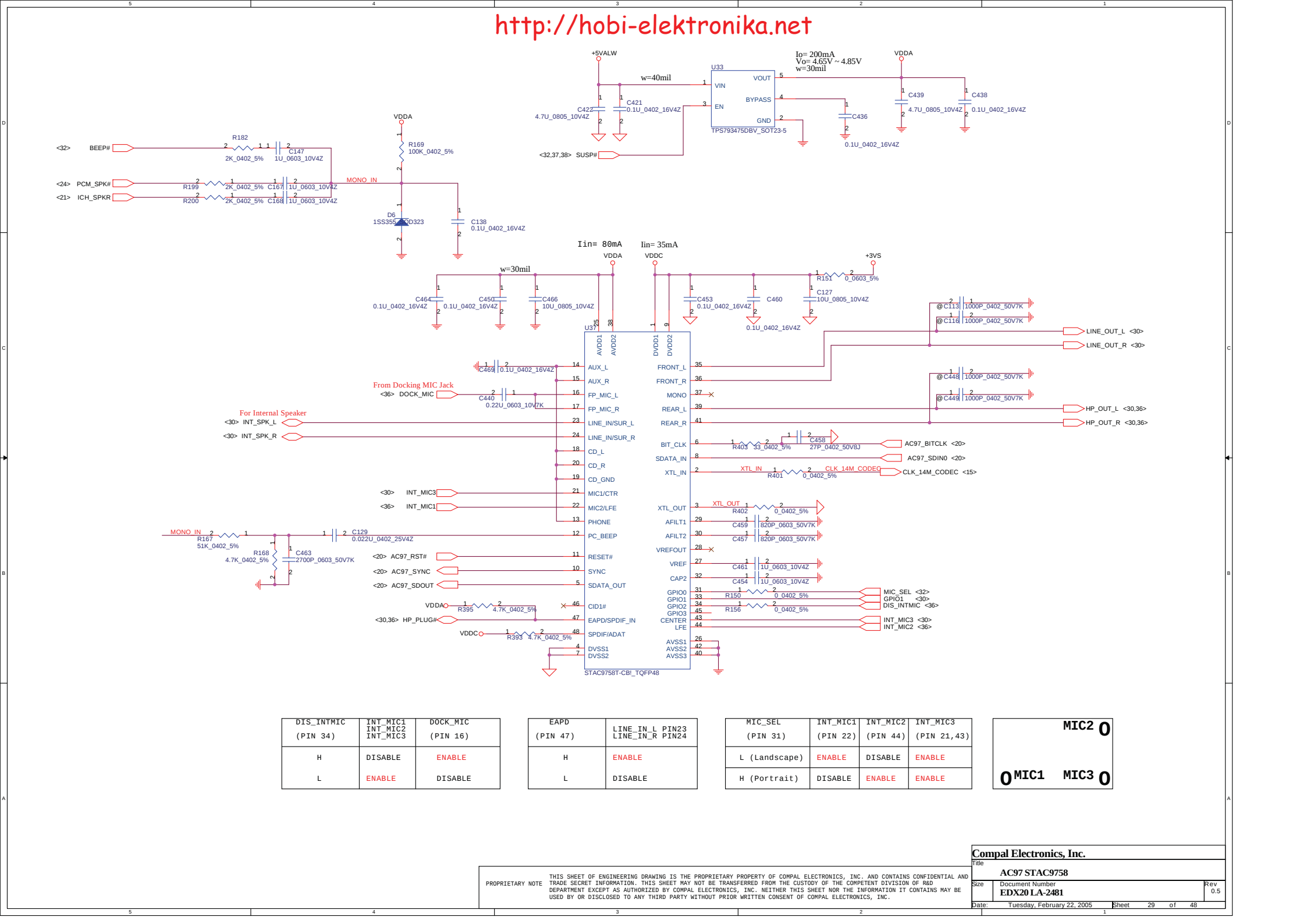
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|       |                      |
|-------|----------------------|
| Title | MiniPCI TYPEIII Slot |
|-------|----------------------|

|       |                            |                |
|-------|----------------------------|----------------|
| Size  | Document Number            | Rev            |
|       | <b>EDX20 LA-2481</b>       | 0.5            |
| Date: | Tuesday, February 22, 2005 | Sheet 26 of 48 |







<http://hobi-elektronika.net>

**Component Values Table:**

| DIS_INTMIC (PIN 34) | INT_MIC1 INT_MIC2 INT_MIC3 | DOCK_MIC (PIN 16) |
|---------------------|----------------------------|-------------------|
| H                   | DISABLE                    | ENABLE            |
| L                   | ENABLE                     | DISABLE           |

| EAPD (PIN 47) | LINE_IN_L PIN23 LINE_IN_R PIN24 |
|---------------|---------------------------------|
| H             | ENABLE                          |
| L             | DISABLE                         |

| MIC_SEL (PIN 31) | INT_MIC1 (PIN 22) | INT_MIC2 (PIN 44) | INT_MIC3 (PIN 21, 43) |
|------------------|-------------------|-------------------|-----------------------|
| L (Landscape)    | ENABLE            | DISABLE           | ENABLE                |
| H (Portrait)     | DISABLE           | ENABLE            | ENABLE                |

**MIC2 0**  
**0 MIC1 MIC3 0**

**Compal Electronics, Inc.**  
Title: AC97 STAC9758  
Size: Document Number EDX20 LA-2481 Rev 0.5  
Date: Tuesday, February 22, 2005 Sheet 29 of 48

<http://hobi-elektronika.net>

**Component Values Table:**

| DIS_INTMIC (PIN 34) | INT_MIC1 INT_MIC2 INT_MIC3 | DOCK_MIC (PIN 16) |
|---------------------|----------------------------|-------------------|
| H                   | DISABLE                    | ENABLE            |
| L                   | ENABLE                     | DISABLE           |

| EAPD (PIN 47) | LINE_IN_L PIN23 LINE_IN_R PIN24 |
|---------------|---------------------------------|
| H             | ENABLE                          |
| L             | DISABLE                         |

| MIC_SEL (PIN 31) | INT_MIC1 (PIN 22) | INT_MIC2 (PIN 44) | INT_MIC3 (PIN 21, 43) |
|------------------|-------------------|-------------------|-----------------------|
| L (Landscape)    | ENABLE            | DISABLE           | ENABLE                |
| H (Portrait)     | DISABLE           | ENABLE            | ENABLE                |

**MIC2 0**  
**0 MIC1 MIC3 0**

**Compal Electronics, Inc.**  
Title: AC97 STAC9758  
Size: Document Number EDX20 LA-2481 Rev 0.5  
Date: Tuesday, February 22, 2005 Sheet 29 of 48

<http://hobi-elektronika.net>

**Component Values Table:**

| DIS_INTMIC (PIN 34) | INT_MIC1 INT_MIC2 INT_MIC3 | DOCK_MIC (PIN 16) |
|---------------------|----------------------------|-------------------|
| H                   | DISABLE                    | ENABLE            |
| L                   | ENABLE                     | DISABLE           |

| EAPD (PIN 47) | LINE_IN_L PIN23 LINE_IN_R PIN24 |
|---------------|---------------------------------|
| H             | ENABLE                          |
| L             | DISABLE                         |

| MIC_SEL (PIN 31) | INT_MIC1 (PIN 22) | INT_MIC2 (PIN 44) | INT_MIC3 (PIN 21, 43) |
|------------------|-------------------|-------------------|-----------------------|
| L (Landscape)    | ENABLE            | DISABLE           | ENABLE                |
| H (Portrait)     | DISABLE           | ENABLE            | ENABLE                |

**MIC2 0**  
**0 MIC1 MIC3 0**

**Compal Electronics, Inc.**  
Title: AC97 STAC9758  
Size: Document Number EDX20 LA-2481 Rev 0.5  
Date: Tuesday, February 22, 2005 Sheet 29 of 48

<http://hobi-elektronika.net>

**Component Values Table:**

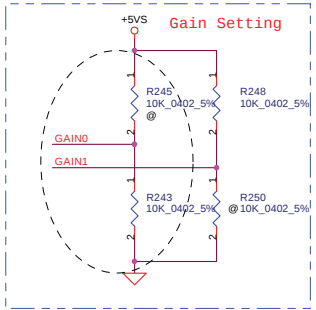
| DIS_INTMIC (PIN 34) | INT_MIC1 INT_MIC2 INT_MIC3 | DOCK_MIC (PIN 16) |
|---------------------|----------------------------|-------------------|
| H                   | DISABLE                    | ENABLE            |
| L                   | ENABLE                     | DISABLE           |

| EAPD (PIN 47) | LINE_IN_L PIN23 LINE_IN_R PIN24 |
|---------------|---------------------------------|
| H             | ENABLE                          |
| L             | DISABLE                         |

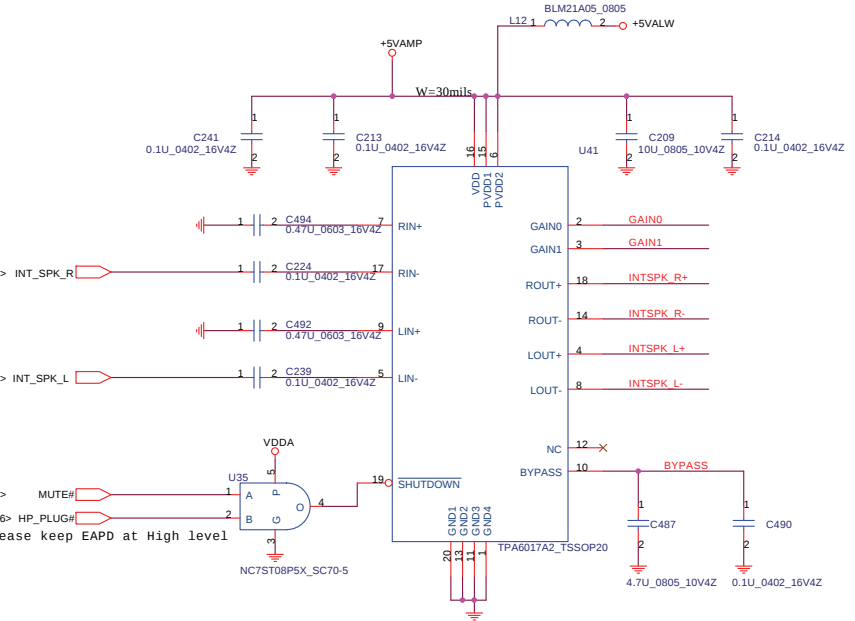
| MIC_SEL (PIN 31) | INT_MIC1 (PIN 22) | INT_MIC2 (PIN 44) | INT_MIC3 (PIN 21, 43) |
|------------------|-------------------|-------------------|-----------------------|
| L (Landscape)    | ENABLE            | DISABLE           | ENABLE                |
| H (Portrait)     | DISABLE           | ENABLE            | ENABLE                |

**MIC2 0**  
**0 MIC1 MIC3 0**

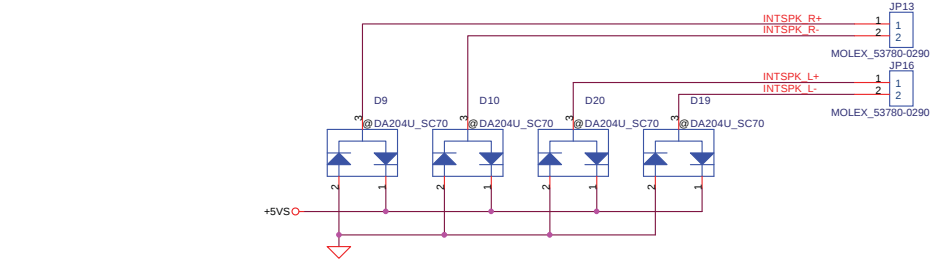
**Compal Electronics, Inc.**  
Title: AC97 STAC9758  
Size: Document Number: EDX20 LA-2481  
Date: Tuesday, February 22, 2005 Sheet 29 of 48



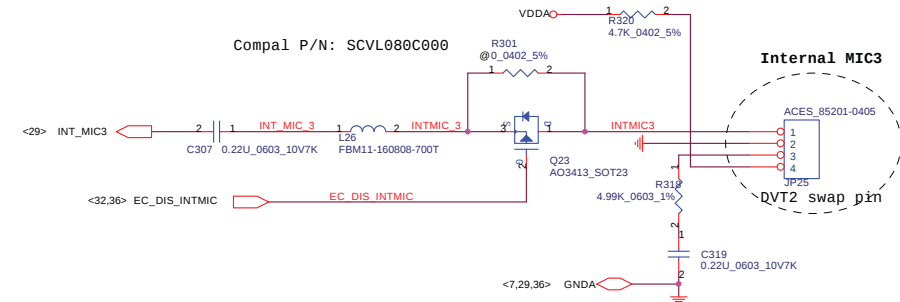
| GAIN0 | GAIN1 | AV(inv) | INPUT IMPEDANCE |
|-------|-------|---------|-----------------|
| 0     | 0     | 6dB     | 90K ohm         |
| 0     | 1     | 10dB    | 70K ohm         |
| 1     | 0     | 15.6dB  | 45K ohm         |
| 1     | 1     | 21.6dB  | 25K ohm         |



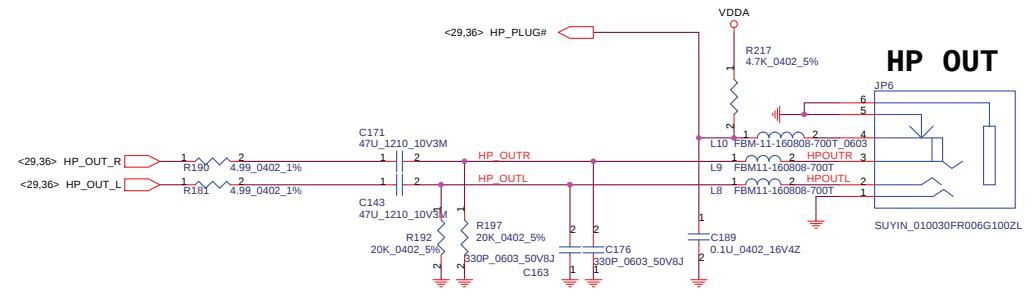
Please keep EAPD at High level



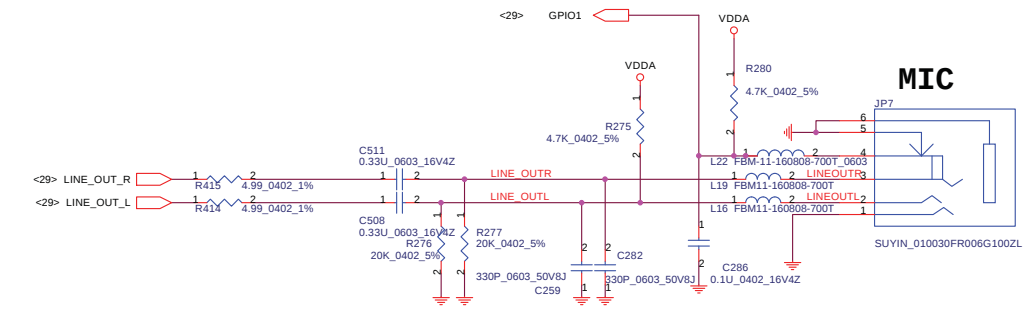
Compal P/N: SCVL080C000



Internal MIC3

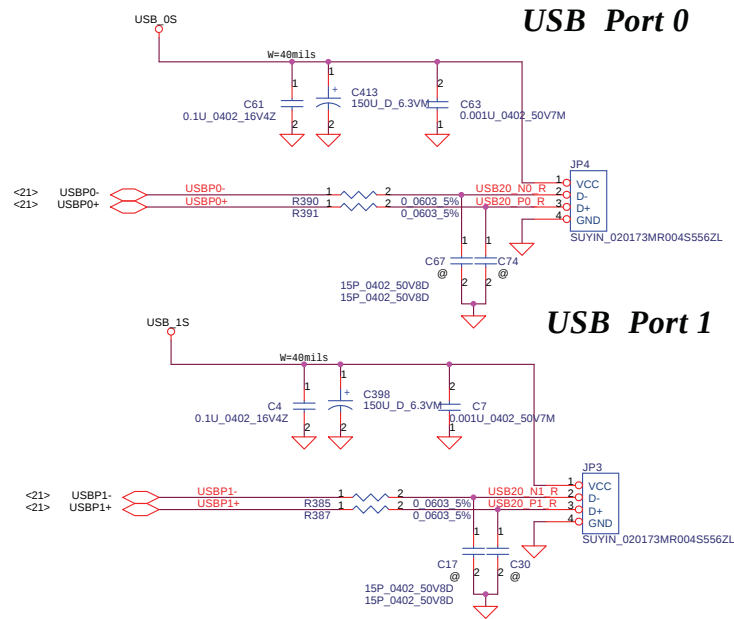
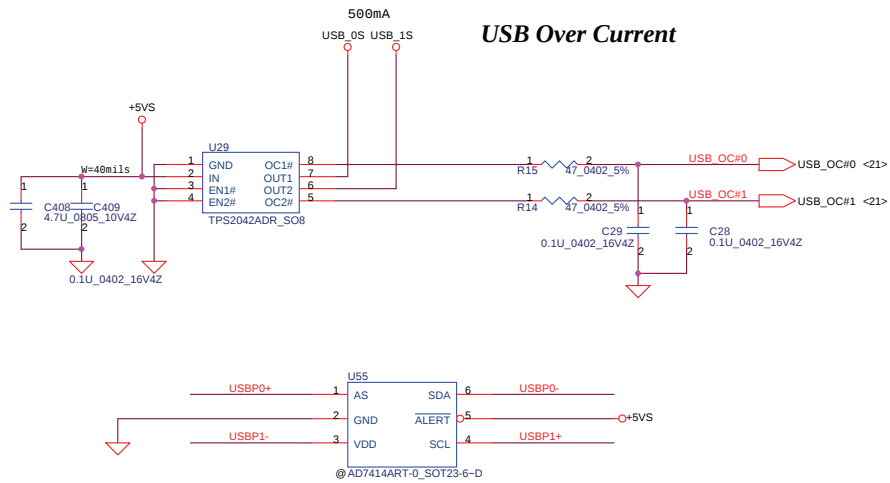


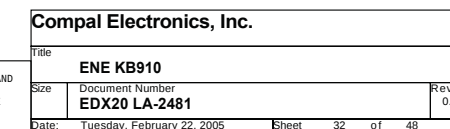
HP OUT



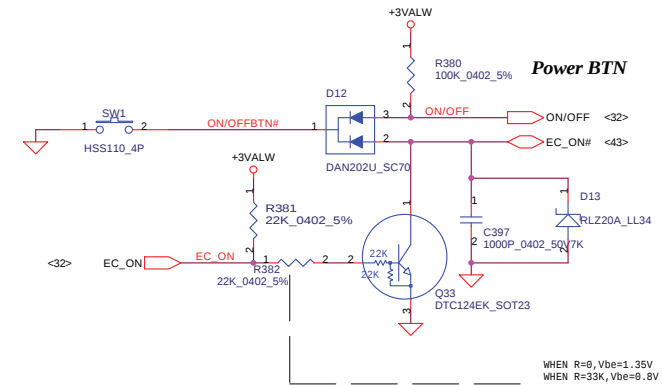
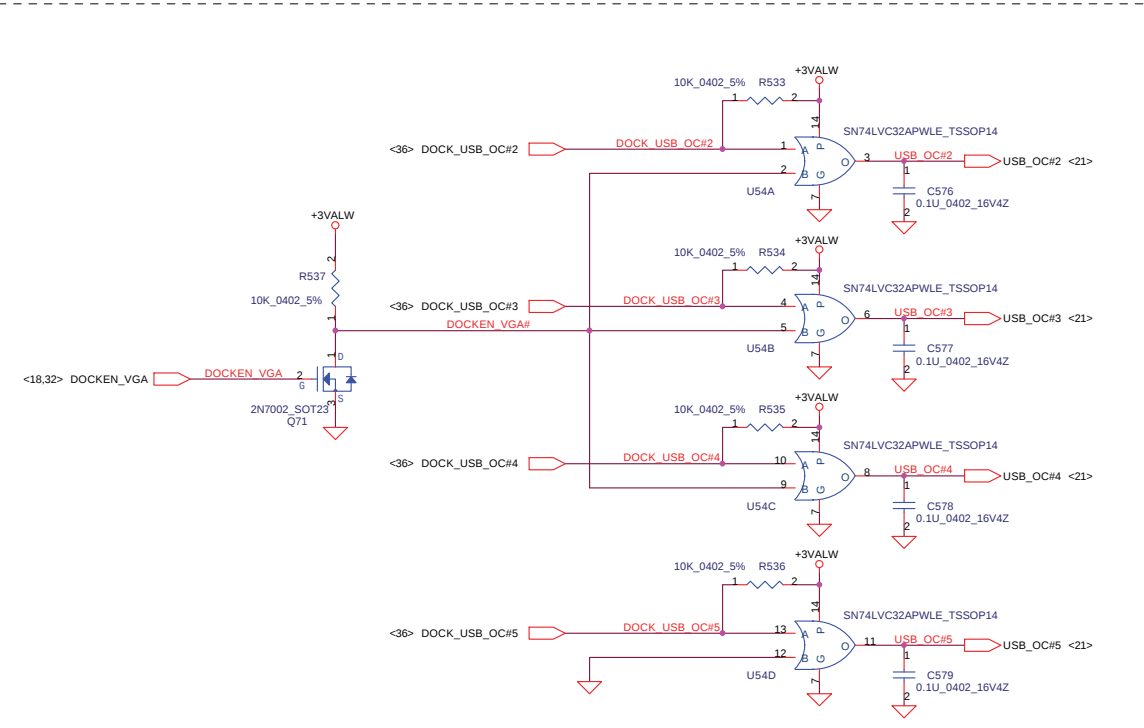
MIC

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PVT



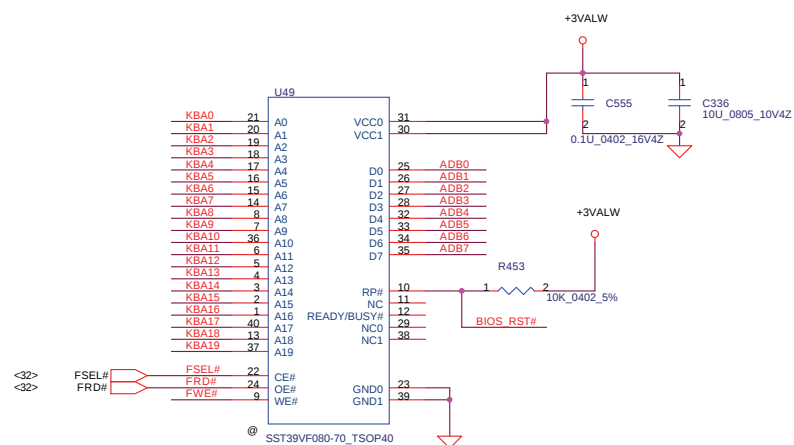
Compal Electronics, Inc.

Title  
Power ON/OFF SW

Size Document Number  
EDX20 LA-2481 Rev 0.5

Date: Tuesday, February 22, 2005 Sheet 33 of 48

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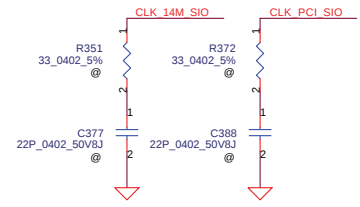
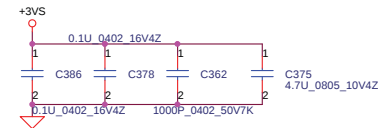


Pinout diagram for the 32-pin JP23 connector:

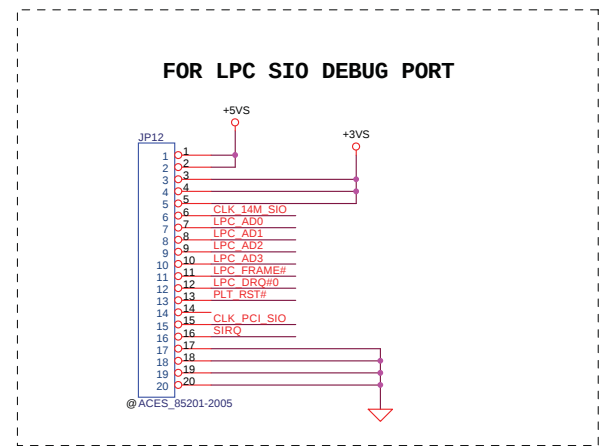
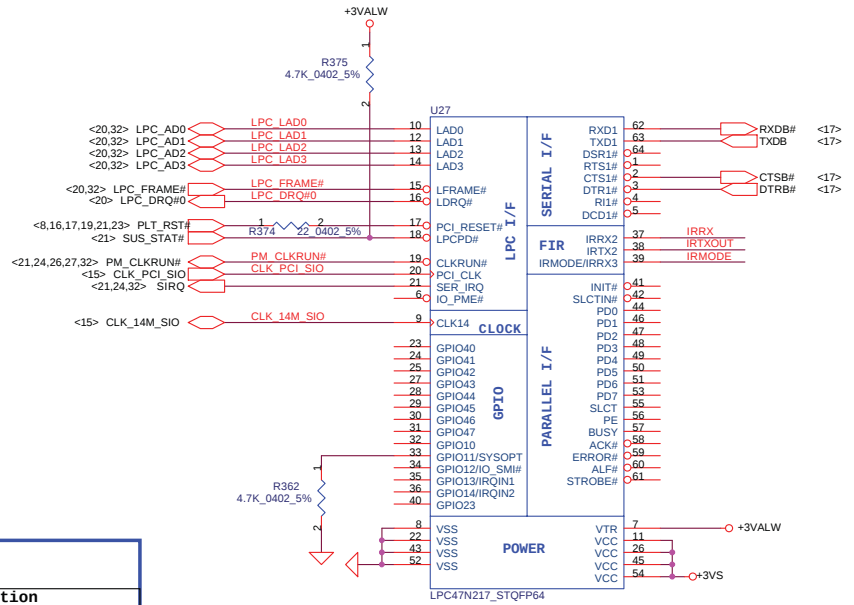
| Pin | Signal    |
|-----|-----------|
| 1   | KBA14     |
| 2   | KBA13     |
| 3   | KBA12     |
| 4   | KBA11     |
| 5   | KBA10     |
| 6   | KBA9      |
| 7   | KBA8      |
| 8   | KBA7      |
| 9   | KBA6      |
| 10  | KBA5      |
| 11  | KBA4      |
| 12  | KBA3      |
| 13  | KBA2      |
| 14  | KBA1      |
| 15  | BIOS_RST# |
| 16  | Ground    |
| 17  | FSEL#     |
| 18  | FRD#      |
| 19  | FWE#      |
| 20  | AD8#      |
| 21  | AD6#      |
| 22  | AD5#      |
| 23  | AD4#      |
| 24  | AD2#      |
| 25  | AD1#      |
| 26  | AD0#      |
| 27  | KBA19     |
| 28  | KBA18     |
| 29  | KBA17     |
| 30  | KBA16     |
| 31  | KBA15     |
| 32  | Ground    |

Additional labels: +3.3VALV (pointing to pin 3), JP23 (connector label), SUYIN 327212FA034B6200X (bottom label).

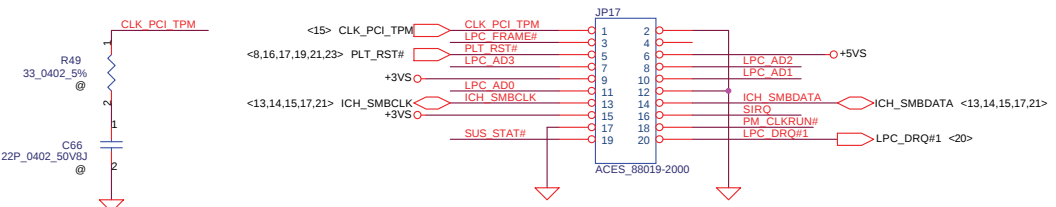
Date: Tuesday, February 22, 2005 Sheet 34 of 48



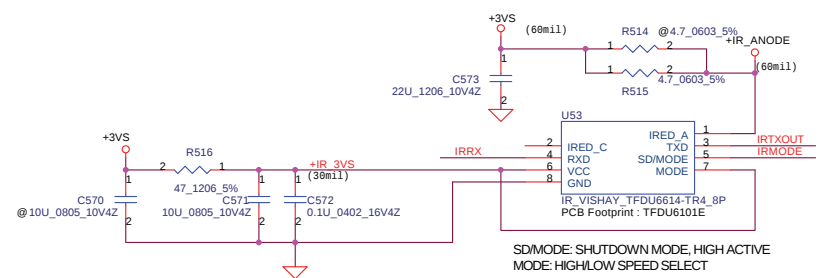
| Strap pin | Pin # | Description                                                  |
|-----------|-------|--------------------------------------------------------------|
| BADDR     | 33    | BASE Address Selection<br>"0": 2E~2F (Default)<br>"1": 4E~4F |



## TPM

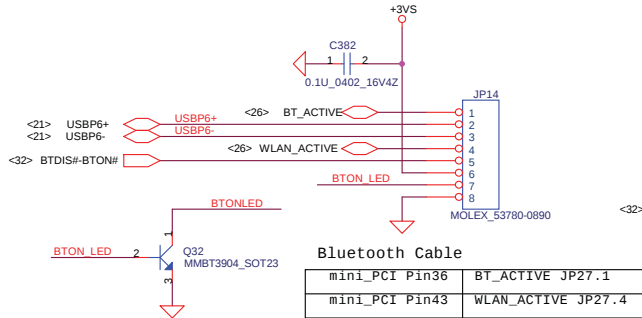


## FIR



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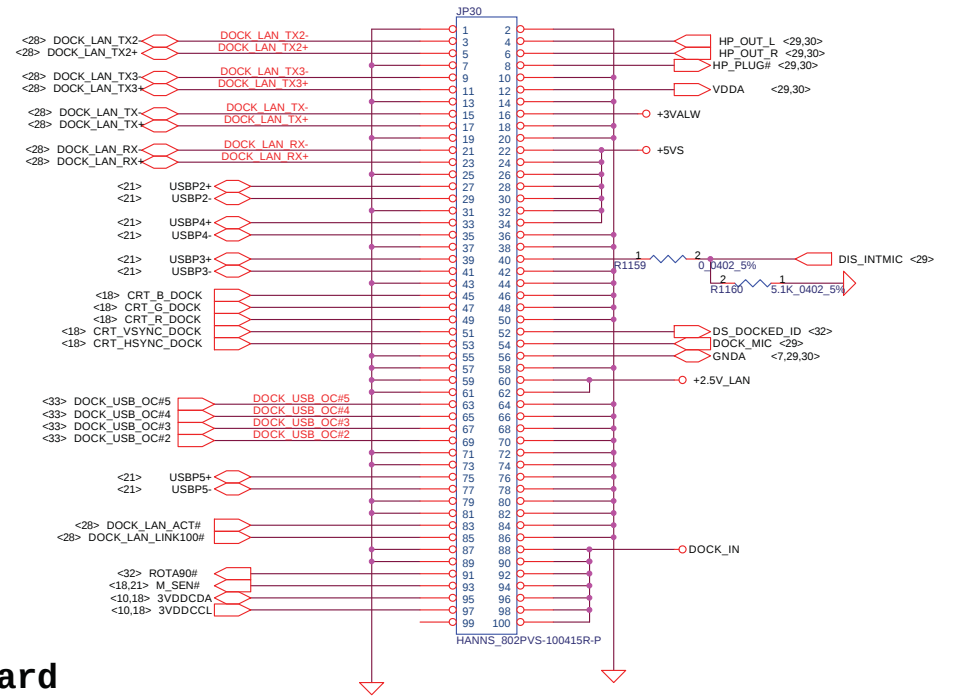
## BT MODULE CONN



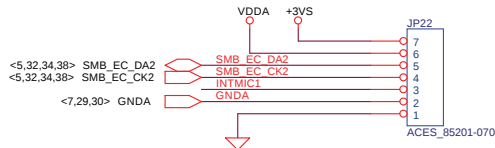
## WIRELESS SW



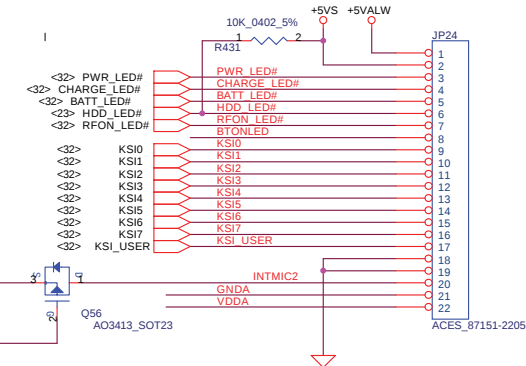
## DOCKING BD.



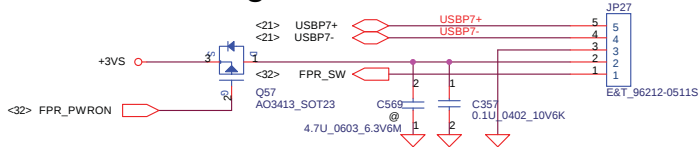
## ALS/MIC board



## BTN Board

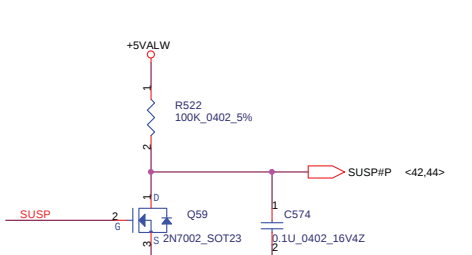
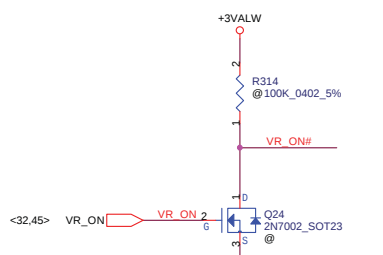
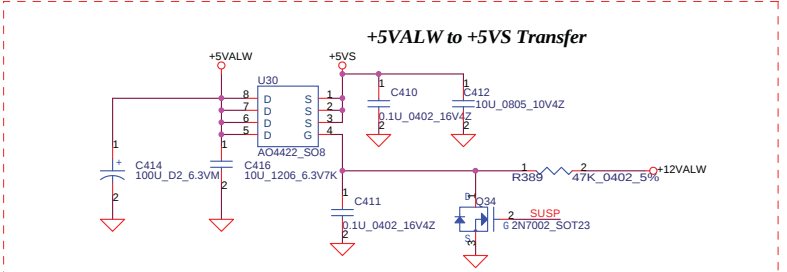
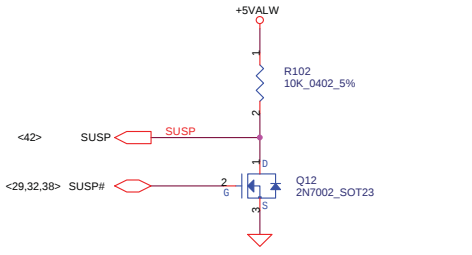
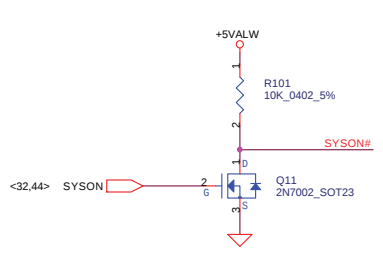
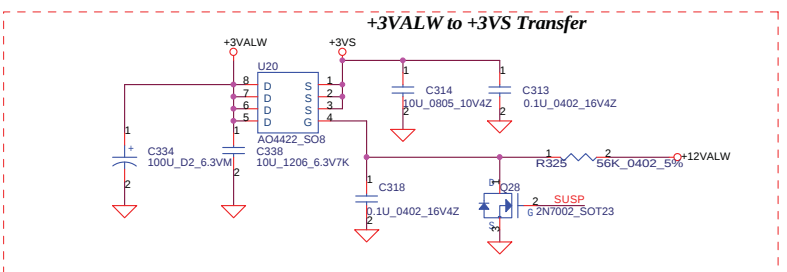
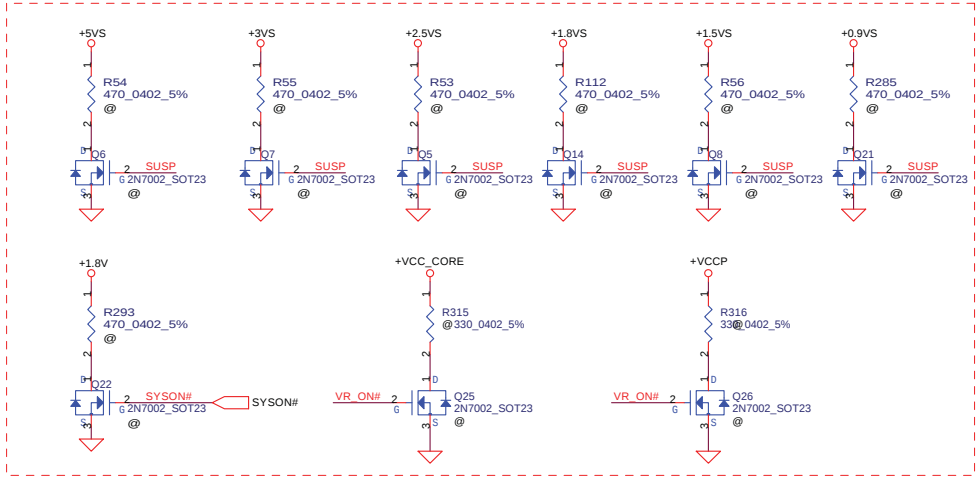
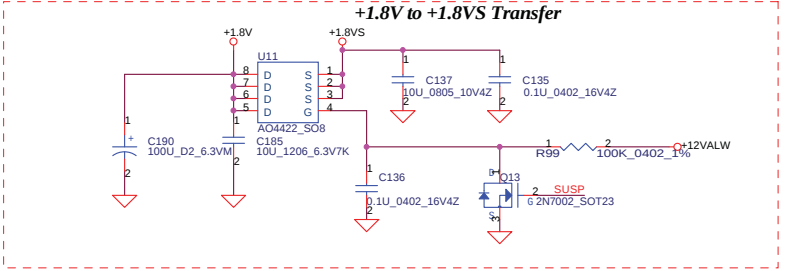


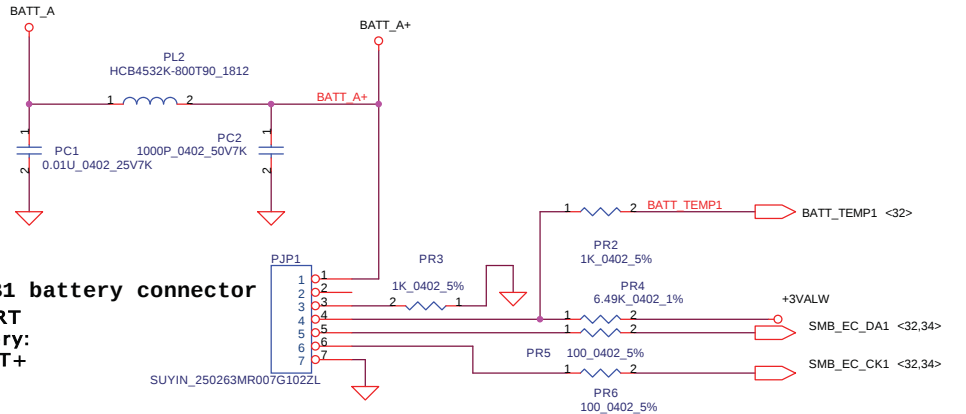
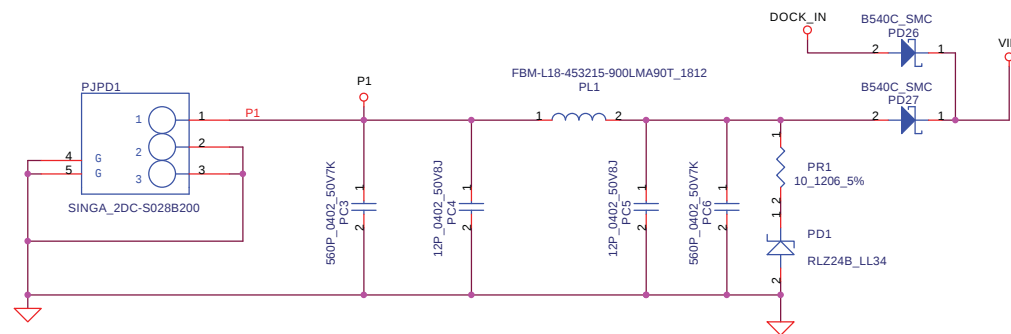
## Finger Print board



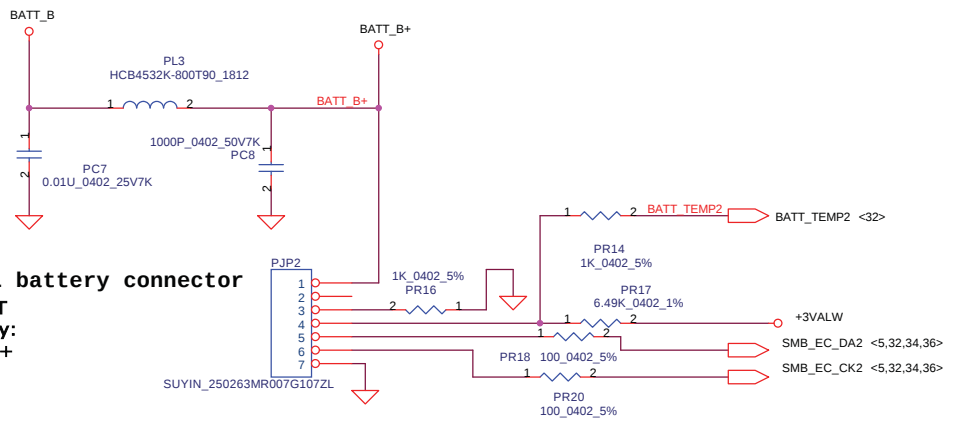
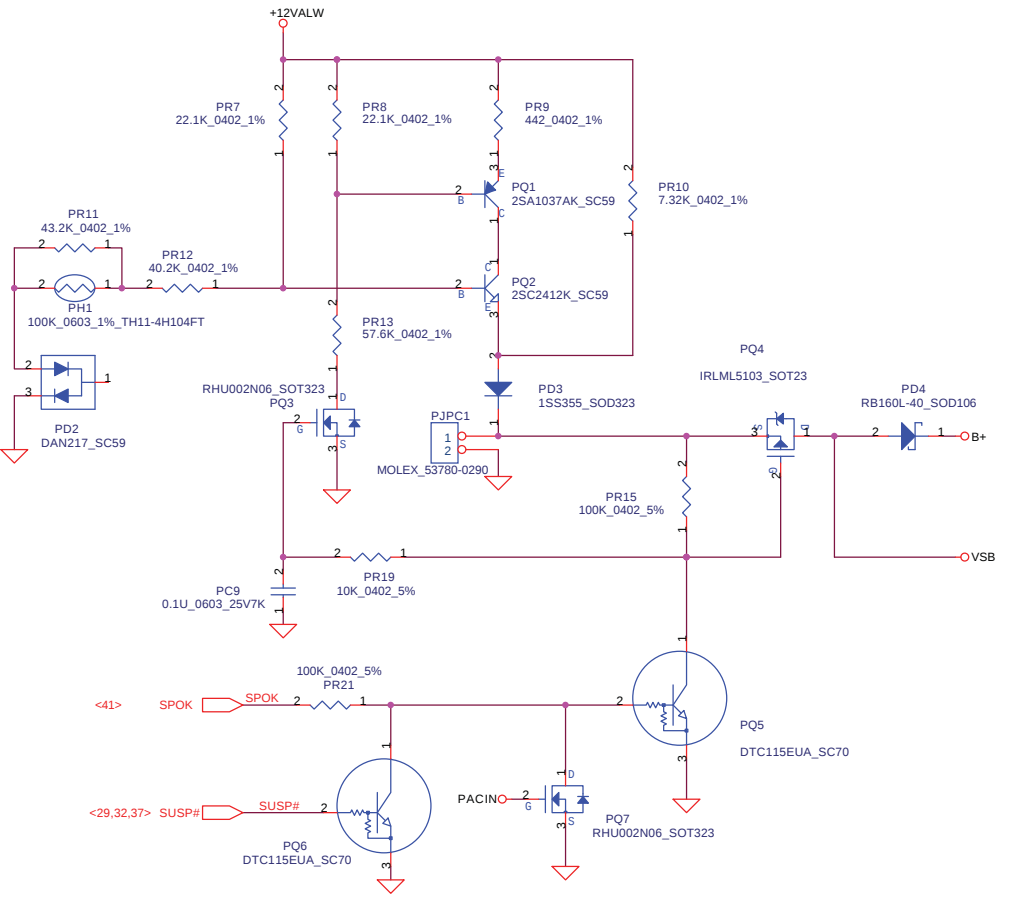
| Compal Electronics, Inc. |                            |                |
|--------------------------|----------------------------|----------------|
| Title                    | DAUGHTER Brd I/F           |                |
| Size                     | Document Number            | Rev            |
|                          | EDX20 LA-2481              | 0.5            |
| Date:                    | Tuesday, February 22, 2005 | Sheet 36 of 48 |

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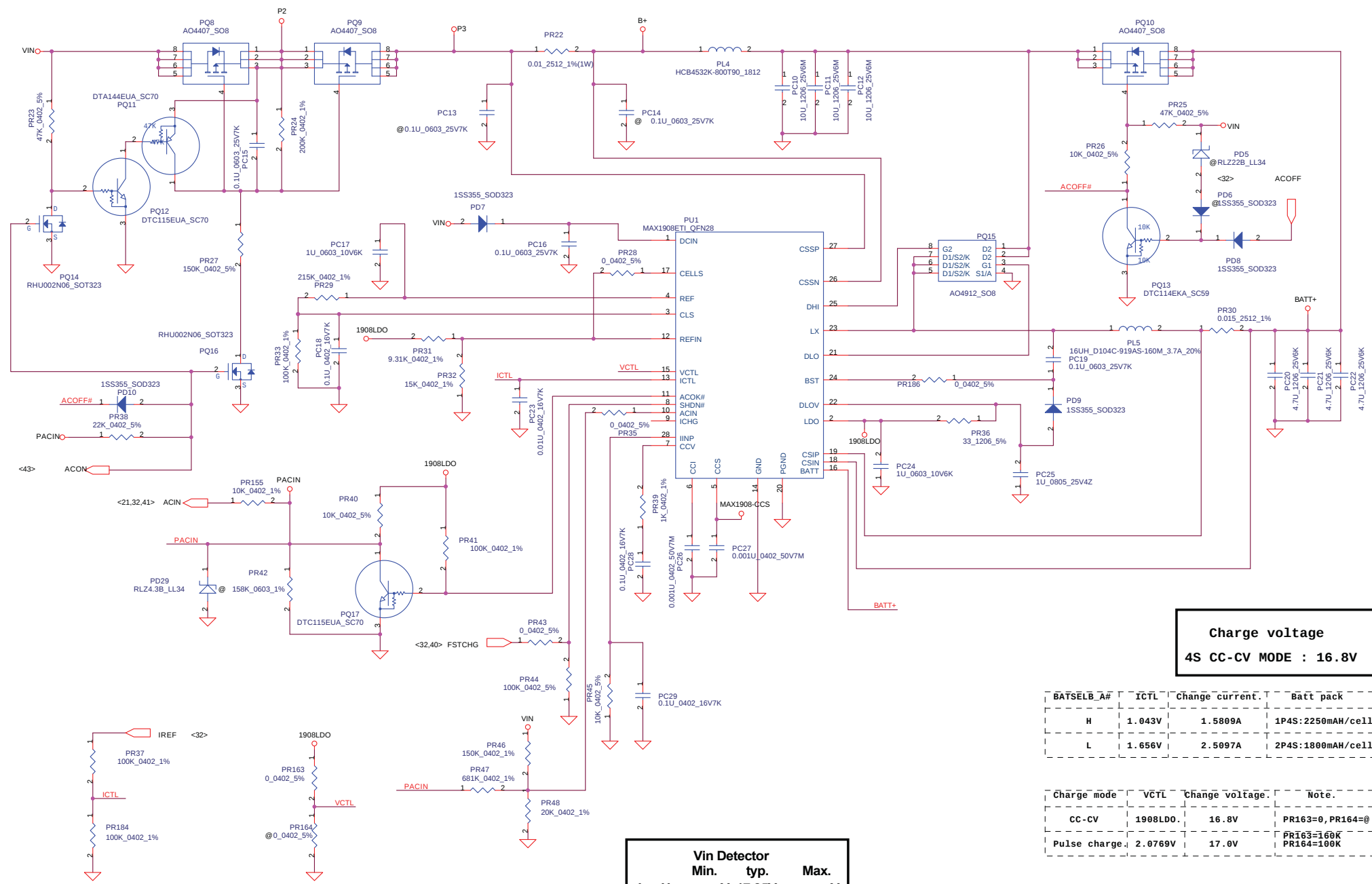
**PJPB1 battery connector**  
**SMART**  
**Battery:**  
1.BAT+  
2.ID  
3.B/I  
4.TS  
5.SMD  
6.SMC  
7.GND



**PJPB1 battery connector**  
**SMART**  
**Battery:**  
1.BAT+  
2.ID  
3.B/I  
4.TS  
5.SMD  
6.SMC  
7.GND

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Iadp=0-2.25A(42.75W)



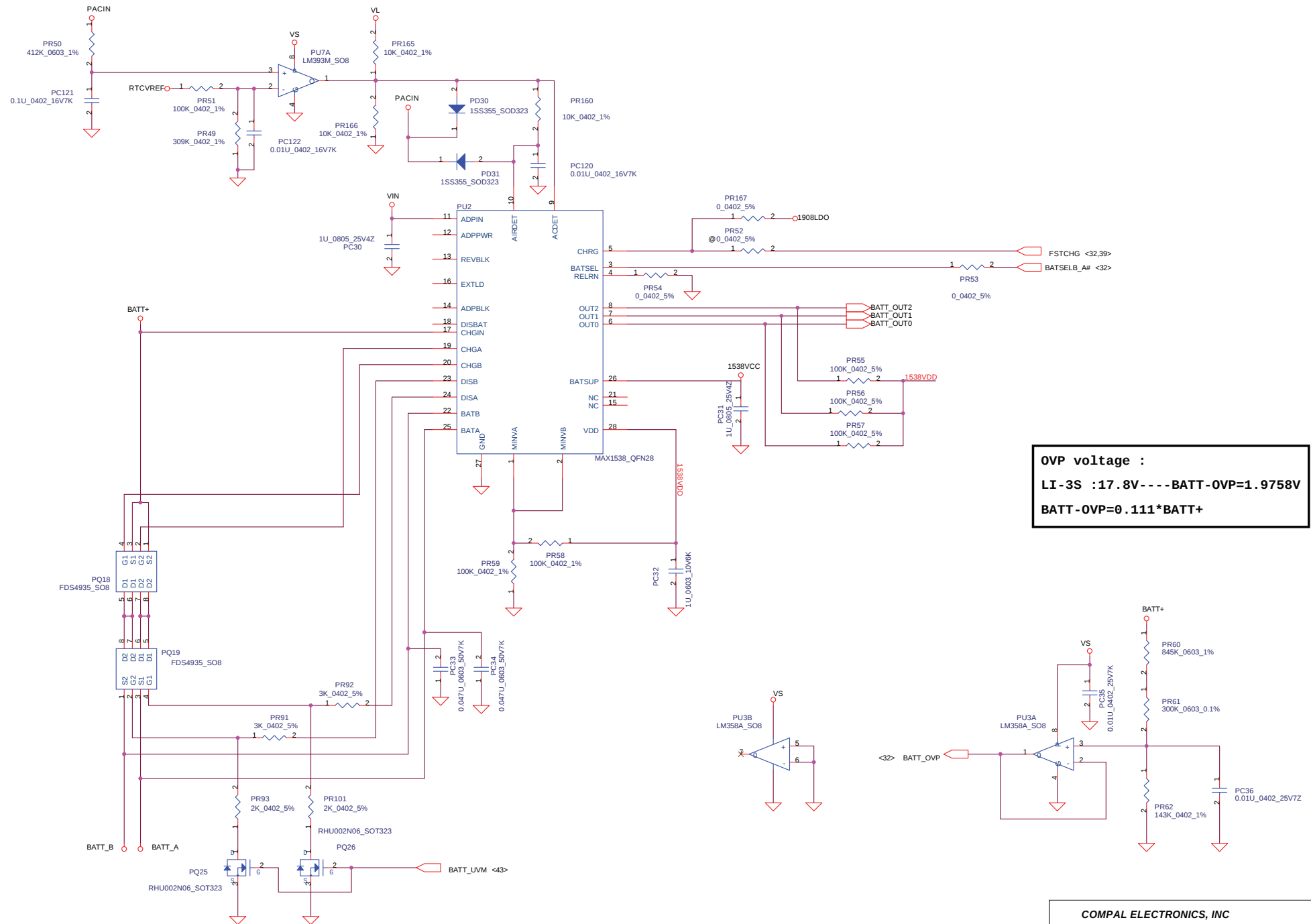
Charge voltage  
4S CC-CV MODE : 16.8V

| BATSELB_A# | ICTL   | Change current. | Batt pack         |
|------------|--------|-----------------|-------------------|
| H          | 1.043V | 1.5809A         | 1P4S:2250mAh/cell |
| L          | 1.656V | 2.5097A         | 2P4S:1800mAh/cell |

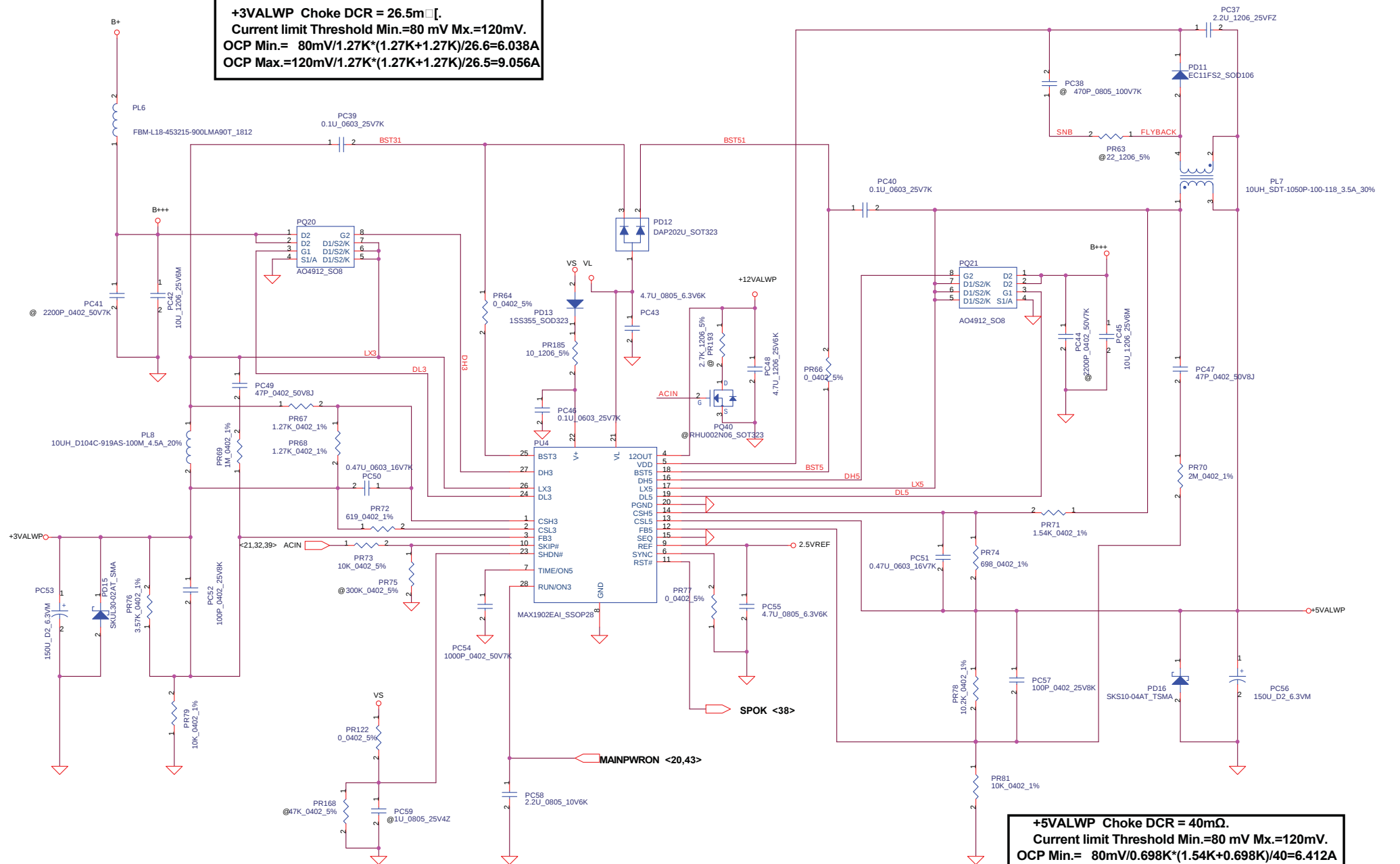
| Charge mode  | VCTL    | Change voltage. | Note.                    |
|--------------|---------|-----------------|--------------------------|
| CC-CV        | 1908LDO | 16.8V           | PR163=0, PR164=0         |
| Pulse charge | 2.0769V | 17.0V           | PR163=160K<br>PR164=100K |

| Vin Detector |          |      |
|--------------|----------|------|
| Min.         | typ.     | Max. |
| L→H          | V 17.85V | V    |
| H→L          | V 16.98V | V    |

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**+3VALWP Choke DCR = 26.5mΩ.**  
**Current limit Threshold Min.=80 mV Mx.=120mV.**  
**OCP Min.= 80mV/1.27K\*(1.27K+1.27K)/26.6=6.038A**  
**OCP Max.=120mV/1.27K\*(1.27K+1.27K)/26.5=9.056A**



$$RS2(PR64)=RS1(PR58)*RS3(PR61)/(RS1+RS3)$$

$$L/RL(DCR)=RS1*RS3(PR61)/(RS1+RS3)*Cs(PC56)$$

**+5VALWP Choke DCR = 40mΩ.**  
**Current limit Threshold Min.=80 mV Mx.=120mV.**  
**OCP Min.= 80mV/0.698K\*(1.54K+0.698K)/40=6.412A**  
**OCP Max.=120mV/0.698K\*(0.698K+1.54K)/40=9.593A**

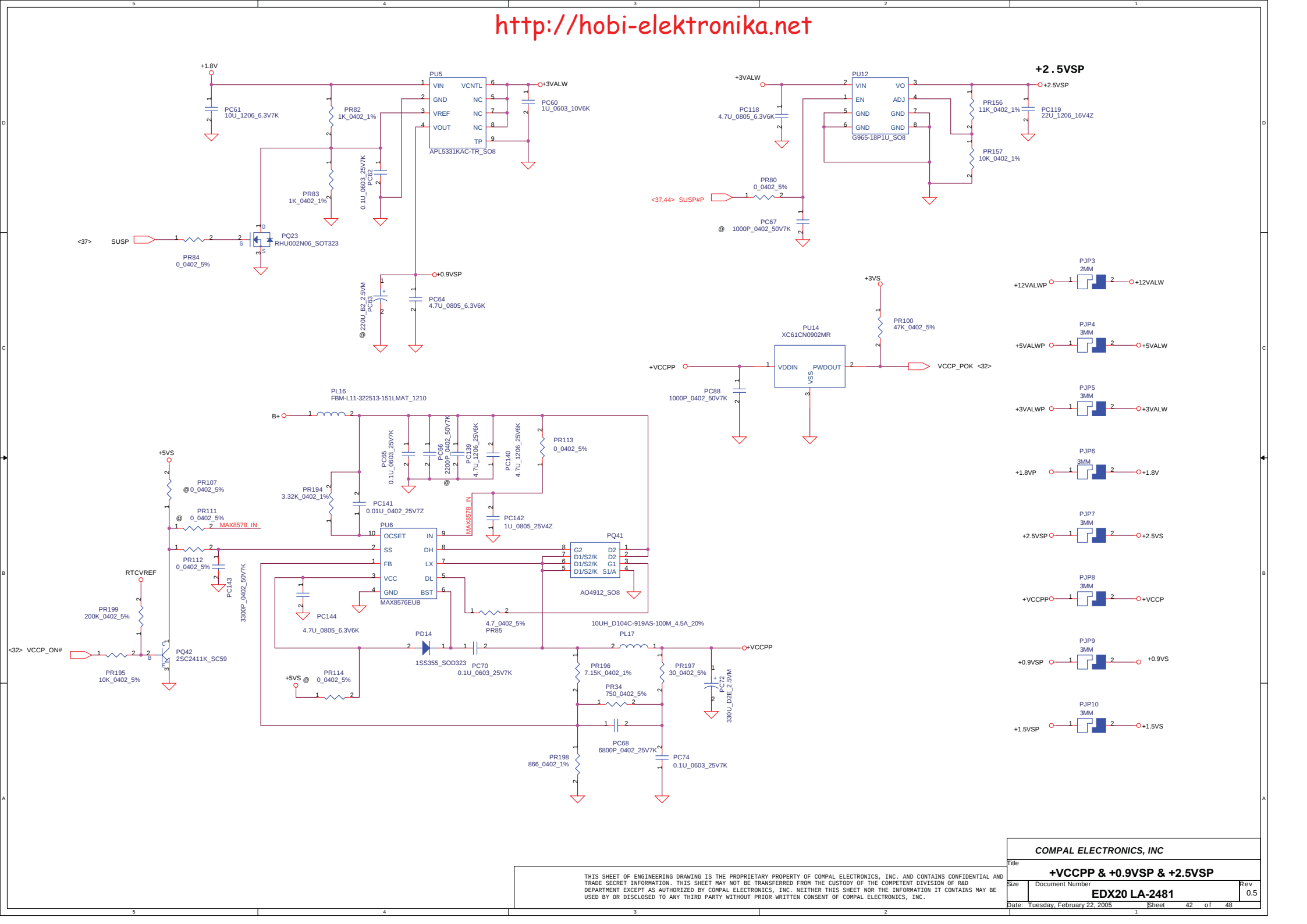
COMPAL ELECTRONICS, INC

Title  
**+3VALWP & +5VALWP & +12VALWP**

|      |                      |     |
|------|----------------------|-----|
| Size | Document Number      | Rev |
|      | <b>EDX20 LA-2481</b> | 0.5 |

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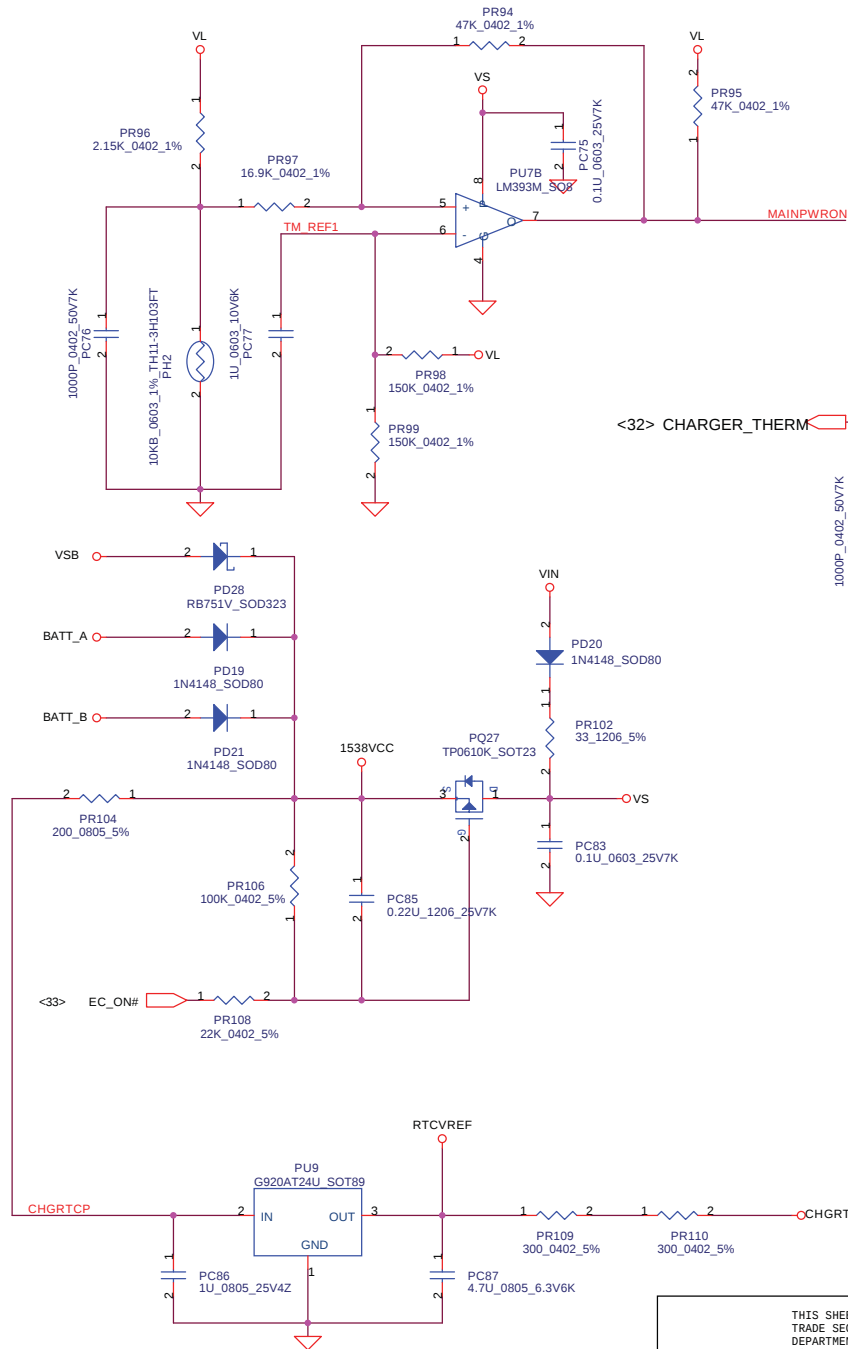
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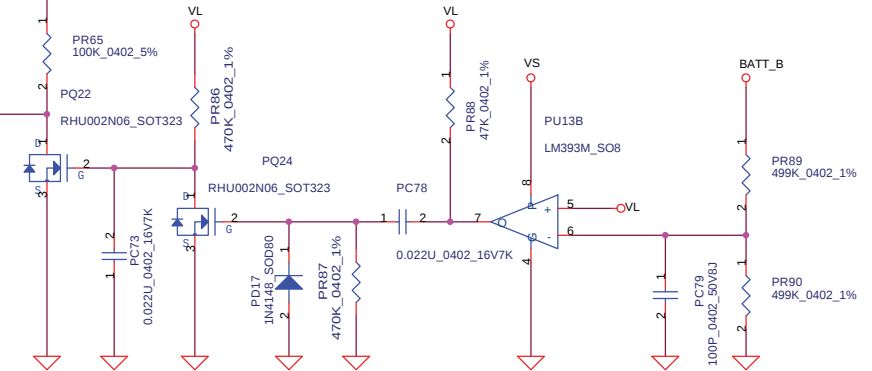
|                                  |                 |                |     |
|----------------------------------|-----------------|----------------|-----|
| COMPAL ELECTRONICS, INC          |                 |                |     |
| Title                            |                 |                |     |
| +VCCPP & +0.9VSP & +2.5VSP       |                 |                |     |
| Size                             | Document Number |                | Rev |
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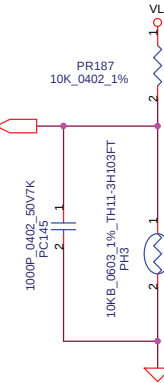
PH2 under CPU botten side :  
CPU thermal protection at 80 degree C  
Recovery at 44(45) degree C



<40> BATT\_UVM



<32> CHARGER\_THERM



<20,41> MAINPWON

<39> ACON

ACIN

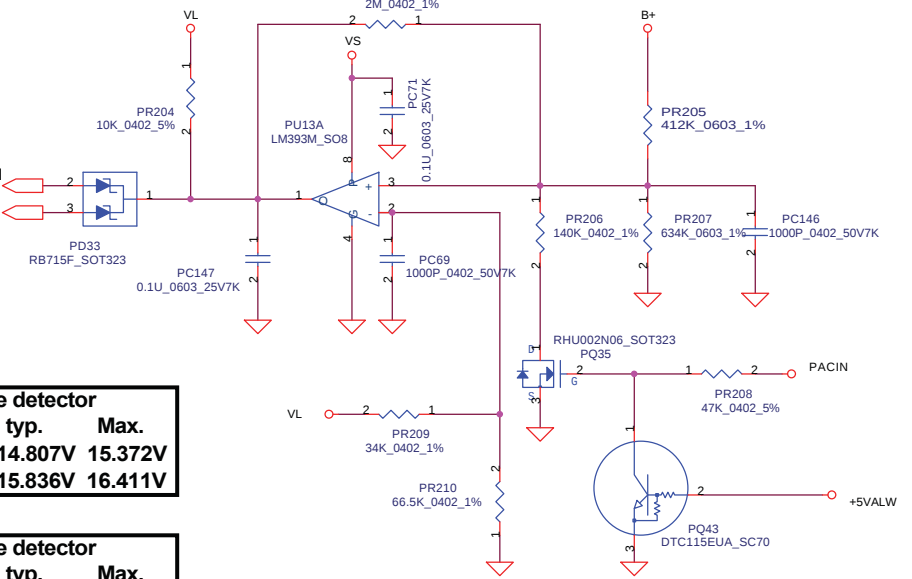
Precharge detector

|      | Min.    | typ.    | Max.    |
|------|---------|---------|---------|
| H->L | 14.556V | 14.807V | 15.372V |
| L->H | 15.276V | 15.836V | 16.411V |

BATT ONLY

Precharge detector

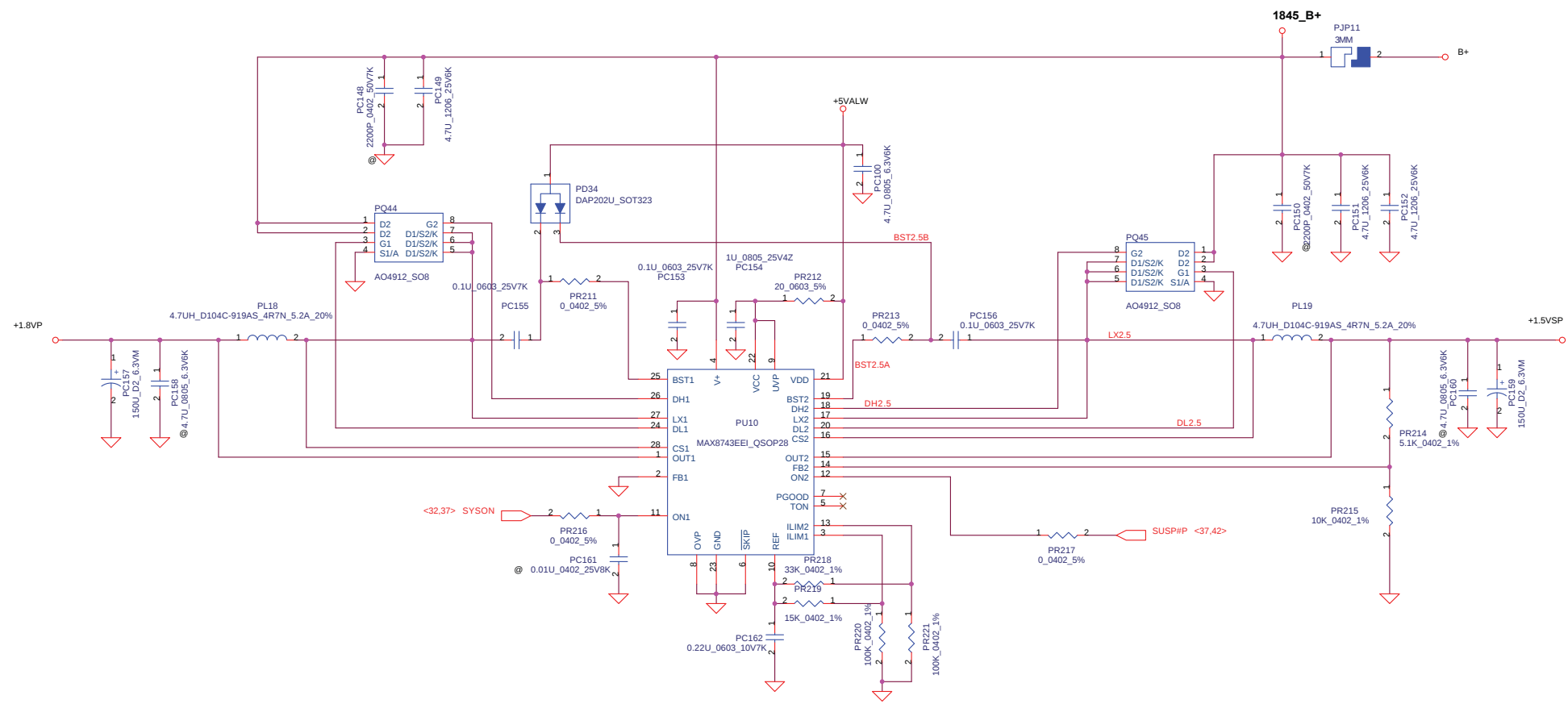
|      | Min.   | typ.   | Max.   |
|------|--------|--------|--------|
| H->L | 5.044V | 5.096V | 5.205V |
| L->H | 6.008V | 6.124V | 6.243V |



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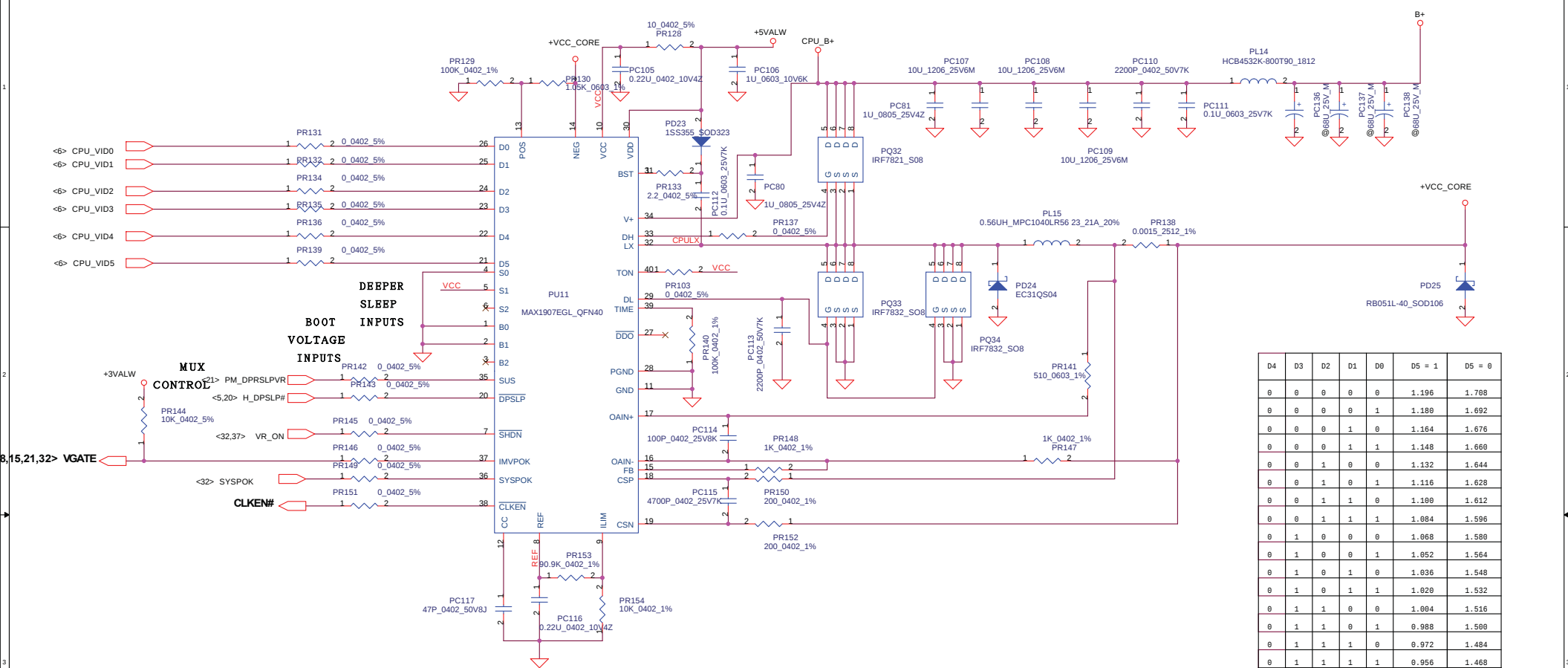
|                                  |                 |                         |       |
|----------------------------------|-----------------|-------------------------|-------|
| Title                            |                 | RTC batt & +1.2VP & OTP |       |
| Size                             | Document Number | Rev                     |       |
|                                  | EDX20 LA-2481   | 0.5                     |       |
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|                                  |                 |                |     |
|----------------------------------|-----------------|----------------|-----|
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| Title                            |                 |                |     |
| +1.5VSP & +1.8VP                 |                 |                |     |
| Size                             | Document Number |                | Rev |
|                                  | EDX20 LA-2481   |                | 0.5 |
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| D4 | D3 | D2 | D1 | D0 | D5 = 1 | D5 = 0 |
|----|----|----|----|----|--------|--------|
| 0  | 0  | 0  | 0  | 0  | 1.196  | 1.788  |
| 0  | 0  | 0  | 0  | 1  | 1.180  | 1.692  |
| 0  | 0  | 0  | 1  | 0  | 1.164  | 1.676  |
| 0  | 0  | 0  | 1  | 1  | 1.148  | 1.660  |
| 0  | 0  | 1  | 0  | 0  | 1.132  | 1.644  |
| 0  | 0  | 1  | 0  | 1  | 1.116  | 1.628  |
| 0  | 0  | 1  | 1  | 0  | 1.100  | 1.612  |
| 0  | 0  | 1  | 1  | 1  | 1.084  | 1.596  |
| 0  | 1  | 0  | 0  | 0  | 1.068  | 1.580  |
| 0  | 1  | 0  | 0  | 1  | 1.052  | 1.564  |
| 0  | 1  | 0  | 1  | 0  | 1.036  | 1.548  |
| 0  | 1  | 0  | 1  | 1  | 1.020  | 1.532  |
| 0  | 1  | 1  | 0  | 0  | 1.004  | 1.516  |
| 0  | 1  | 1  | 0  | 1  | 0.988  | 1.500  |
| 0  | 1  | 1  | 1  | 0  | 0.972  | 1.484  |
| 0  | 1  | 1  | 1  | 1  | 0.956  | 1.468  |
| 1  | 0  | 0  | 0  | 0  | 0.940  | 1.452  |
| 1  | 0  | 0  | 0  | 1  | 0.924  | 1.436  |
| 1  | 0  | 0  | 1  | 0  | 0.908  | 1.420  |
| 1  | 0  | 0  | 1  | 1  | 0.892  | 1.404  |
| 1  | 0  | 1  | 0  | 0  | 0.876  | 1.388  |
| 1  | 0  | 1  | 0  | 1  | 0.860  | 1.372  |
| 1  | 0  | 1  | 1  | 0  | 0.844  | 1.356  |
| 1  | 0  | 1  | 1  | 1  | 0.828  | 1.340  |
| 1  | 1  | 0  | 0  | 0  | 0.812  | 1.324  |
| 1  | 1  | 0  | 0  | 1  | 0.796  | 1.308  |
| 1  | 1  | 0  | 1  | 0  | 0.780  | 1.292  |
| 1  | 1  | 0  | 1  | 1  | 0.764  | 1.276  |
| 1  | 1  | 1  | 0  | 0  | 0.748  | 1.260  |
| 1  | 1  | 1  | 0  | 1  | 0.732  | 1.244  |
| 1  | 1  | 1  | 1  | 0  | 0.716  | 1.228  |
| 1  | 1  | 1  | 1  | 1  | 0.700  | 1.212  |

Delta I=0.0528A REF MAX=2.01V\*10K/(10K+90.2K)=0.2005V  
REF Min=1.99V\*10K/(10K+90.2K)=0.1986V  
Iimit Max=0.2005V\*10/1.485mΩ+1/2 Delta=13.528  
Iimit Max=0.1986V\*10/1.515mΩ+1/2 Delta=13.135

| Item | Fixed Issue                        | Reason for change               | Rev. | PG# | Modify List                                                                  | B.Ver# | Phase |
|------|------------------------------------|---------------------------------|------|-----|------------------------------------------------------------------------------|--------|-------|
| 1    |                                    | Change FAN design               | 0.4  | 5   | Change FAN circuit to PWM contrl                                             |        |       |
| 2    |                                    | Delete unused parts             | 0.4  | 7   | Del C285                                                                     |        |       |
| 3    |                                    | Change CPU Ref Location name    | 0.4  | 5   | Change CPU Ref location name from JP18 to U1                                 |        |       |
| 4    |                                    | Delete unused parts             | 0.4  | 17  | Del R252,Del PID0 net on JP20 pin 26                                         |        |       |
| 5    |                                    | Design Change                   | 0.4  | 21  | Change PID0 net name to ICH GPIO33<br>Add Q62(2N7002) to contrl ISOLATE# pin |        |       |
| 6    |                                    | Design Change                   | 0.4  | 27  | Add net ISOLATE# on U39 pin23                                                |        |       |
| 7    |                                    | Delete SD card LED              | 0.4  | 24  | Del D11,R377                                                                 |        |       |
| 8    | Save more power in S3 battery mode | Add LAN power control MOSFET    | 0.4  | 27  | Add Q63(A03402), Q64(2N7002), R527(10K_0402), C575(0.01uF_0402)              |        |       |
| 9    |                                    | Add MOS on Docking USB_OVC pins | 0.4  | 36  | Add Q65,Q66,Q67 on USB_OVC#3, USB_OVC#4, USB_OVC#5                           |        |       |
| 10   |                                    | ME change cable design to FFC   | 0.4  | 36  | Swap JP27,JP22 pin assignment                                                |        |       |
| 11   |                                    | ME change cable design to FFC   | 0.4  | 30  | Swap JP25                                                                    |        |       |
| 12   |                                    | decrease Audio Gain setting     | 0.4  | 30  | Depop R245, Pop R243                                                         |        |       |
| 13   |                                    |                                 |      |     |                                                                              |        |       |
| 14   |                                    |                                 |      |     |                                                                              |        |       |
| 15   |                                    |                                 |      |     |                                                                              |        |       |
| 16   |                                    |                                 |      |     |                                                                              |        |       |
| 17   |                                    |                                 |      |     |                                                                              |        |       |
| 18   |                                    |                                 |      |     |                                                                              |        |       |
| 19   |                                    |                                 |      |     |                                                                              |        |       |
| 20   |                                    |                                 |      |     |                                                                              |        |       |
| 21   |                                    |                                 |      |     |                                                                              |        |       |
| 22   |                                    |                                 |      |     |                                                                              |        |       |
| 23   |                                    |                                 |      |     |                                                                              |        |       |

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| Item | Fixed Issue                      | Reason for change               | Rev. | PG# | Modify List                                               | B.Ver# | Phase |
|------|----------------------------------|---------------------------------|------|-----|-----------------------------------------------------------|--------|-------|
| 1    |                                  | Del MOS on Docking USB_OVC pins | 0.5  | 36  | Del Q65,Q66,Q67,Q68 on USB_OVC#3, USB_OVC#4, USB_OVC#5    |        |       |
| 2    |                                  | Add Docking USB_OVC circuit     | 0.5  | 33  | Add U54,R533,534,R535,R536,R537,C576,C577,C578,C579       |        |       |
| 3    |                                  | Cost-Down                       | 0.5  | 7   | Del C252                                                  |        |       |
| 4    |                                  | Design Change                   | 0.5  | 31  | Change USB Connector type                                 |        |       |
| 5    | External VGA display quality     | Design Change                   | 0.5  | 10  | Change R36 to 220 ohm(Ee Change List by Motion item 1)    |        |       |
| 6    | Support new version audio driver | Design Change                   | 0.5  | 36  | Change R1160 to 5.1K ohm(Ee Change List by Motion item 2) |        |       |
| 7    |                                  | Material Change                 | 0.5  | 32  | Change Y6 to KDS_SJ132P7KB10 part.(TxC EOL)               |        |       |
| 8    |                                  |                                 |      | 5   | Change CPU to C0 step                                     |        |       |
| 9    |                                  | Design Change                   | 0.5  | 31  | Change R14,R15 to 47 ohm                                  |        |       |
| 10   |                                  |                                 |      |     |                                                           |        |       |
| 11   |                                  |                                 |      |     |                                                           |        |       |
| 12   |                                  |                                 |      |     |                                                           |        |       |
| 13   |                                  |                                 |      |     |                                                           |        |       |
| 14   |                                  |                                 |      |     |                                                           |        |       |
| 15   |                                  |                                 |      |     |                                                           |        |       |
| 16   |                                  |                                 |      |     |                                                           |        |       |
| 17   |                                  |                                 |      |     |                                                           |        |       |
| 18   |                                  |                                 |      |     |                                                           |        |       |
| 19   |                                  |                                 |      |     |                                                           |        |       |
| 20   |                                  |                                 |      |     |                                                           |        |       |
| 21   |                                  |                                 |      |     |                                                           |        |       |
| 22   |                                  |                                 |      |     |                                                           |        |       |
| 23   |                                  |                                 |      |     |                                                           |        |       |

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| Item | Fixed Issue                                             | Reason for change                                                                                  | Rev. | PG#   | Modify List                                                                                                                                                                                                                                                                                                                                                                                                     | B.Ver# | Phase |
|------|---------------------------------------------------------|----------------------------------------------------------------------------------------------------|------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------|
| 1    | Add the pre-charge circuit.                             | Pre-charge function fail.                                                                          | 0.3  | 43    | 1.Add the Pre-charge circuit.<br>Add the PD32,PR188,PR189,PR190,PR191,PR192,PR182,PD33,PC71,PC127,PC12,PR194,PR87,PR196,PQ35,PR198,PR199,PR197,PQ38                                                                                                                                                                                                                                                             | 0.3    | DVT   |
| 2    | To adjust sequence for +5VALWP and +3VALWP.             | To adjust sequence for +5VALWP and +3VALWP.                                                        | 0.3  | 41    | 1.Delete PC59.<br>2.Change the PR122 from 100K to 0.                                                                                                                                                                                                                                                                                                                                                            | 0.3    | DVT   |
| 3    | Chnage the power solution for +VCCP,+1.8VP and +1.5VSP. | Solve Digitizer issue.                                                                             | 0.3  | 42,44 | 1.Change the control IC of +1.5VALWP from FAN5234 to MAX8743.<br>2.Change the control IC of +1.8VP from ISL6227 to MAX8743.<br>3.Change the control IC of +VCCPP from ISL6227 to MAX8576.                                                                                                                                                                                                                       | 0.3    | DVT   |
| 4    | Delete the circuit of 1.2VP.                            | Because H/W donot need.                                                                            | 0.3  | 43    | 1.Delete the PC100,PQ29,PR121,PR122,PC99,PC101,PR123,PR127,PQ30,PR158,PC102,PR125,PC103.                                                                                                                                                                                                                                                                                                                        | 0.3    | DVT   |
| 5    | To adjust the input-current limit.                      | Change the input-cuurrent from 3A to 2.25A                                                         | 0.3  | 39    | 1.Change the PR29 from 150K to 232K.                                                                                                                                                                                                                                                                                                                                                                            | 0.3    | DVT   |
| 6    | The jumping cursor when CPU_CORE heavy loading.         | Improve Digitizer issue.                                                                           | 0.4  | 45    | 1.Change the PL15 form TOKIN .56UH to Panasoic .36UH.                                                                                                                                                                                                                                                                                                                                                           | 0.4    | DVT2  |
| 7    | The system has shut down issue when swap battery.       | The max1538 has some issue when sawp battery. So add the one shot circuit to improve the issue.    | 0.4  | 40,43 | 1.Add the 2n7002 on PQ22,PQ24,PQ25 and PQ26.<br>2. Add the 2K_0402_5% on PR93 and PR101.<br>3. Add the 3K_0402_5% on PR91 and PR92.<br>4.Add the 470K_0402_5% on PR86 and PR87.<br>5.Add the 100K_0402_5% on PR65.<br>6.Add the 47K_0402_1% on PR88.<br>7.Add the 499_0402_1% on PR89 and PR90.<br>8.Add the 1N4148 on PD17.<br>9.Add the .022U_0402_16V on PC73 and PC78.<br>10.Add the 100P_0402_50V on PC79. | 0.4    | DVT2  |
| 8    | Battery drain issue when battery only on system off.    | It did not turn off the +VCCP (1.05V) power no matter system was ON or OFF.Add pill down resistor. | 0.4  | 42    | 1.Add the resistor on the PR199 and value is 100K_0402_5%.                                                                                                                                                                                                                                                                                                                                                      | 0.4    | DVT2  |
| 9    | The customer request add the cap.                       | Improve Digitizer issue.                                                                           | 0.4  | 45    | 1.Add the 1U_0805_25V on PC80 and PC81.                                                                                                                                                                                                                                                                                                                                                                         | 0.4    | DVT2  |
| 10   | Disable Vin OVP function.                               | Disable Vin OVP function.                                                                          | 0.4  | 39    | 1.Delete the PD5 RLZ22B_LL34.<br>2.Delete the PD6 1SS355_S0T323.                                                                                                                                                                                                                                                                                                                                                | 0.4    | DVT2  |
| 11.  | Change Main battery connect.                            | For ME request.                                                                                    | 0.4  | 39    | 1.Change the main battery from SUYIN_250263MR007G102ZL to SUYIN_250263MR007G110ZR.                                                                                                                                                                                                                                                                                                                              | 0.4    | DVT2  |
| 12.  | Because the FDS4935A will phase out.                    | Because the FDS4935A will phase out.                                                               | 0.4  | 40    | 1.Change the main battery from SUYIN_250263MR007G102ZL to SUYIN_250263MR007G110ZR.                                                                                                                                                                                                                                                                                                                              | 0.4    | DVT2  |

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