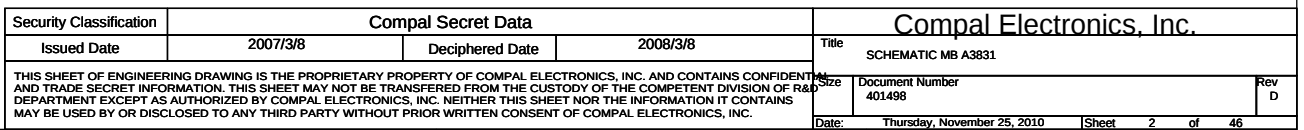


**JASAA**  
***Orlando 10A/10AG***  
**LA3831P REV 1.0 Schematic**

**AMD Turion, Sempron/ATI RX690/RS690MC / ATI SB600**  
**2007-08-06 Rev. 1.0**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          |                             |                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------|----------|-----------------------------|--------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |          | Compal Secret Data |          | Compal Electronics, Inc.    |                    |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2007/3/8 | Deciphered Date    | 2008/3/8 | Title                       | SCHEMATIC MB A3831 |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | B                           | 401498             |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |                    |          | Thursday, November 25, 2010 | Sheet 1 of 46      |



Voltage Rails

| Power Plane | Description                                 | S1 | S3  | S5  |
|-------------|---------------------------------------------|----|-----|-----|
| VIN         | Adapter power supply (19V)                  | ON | ON  | ON  |
| B+          | AC or battery power rail for power circuit. | ON | ON  | ON  |
| +RTCVCC     | RTC power                                   | ON | ON  | ON  |
| +VSB        | B+ switched power rail                      | ON | ON  | ON  |
| +5VALW      | 5V always on power rail                     | ON | ON  | ON  |
| +3VALW      | 3.3V always on power rail                   | ON | ON  | ON  |
| +1.2VALW    | 1.2V always on power rail                   | ON | ON  | ON  |
| +1.8V       | 1.8V power rail                             | ON | ON  | OFF |
| +0.9V       | 0.9V switched power rail                    | ON | ON  | OFF |
| +5VS        | 5VS switched power rail                     | ON | OFF | OFF |
| +3VS        | 3.3VS switched power rail                   | ON | OFF | OFF |
| +2.5VS      | 2.5VS switched power rail                   | ON | OFF | OFF |
| +1.8VS      | 1.8VS switched power rail                   | ON | OFF | OFF |
| +1.5VS      | 1.5VS switched power rail                   | ON | OFF | OFF |
| +CPU_CORE   | Core voltage for CPU                        | ON | OFF | OFF |
| +1.2V_HT    | 1.2VS switched power rail                   | ON | OFF | OFF |
|             |                                             |    |     |     |
|             |                                             |    |     |     |
|             |                                             |    |     |     |

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

External PCI Devices

| Device              | IDSEL# | REQ#/GNT# | Interrupts |
|---------------------|--------|-----------|------------|
| 1394/ CardBus/ 5iN1 | AD20   | 2/ 2      | PIRQE/F/G  |

EC SM Bus1 address

EC SM Bus2 address

| Device        | HEX | Address     | Device              | HEX | Address     |
|---------------|-----|-------------|---------------------|-----|-------------|
| Smart Battery | 16H | 0001 011X b | CPU Thermal-G781P8F | 98H | 1001 100X b |
| 24C16         | A0H | 1010 000X b | VGA Thermal-        |     |             |

ATi SB600 SM Bus address

SM Bus0 address

SM Bus1 address

| Device                         | HEX | Address |
|--------------------------------|-----|---------|
| Clock GEN.<br>(ICS951462AGLFT) |     |         |
| DDR DIMM0                      | A4  |         |
| DDR DIMM1                      | A6  |         |
| Mini Card-WLAN                 |     |         |
| Mini Card-3G                   |     |         |
| New Card                       |     |         |

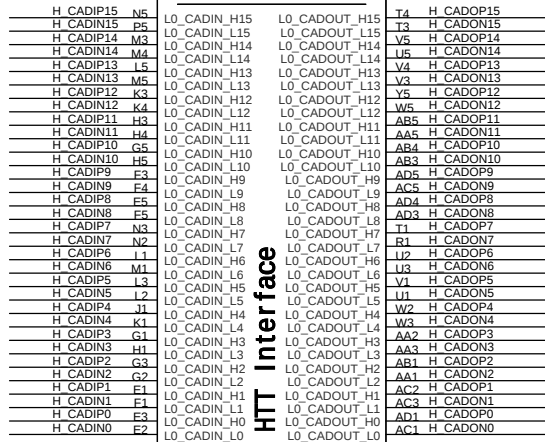
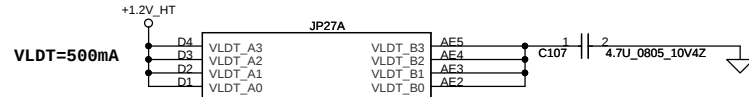
| STATE \ SIGNAL       | SLP_S3# | SLP_S5# | +VALW | +V  | +VS | Clock |
|----------------------|---------|---------|-------|-----|-----|-------|
| Full ON              | HIGH    | HIGH    | ON    | ON  | ON  | ON    |
| S1(Power On Suspend) | HIGH    | HIGH    | ON    | ON  | ON  | LOW   |
| S3 (Suspend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

ID Table for AD channel

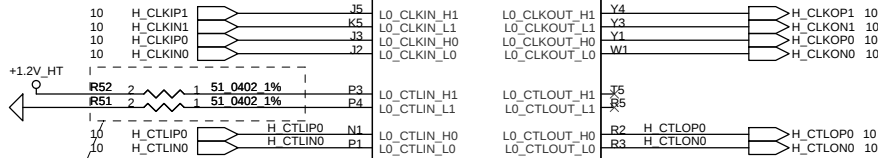
| Vcc      | 3.3V +/- 5% |             |             |             |
|----------|-------------|-------------|-------------|-------------|
| Ra       | 100K +/- 5% |             |             |             |
| Board ID | Rb          | VAD_BID min | VAD_BID typ | VAD_BID max |
| 0        | 0           | 0 V         | 0 V         | 0 V         |
| 1        | 8.2K +/- 5% | 0.216 V     | 0.250 V     | 0.289 V     |
| 2        | 18K +/- 5%  | 0.436 V     | 0.503 V     | 0.538 V     |
| 3        | 33K +/- 5%  | 0.712 V     | 0.819 V     | 0.875 V     |
| 4        | 56K +/- 5%  | 1.036 V     | 1.185 V     | 1.264 V     |
| 5        | 100K +/- 5% | 1.453 V     | 1.650 V     | 1.759 V     |
| 6        | 200K +/- 5% | 1.935 V     | 2.200 V     | 2.341 V     |
| 7        | NC          | 2.500 V     | 3.300 V     | 3.300 V     |

| BTN_ID |  | BTO | BOM STURCTURE |
|--------|--|-----|---------------|
| 0      |  |     |               |
| 1      |  |     |               |
| 2      |  |     |               |
| 3      |  |     |               |
| 4      |  |     |               |
| 5      |  |     |               |
| 6      |  |     |               |
| 7      |  |     |               |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          |                          |                             |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Date                     | Thursday, November 25, 2010 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Sheet                    | 3 of 46                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Rev                      | D                           |



HTT Interface

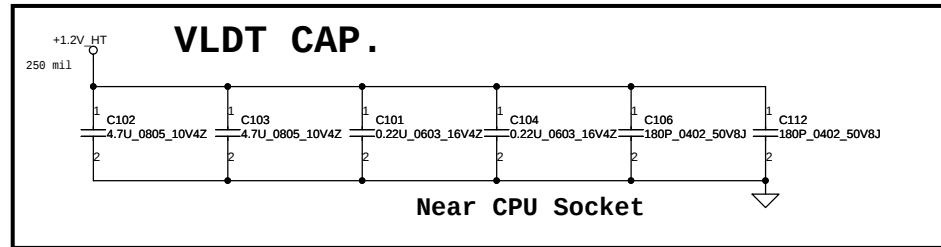


FOX\_P263823-284S-41F

Athlon 64 S1  
Processor Socket

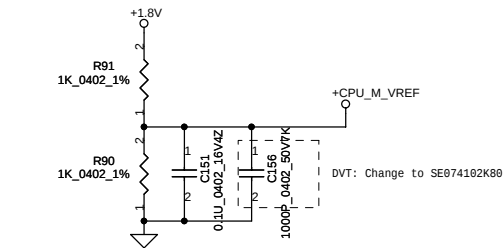
AMD : 49.9 1%

ATI : 51 1%

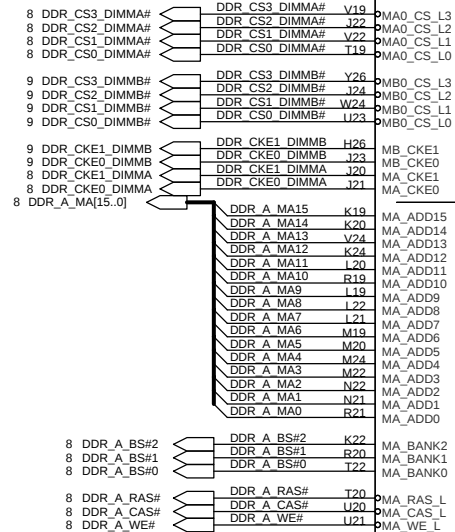
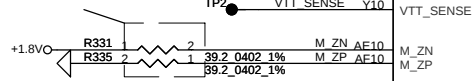


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          |                          |                             |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Sheet                    | 4 of 46                     |

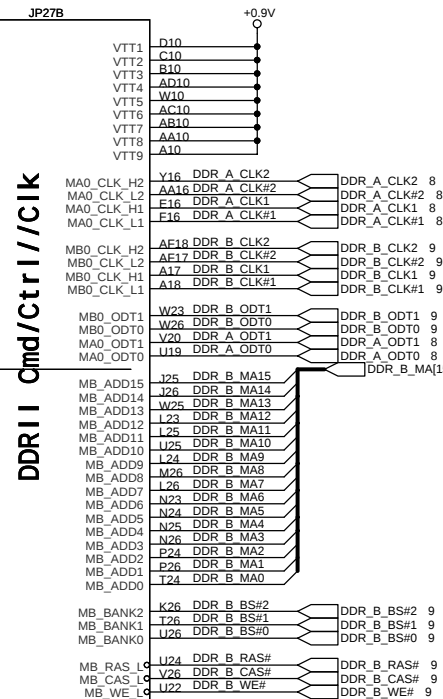
## Processor DDR2 Memory Interface



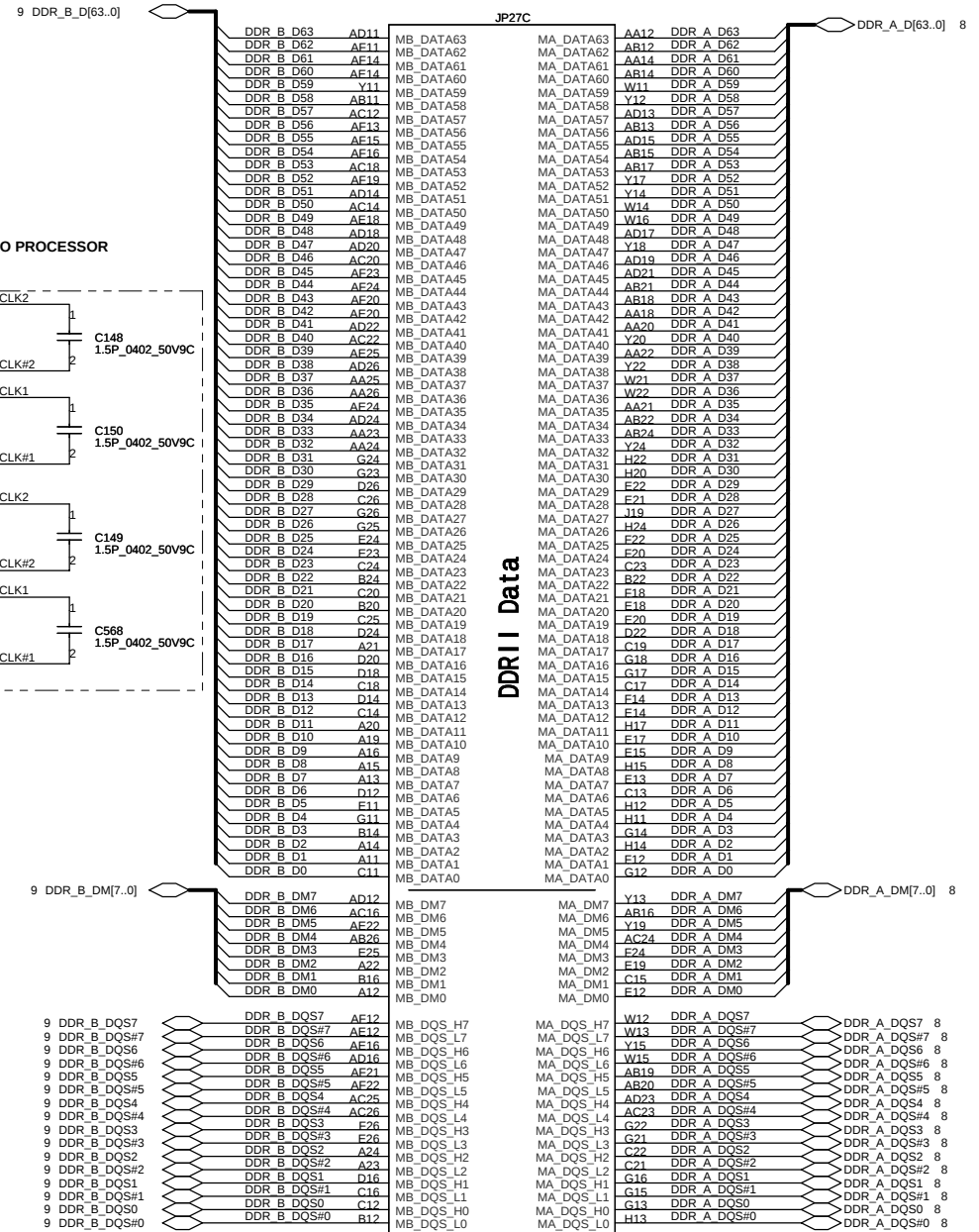
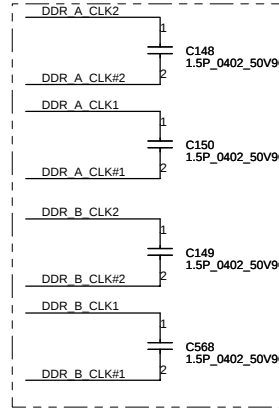
**Need to link SD000006980**



FOX\_PZ63823-284S-41F  
Athlon 64 S1  
Processor  
Socket

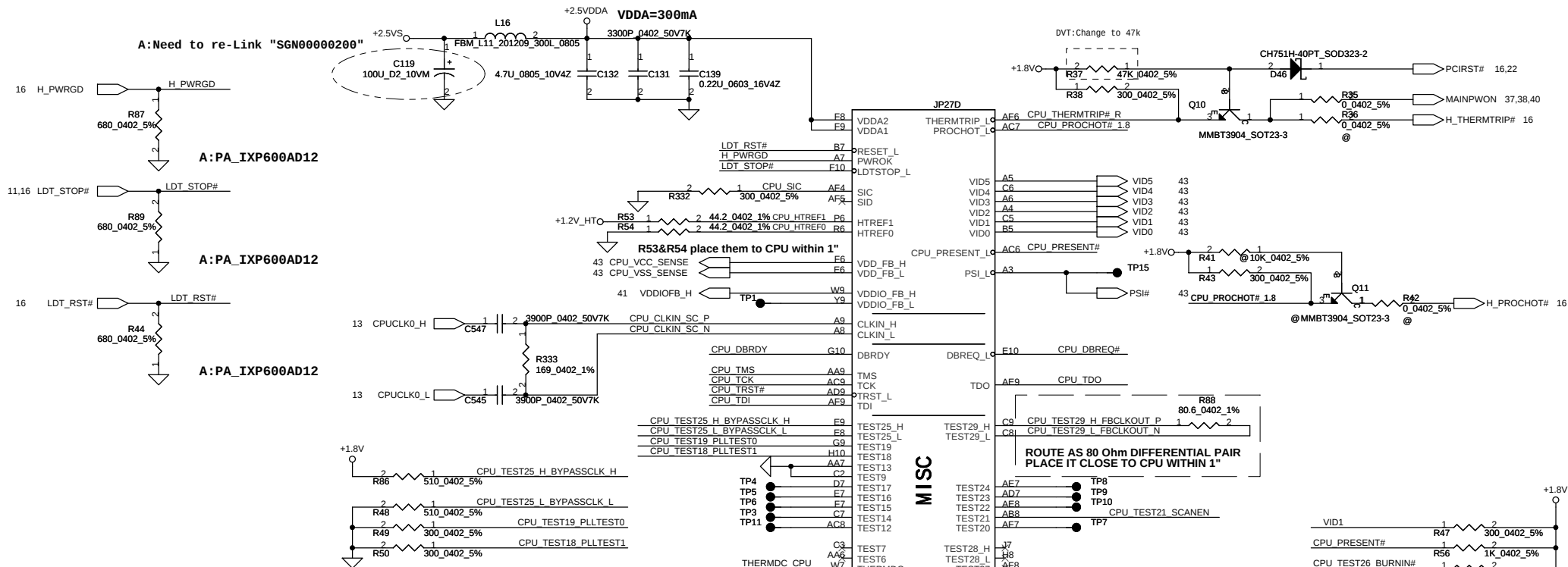


**PLACE CLOSE TO PROCESSOR  
WITHIN 1.5 INCH**

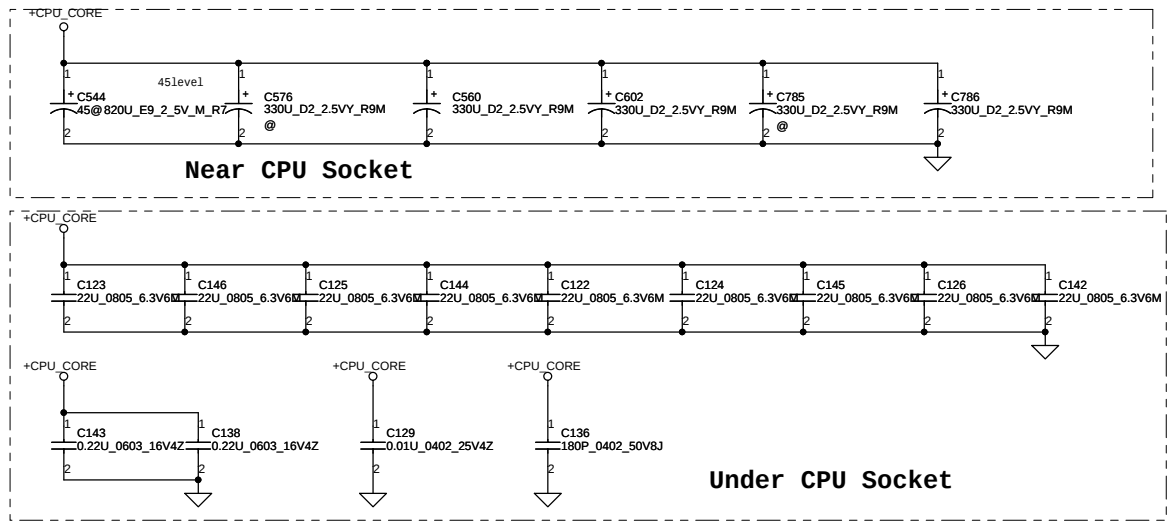


FOX\_PZ63823-284S-41F  
Athlon 64 S1  
Processor Socket

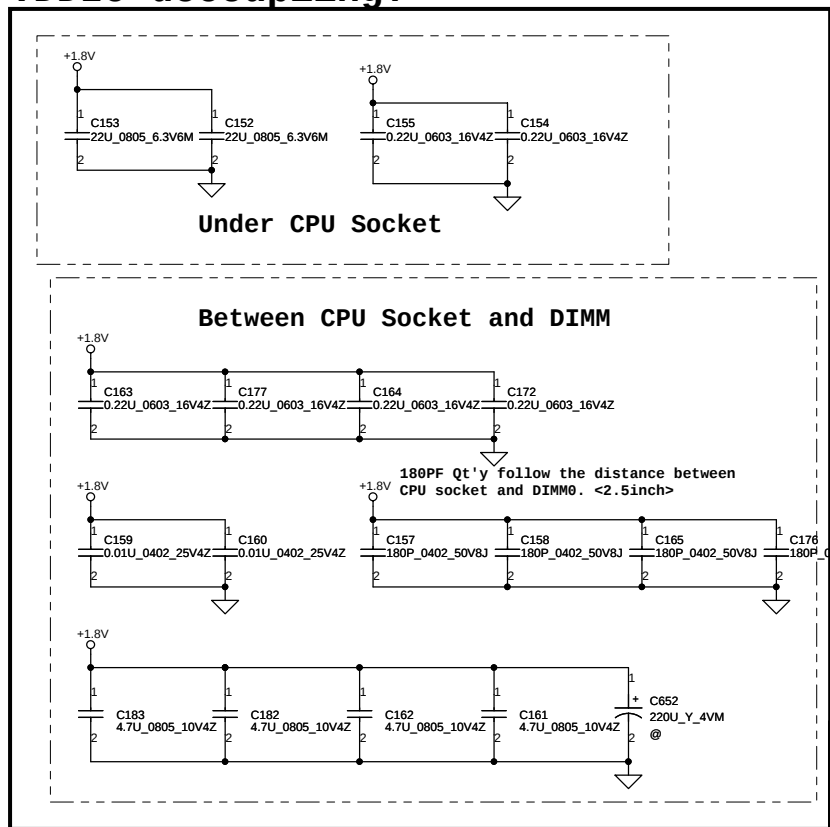
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------|----------|--------------------------------------------------------------|----------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |          | Compal Secret Data |          | <b>Compal Electronics, Inc.</b><br><b>SCHEMATIC MB A3831</b> |                                  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2007/3/8 | Deciphered Date    | 2008/3/8 | Title                                                        | Rev D                            |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Date: Thursday, November 25, 2010                            | Sheet 5 of 46                    |



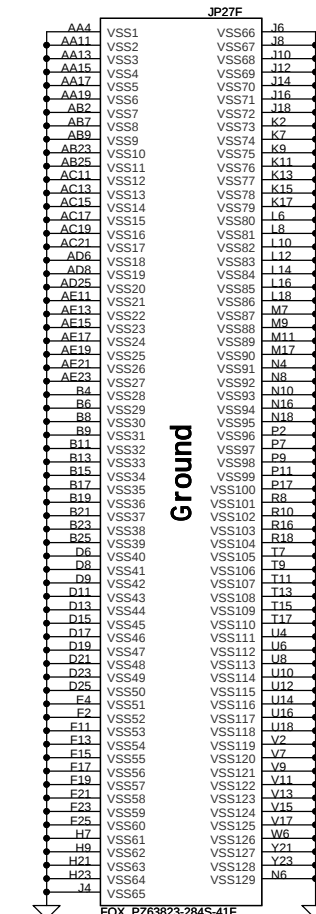
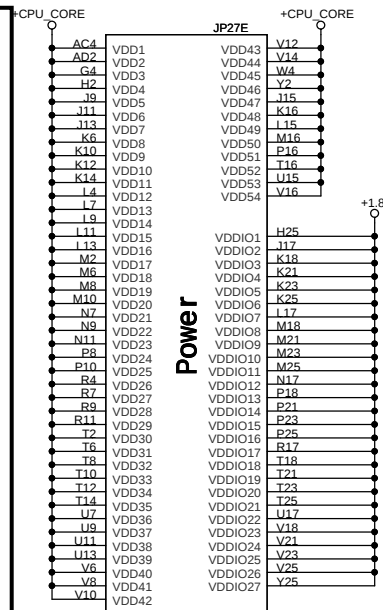
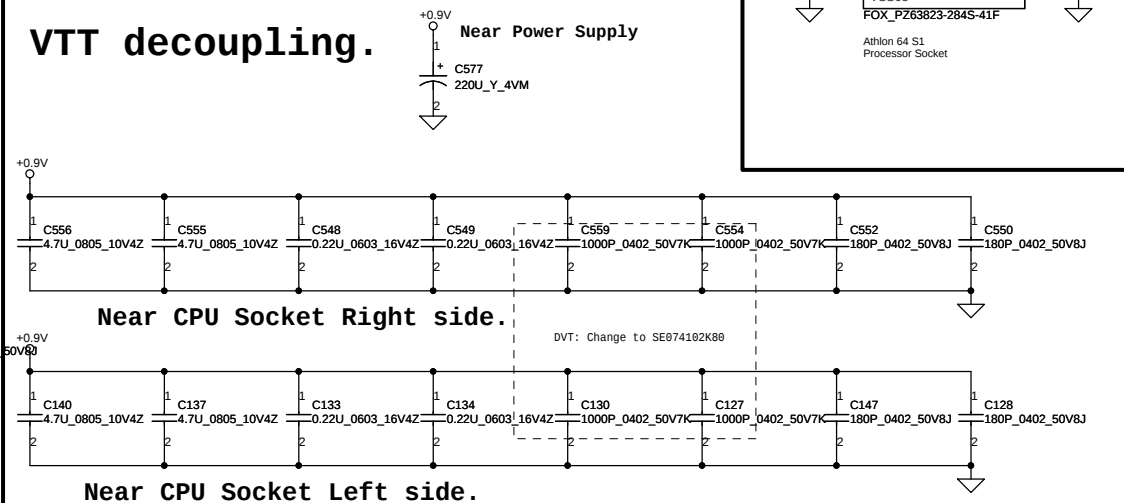
## VDD(+CPU\_CORE) decoupling.



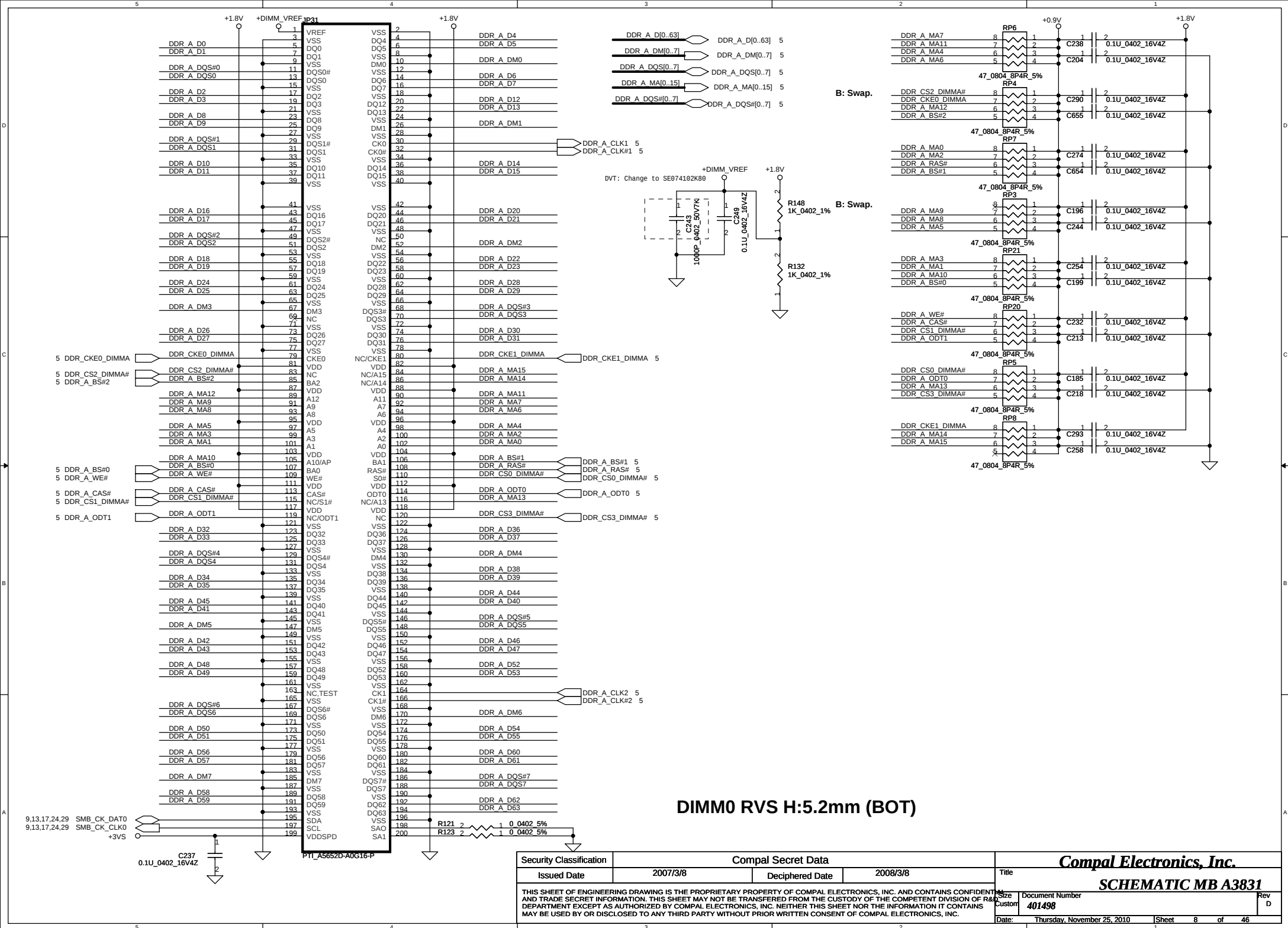
## VDDIO decoupling.

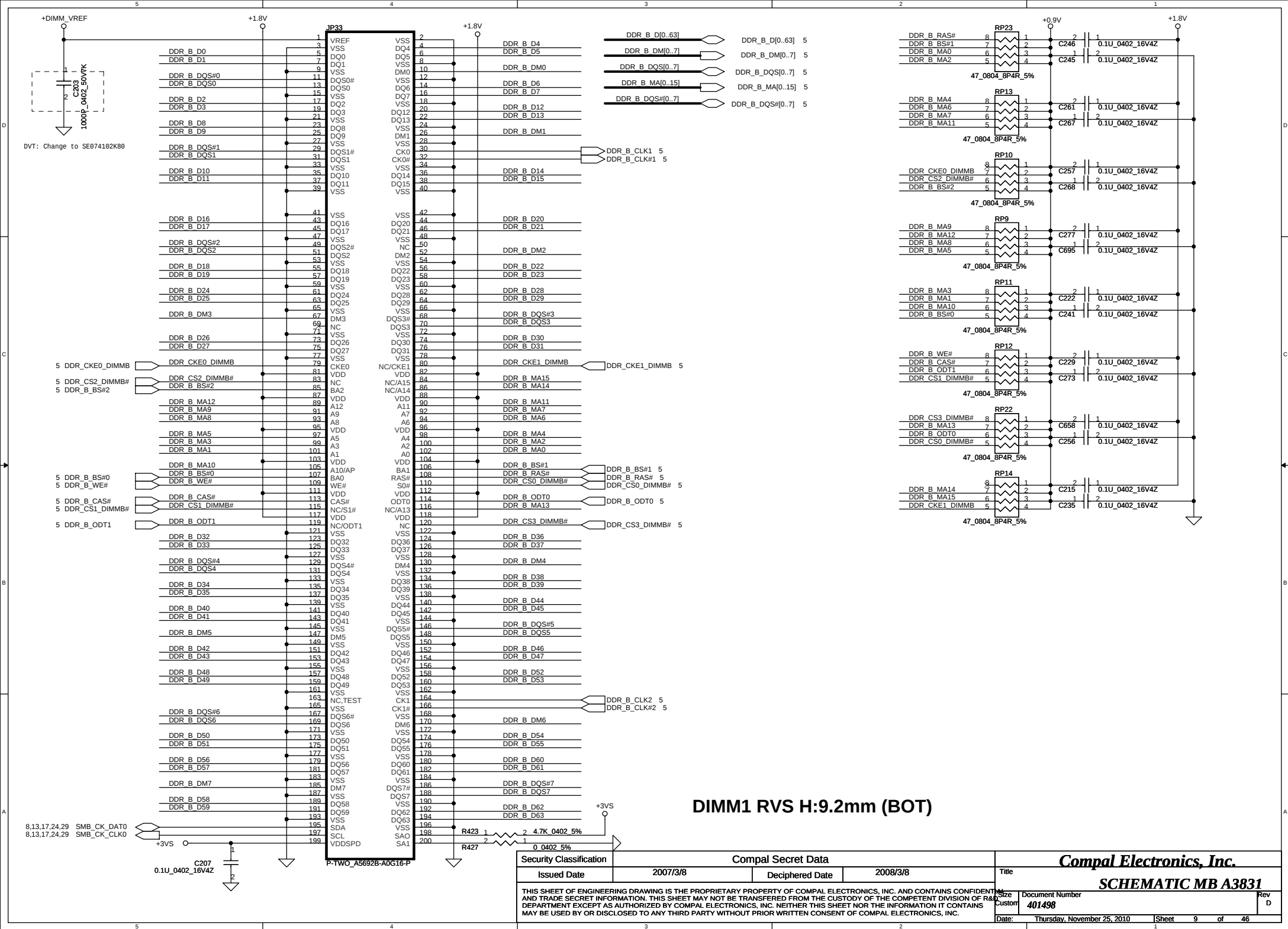


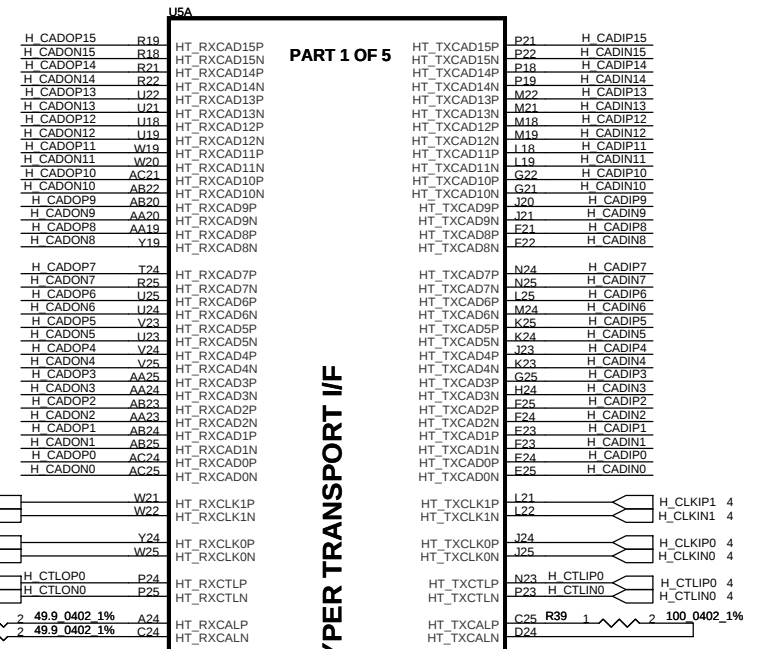
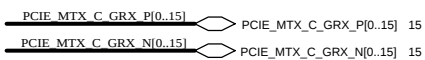
## VTT decoupling.



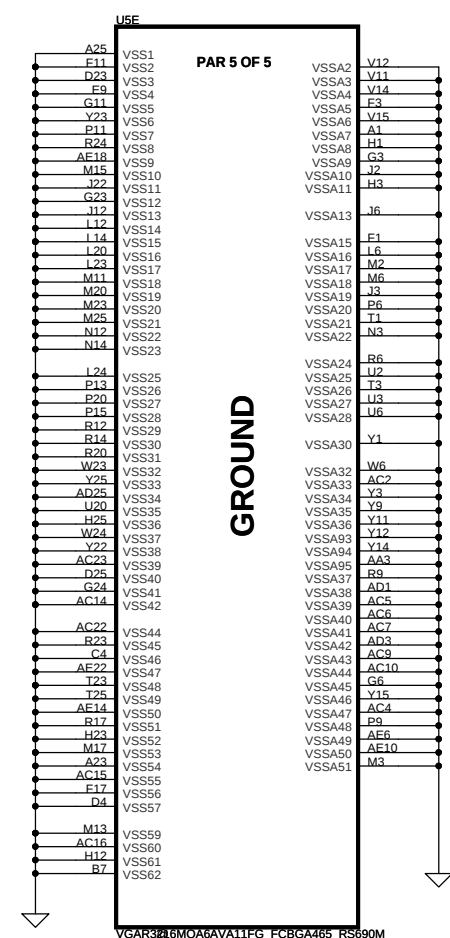
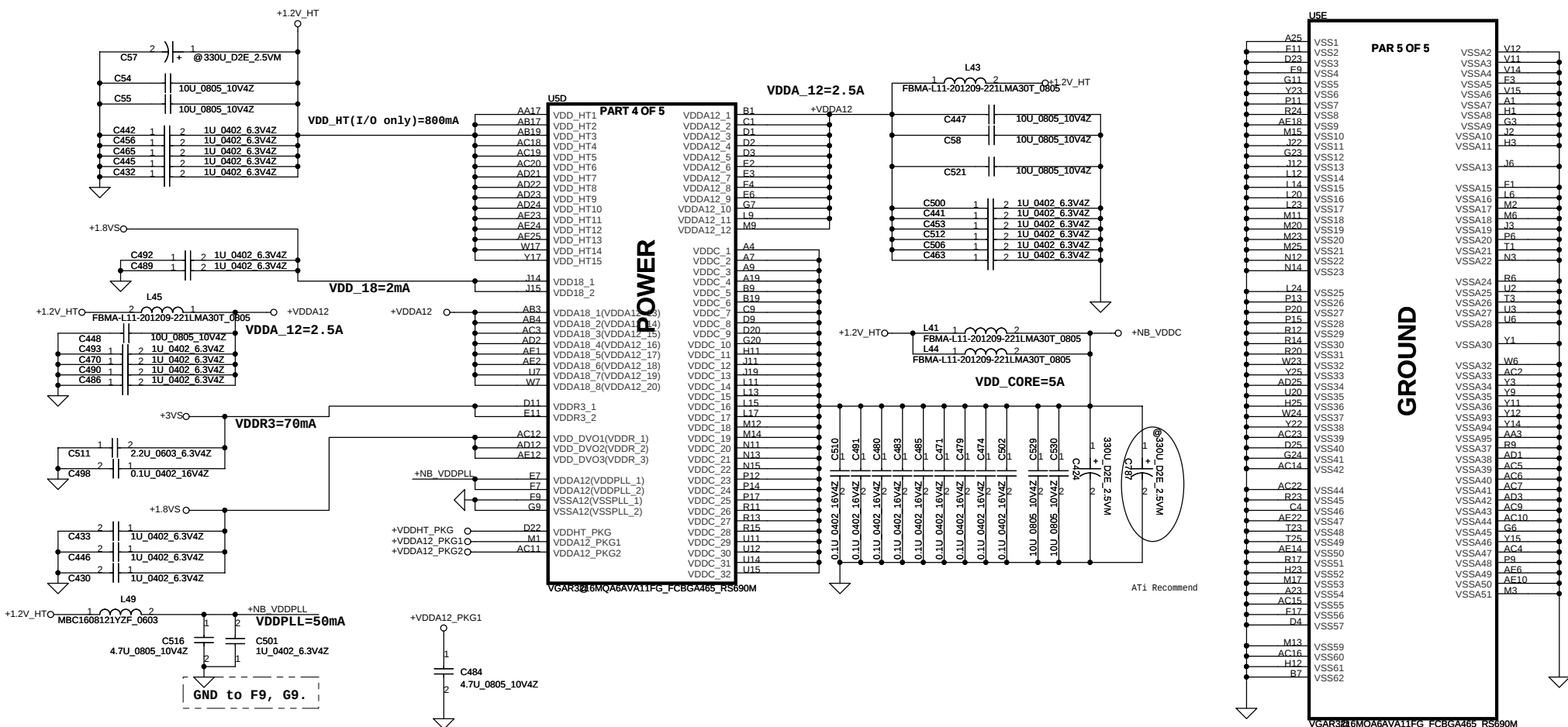
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  | Customer                 |  | 401498                      |  | D             |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  | Date:                    |  | Thursday, November 25, 2010 |  | Sheet 7 of 46 |  |

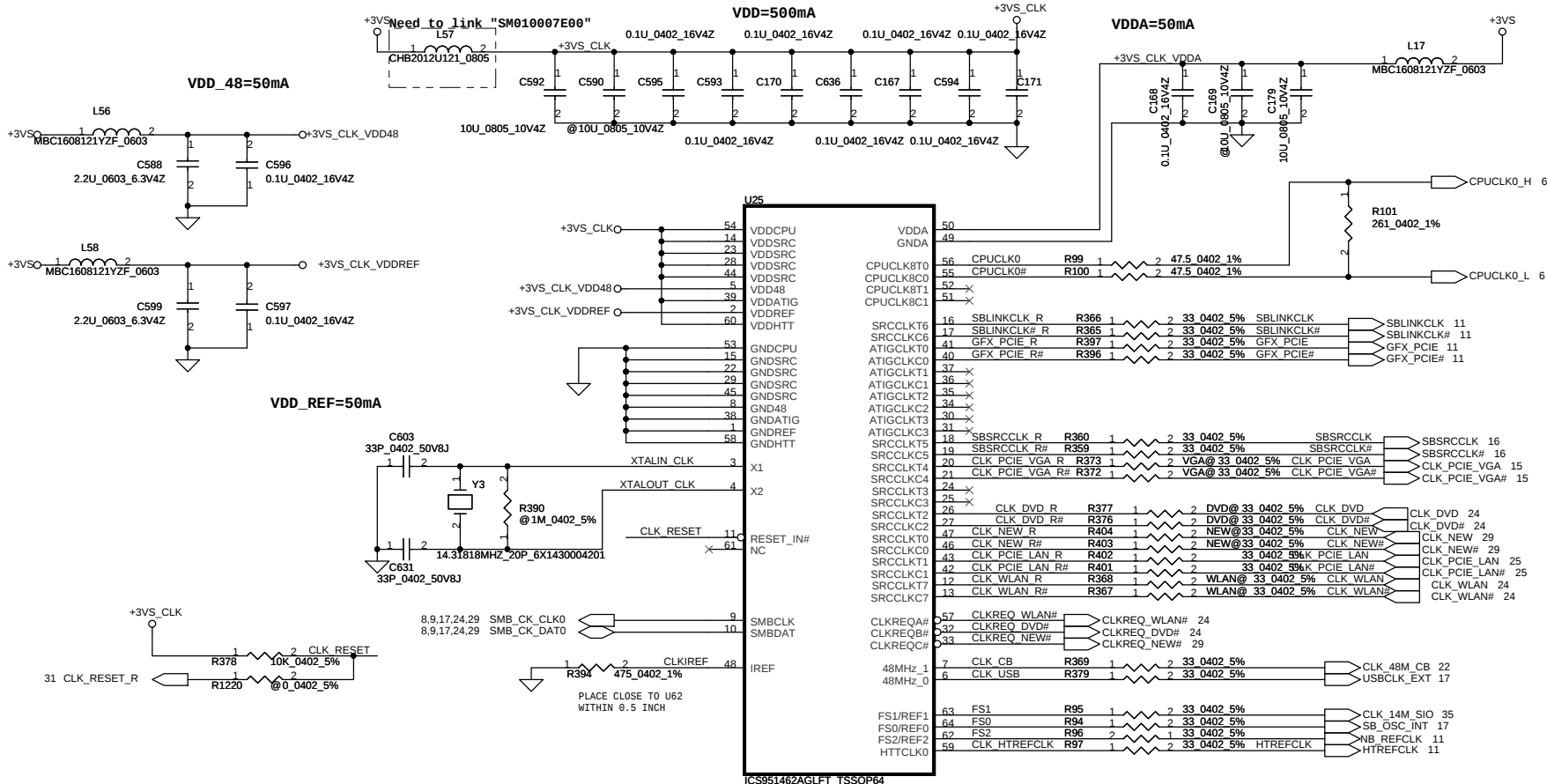






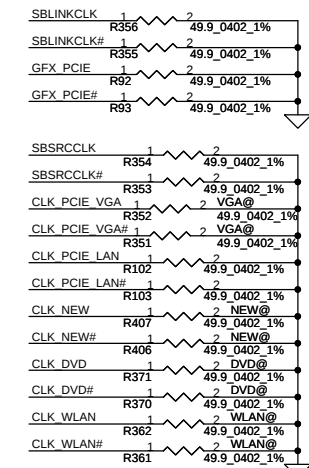
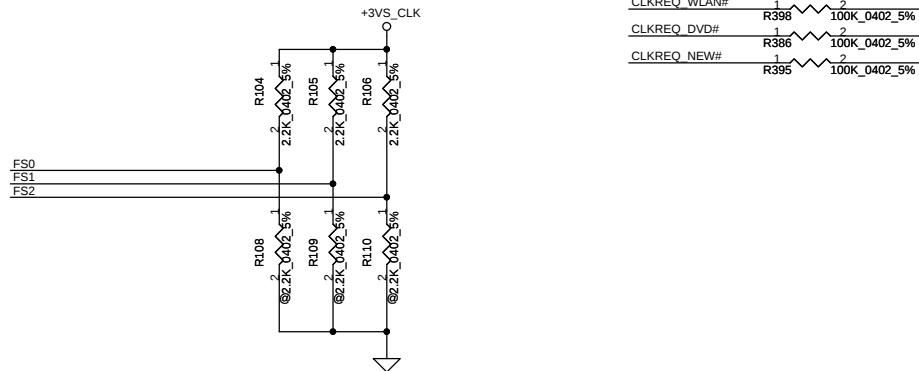






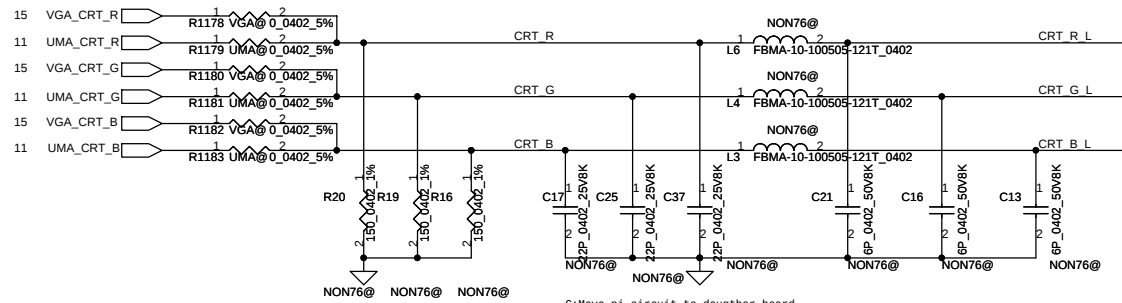
EXT CLK FREQUENCY SELECT TABLE(MHZ)

| FS2 | FS1 | FS0 | CPU    | SRCCLK [2:1] | HTT   | PCI   | USB   | COMMENT                   |
|-----|-----|-----|--------|--------------|-------|-------|-------|---------------------------|
| 0   | 0   | 0   | Hi-Z   | 100.00       | Hi-Z  | Hi-Z  | 48.00 | Reserved                  |
| 0   | 0   | 1   | X      | 100.00       | X/3   | X/6   | 48.00 | Reserved                  |
| 0   | 1   | 0   | 180.00 | 100.00       | 60.00 | 30.00 | 48.00 | Reserved                  |
| 0   | 1   | 1   | 220.00 | 100.00       | 36.56 | 73.12 | 48.00 | Reserved                  |
| 1   | 0   | 0   | 100.00 | 100.00       | 66.66 | 33.33 | 48.00 | Reserved                  |
| 1   | 0   | 1   | 133.33 | 100.00       | 66.66 | 33.33 | 48.00 | Reserved                  |
| 1   | 1   | 1   | 200.00 | 100.00       | 66.66 | 33.33 | 48.00 | Normal ATHLON64 operation |



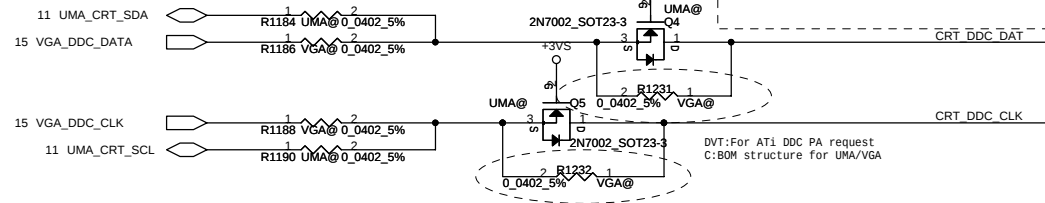
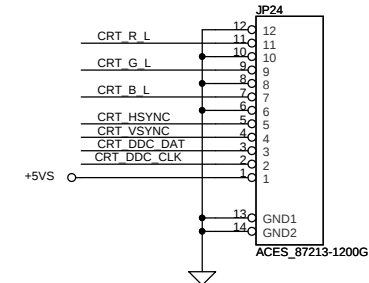
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                             |          |                          |          |
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| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          | Thursday, November 25, 2010 |          | Sheet                    | 13 of 46 |

# CRT CONNECTOR



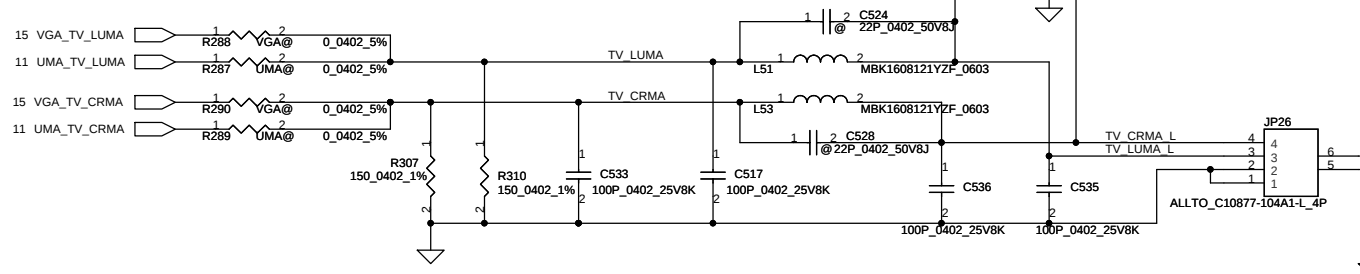
C: Move pi circuit to daughter board  
PreMP: Change BOM structure for EMI issue

## CRT Conn.



DVT: For ATI DDC PA request  
C: VGA level shift  
circuit on VGA/B, remove  
extra components

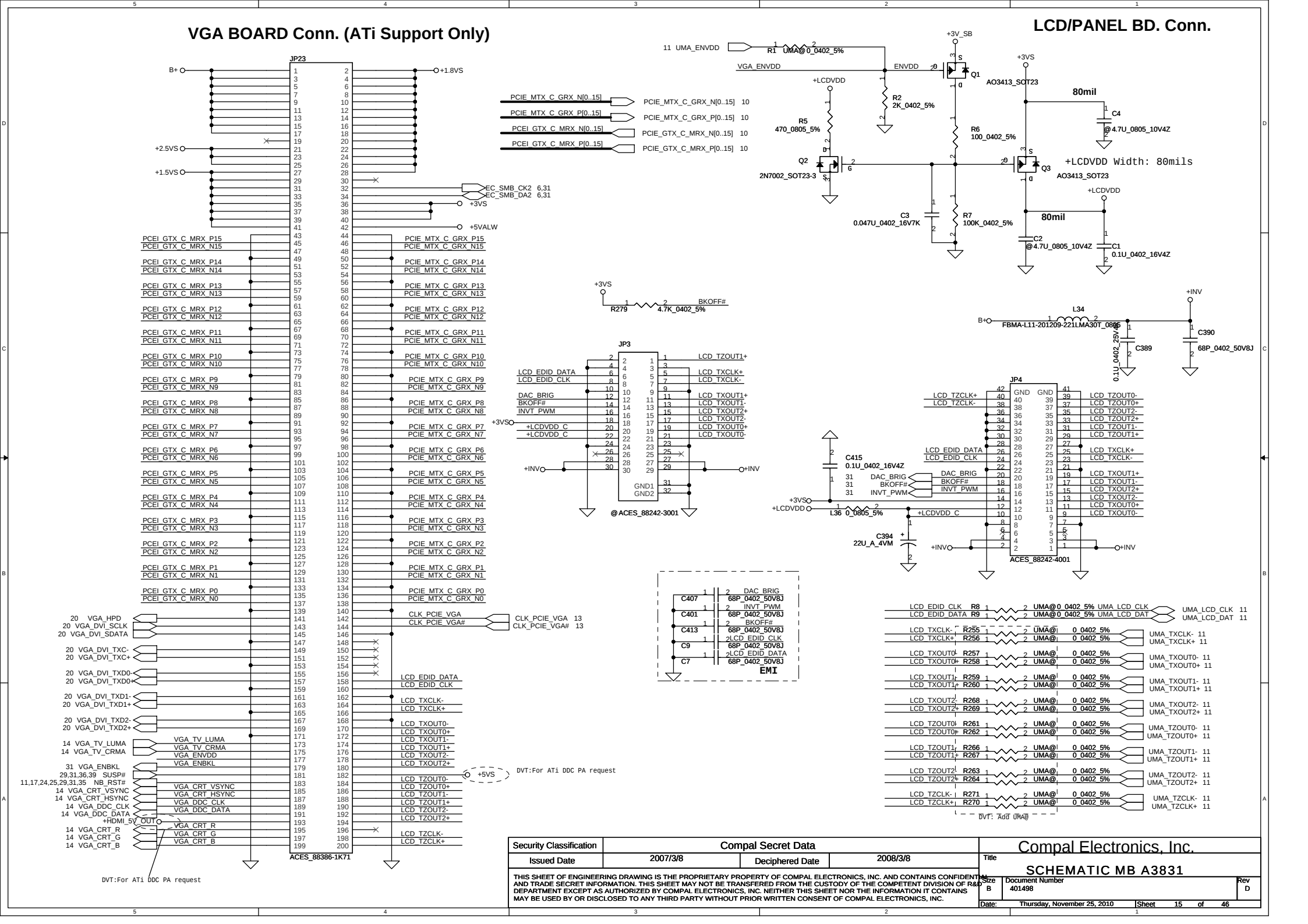
# TV-OUT CONNECTOR



## TV-OUT Conn.

1. Y ground
2. C ground
3. Y (luminance+sync)
4. C (chrominance)

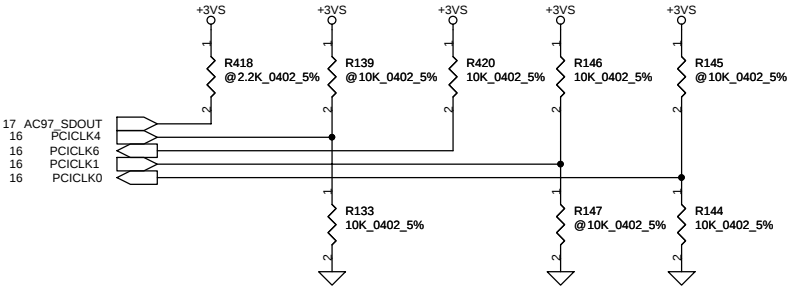
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          |                          |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------|----------|--------------------------|-----------------------------|
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Date:                    | Thursday, November 25, 2010 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Sheet                    | 14 of 46                    |

[illegible]

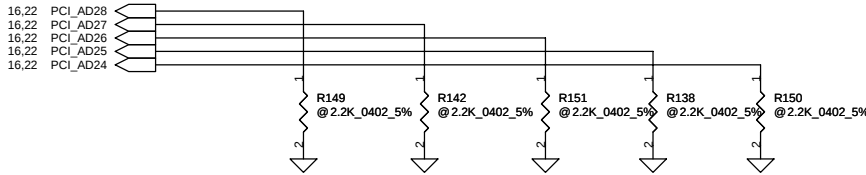




Standard Straps



Debug Straps



|              | AC_SDOUT                                           | PCI_CLK4<br><PCICLK4>            | PCI_CLK6<br><PCICLK6>     | PCI_CLK1<br><CLK_PCI_LAN>                                                             | PCI_CLK0<br><PCICLK0> |
|--------------|----------------------------------------------------|----------------------------------|---------------------------|---------------------------------------------------------------------------------------|-----------------------|
| PULL<br>HIGH | USE<br>DEBUG<br>STRAPS                             | USE INT.<br>PLL48                | CPU IF=AMD<br><br>DEFAULT | ROM TYPE:<br><br>H, H = Reserve<br>H, L = LPC ROM<br>L, H = SPI ROM<br>L, L = FWH ROM | DEFAULT               |
| PULL<br>LOW  | IGNORE<br>DEBUG<br>STRAPS<br><int'l PD><br>DEFAULT | USE EXT.<br>48MHZ<br><br>DEFAULT | CPU IF=Intel              |                                                                                       |                       |

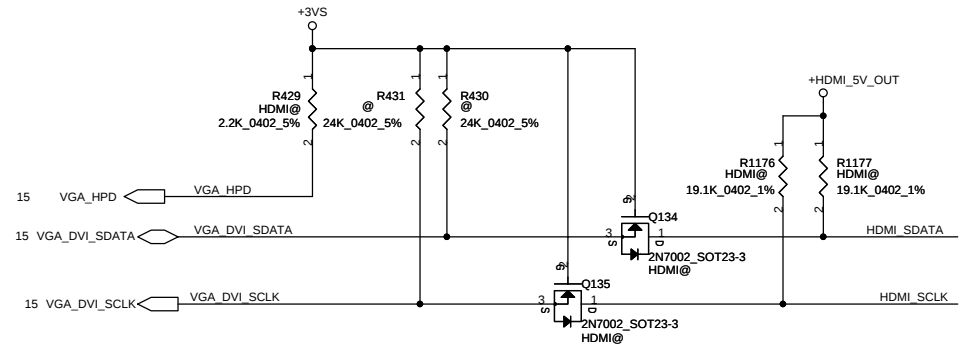
|              | PCI_AD28                        | PCI_AD27                      | PCI_AD26                        | PCI_AD25                      | PCI_AD24                                  | PCI_AD23<br><A11 only>                  |
|--------------|---------------------------------|-------------------------------|---------------------------------|-------------------------------|-------------------------------------------|-----------------------------------------|
| PULL<br>HIGH | USE<br>LONG<br>RESET<br>DEFAULT | USE PCI<br>PLL<br><br>DEFAULT | USE ACPI<br>BCLK<br><br>DEFAULT | USE IDE<br>PLL<br><br>DEFAULT | USE DEFAULT<br>PCIE STRAPS<br><br>DEFAULT | DISABLE<br>BOOTFAIL<br>TIMER<br>DEFAULT |
| PULL<br>LOW  | USE<br>SHORT<br>RESET           | BYPASS<br>PCI PLL             | BYPASS<br>ACPI<br>BCLK          | BYPASS IDE<br>PLL             | USE EEPROM<br>PCIE STRAPS                 | ENABLE<br>BOOTFAIL<br>TIMER             |

| Un-Used Inputs Setting--GPIO pins |                              |
|-----------------------------------|------------------------------|
| GPIO4/SMARTVOLT/SATA_IS2#         | Config. GPIO to Output Mode. |
| GPIO5/SHUTDOWN#                   | Config. GPIO to Output Mode. |
| GPIO7/WD_PWRGD                    | Config. GPIO to Output Mode. |
| GPIO8/DDC1_SDA                    | Config. GPIO to Output Mode. |
| GPIO9/DDC1_SCL                    | Config. GPIO to Output Mode. |
| GPIO10/SATA_IS0#                  | Config. GPIO to Output Mode. |
| GPIO41/PCICLK7/SPDIF_OUT          | Config. GPIO to Output Mode. |
| GPIO50/FANIN0                     | Config. GPIO to Output Mode. |
| GPIO51/FANIN1                     | Config. GPIO to Output Mode. |
| GPIO52/FANIN2                     | Config. GPIO to Output Mode. |
| GPIO53/VIN0                       | Config. GPIO to Output Mode. |
| GPIO54/VIN1                       | Config. GPIO to Output Mode. |
| GPIO55/VIN2                       | Config. GPIO to Output Mode. |

| Un-Used Inputs Setting--GPM pins |                              |
|----------------------------------|------------------------------|
| GPIO56/VIN3                      | Config. GPIO to Output Mode. |
| GPIO57/VIN4                      | Config. GPIO to Output Mode. |
| GPIO58/VIN5                      | Config. GPIO to Output Mode. |
| GPIO59/VIN6                      | Config. GPIO to Output Mode. |
| GPIO60/VIN7                      | Config. GPIO to Output Mode. |
| GPIO61/TEMPIN0                   | Config. GPIO to Output Mode. |
|                                  |                              |
|                                  |                              |
| GPOC2#/SCL1                      | Config. GPIO to Output Mode. |
| GPOC3#/SDA1                      | Config. GPIO to Output Mode. |

| Un-Used Inputs Setting--GPM pins |                          |
|----------------------------------|--------------------------|
| GPM5#/DDR3_RST#/USB_OC5#         | Config. for internal PU. |
| GEVENT5#/S3_STATE                | Config. for internal PU. |
|                                  |                          |
|                                  |                          |
|                                  |                          |
|                                  |                          |
|                                  |                          |
|                                  |                          |
|                                  |                          |
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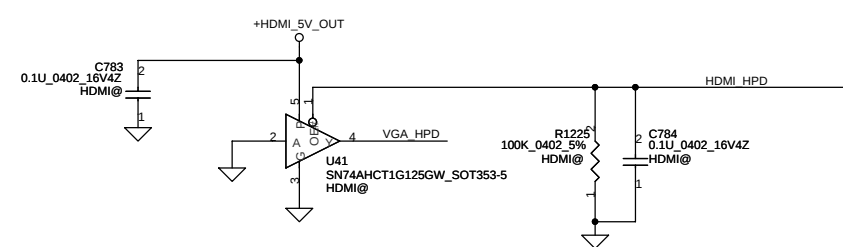
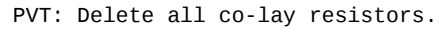




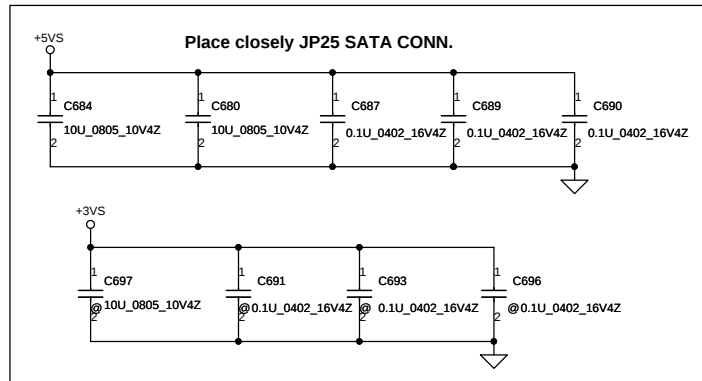
Pin connection diagram for the JP35 connector. The diagram shows a 20-pin connector with pins numbered 1 to 20. The connections are as follows:

- Pin 1: HDMI R D2+
- Pin 2: D2\_shield
- Pin 3: D2-
- Pin 4: D1+
- Pin 5: D1\_shield
- Pin 6: D1-
- Pin 7: D0+
- Pin 8: D0\_shield
- Pin 9: CK+
- Pin 10: CK\_shield
- Pin 11: CK-
- Pin 12: GND
- Pin 13: CEC
- Pin 14: Reserved
- Pin 15: SCL
- Pin 16: SDA
- Pin 17: DDC/CEC\_GND
- Pin 18: +5V
- Pin 19: HP\_DET
- Pin 20: GND

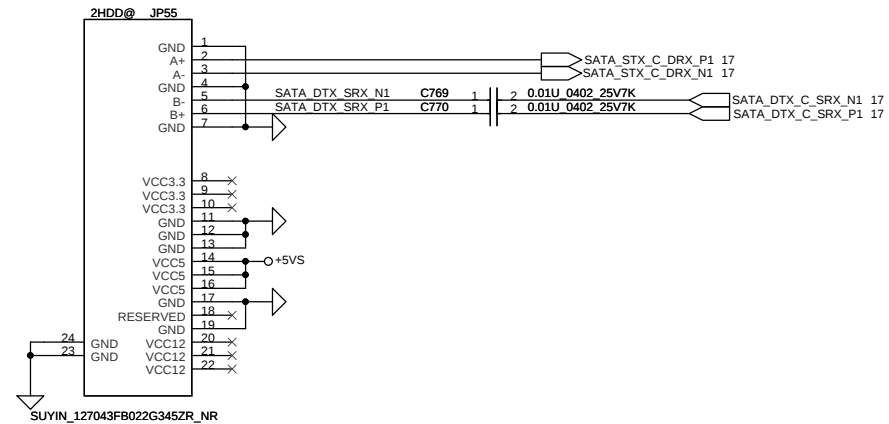
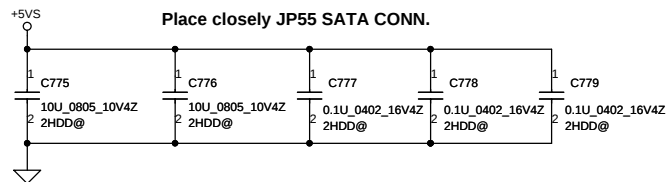
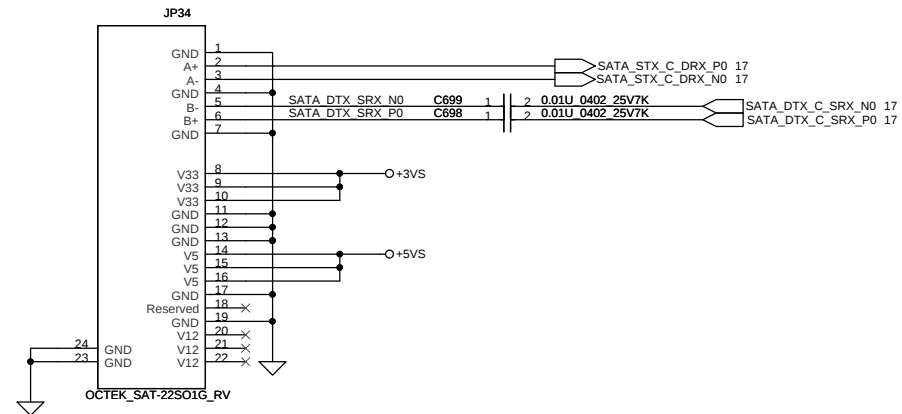
The diagram also shows a ground symbol connected to pins 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20. The connector is labeled JP35 and TYCO\_1939864-1.



|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                    |                 |                          |                             |  |       |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|-----------------|--------------------------|-----------------------------|--|-------|----------|
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                    |                 | Date:                    | Thursday, November 25, 2010 |  | Sheet | 20 of 46 |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | 2                  |                 |                          |                             |  |       |          |

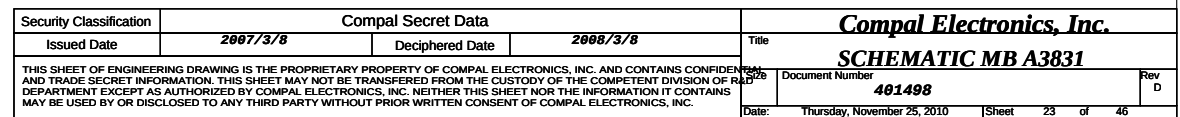


## SATA HDD Conn.

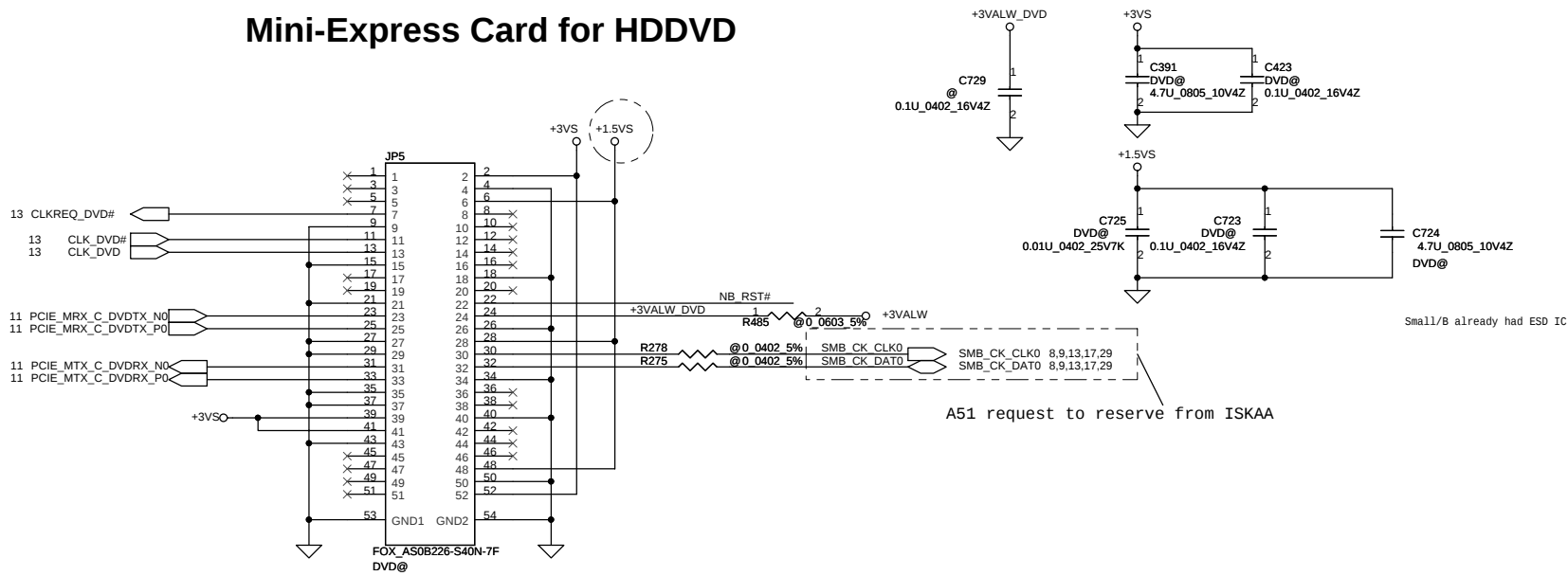


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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Sheet                    | 21 of 46                    |

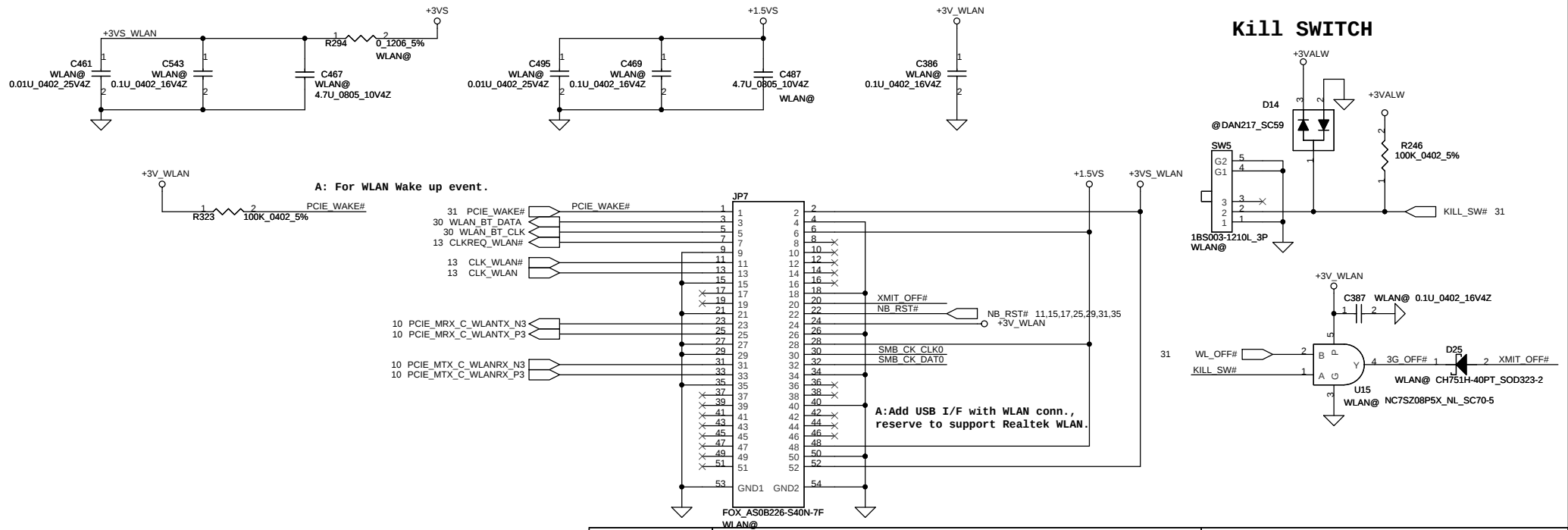




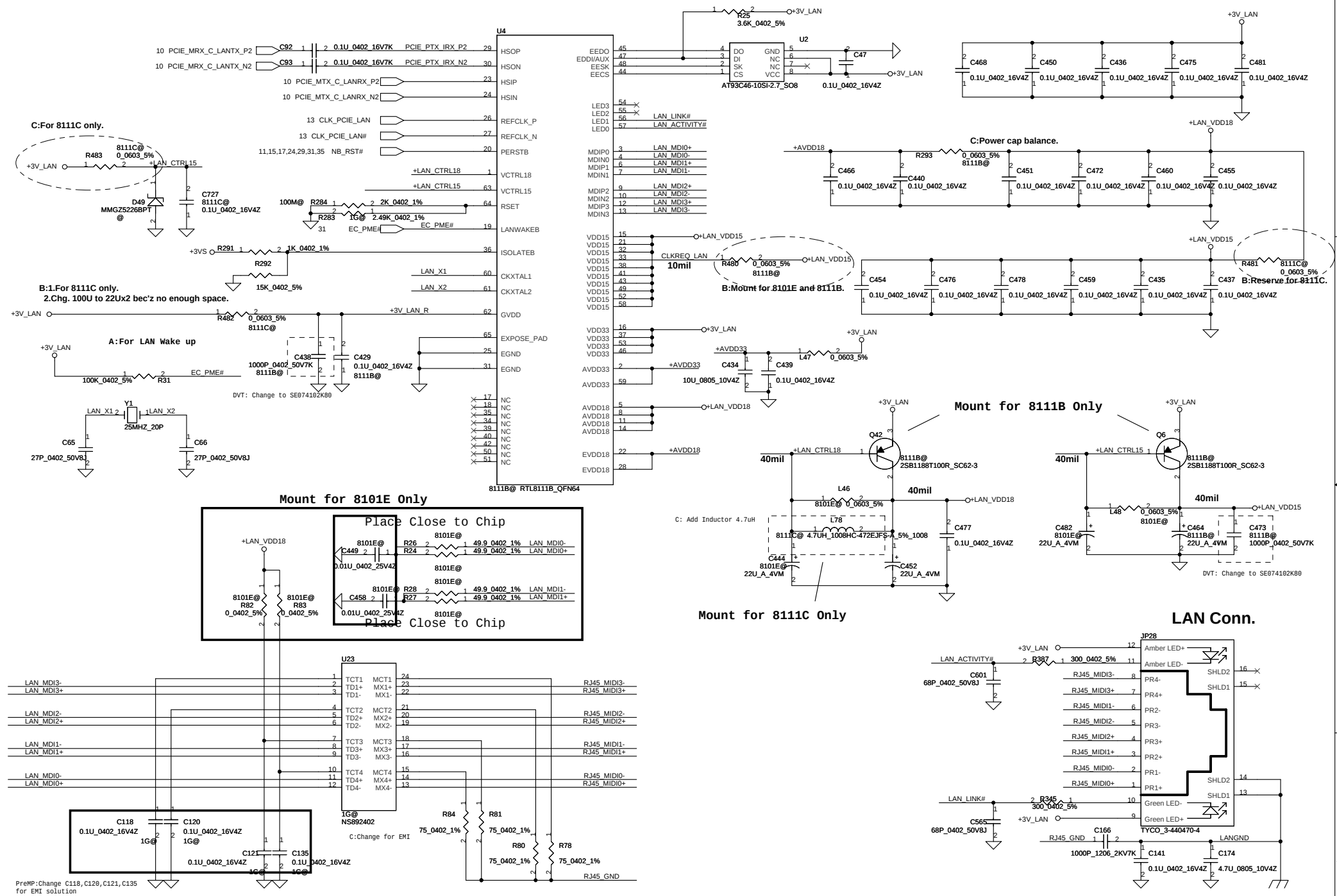
## Mini-Express Card for HDDVD



## Mini-Express Card for WLAN



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          |                          |                    |
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| Date: Thursday, November 25, 2010                                                                                                                                                                                                                                                                                                                                                                                                                             |          | Sheet 24 of 46     |          |                          |                    |



PreMP: Change C118, C128, C121, C135 for EMI solution

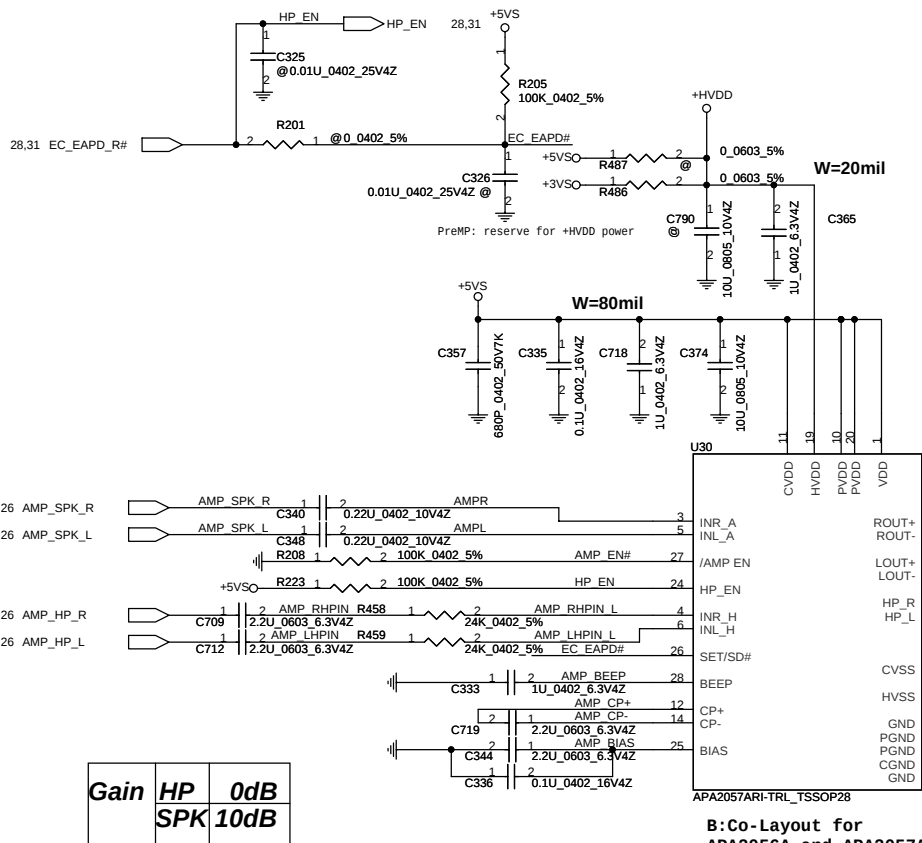
**Place these components colsed to LAN chip**

**GST5009 for GIGA LAN**

**TST1284 for 10/100 LAN**

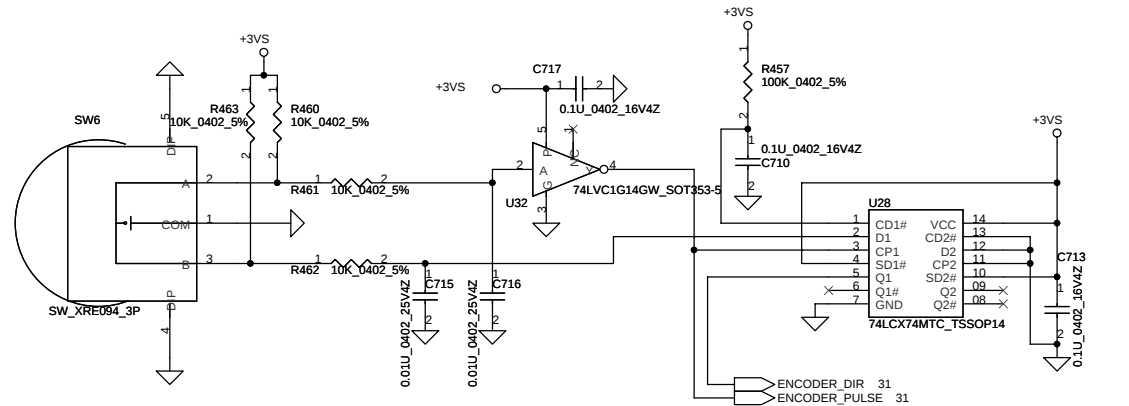
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |          | Compal Secret Data |          | Title                             |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Date: Thursday, November 25, 2010 | Sheet 25 of 46 |



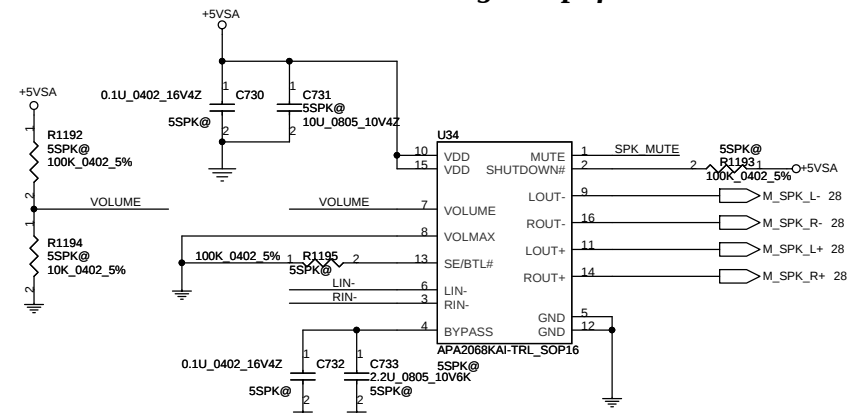


**B:Co-Layout for  
APA2056A and APA2057A**

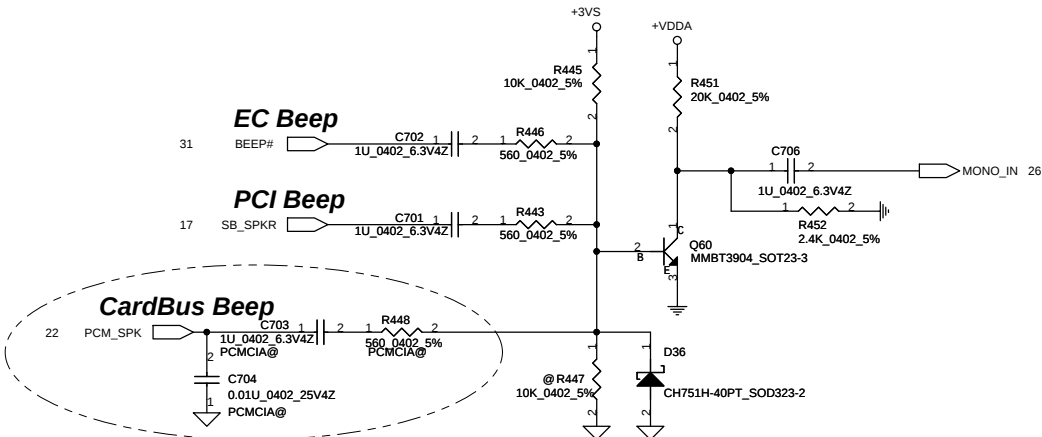
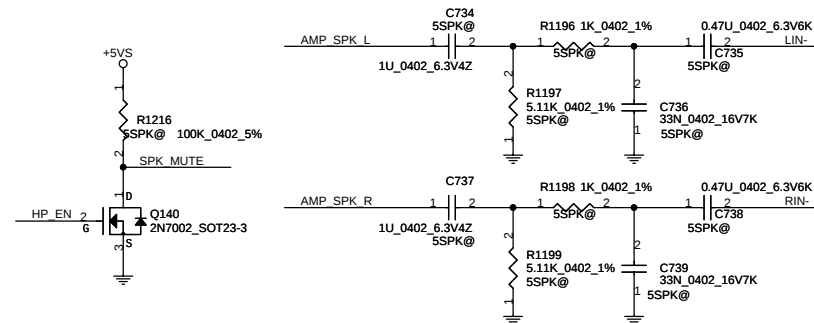
## Volume Control



## APA2068 Medium Range Amplifier



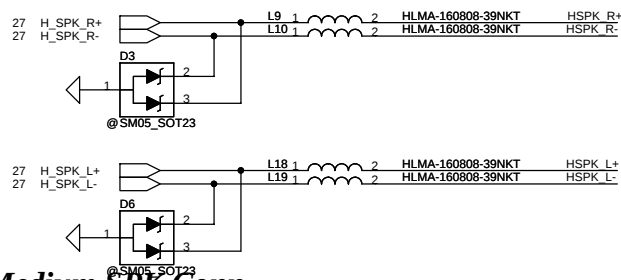
Pin2 /SD should be tied to 5V always and mute pin controlled by EC\_EAPD



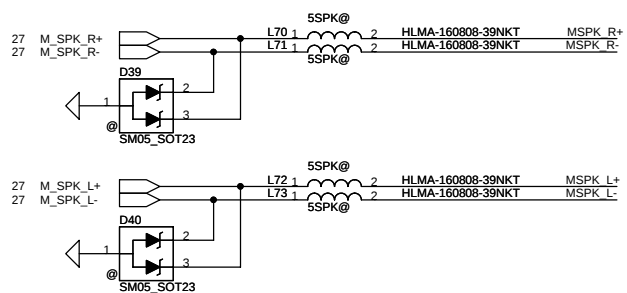
A:Set PCMCIA@ on CardBus Beep circuit  
B:Remove NSE\_DPR circuit, bec'z chg. to KB926.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          |                          |                             |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |          | Compal Secret Data |          | Compal Electronics, Inc. |                             |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Sheet                    | 27 of 46                    |

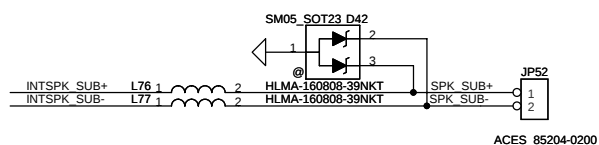
## Tweeter Conn.



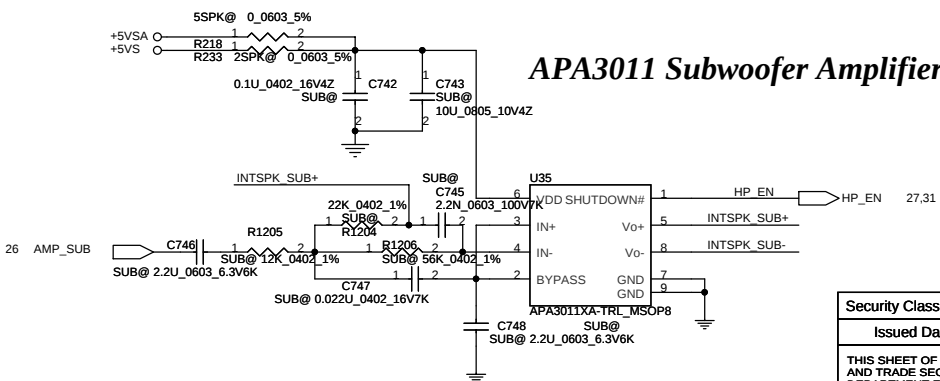
## Medium SPK Conn.



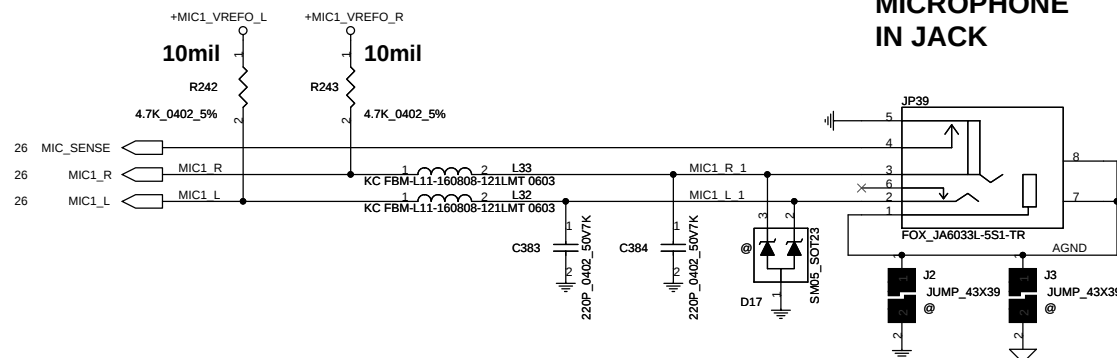
## Sub-woofer Conn.



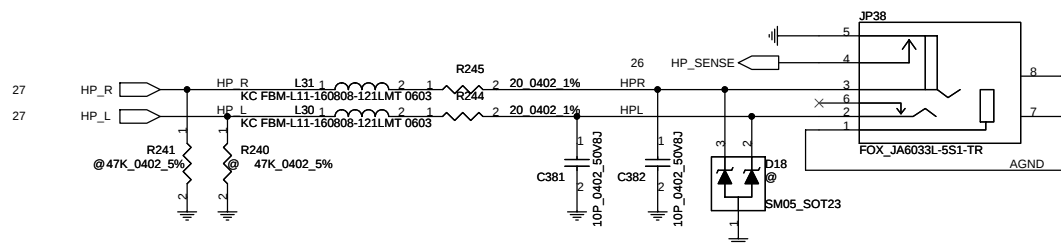
## APA3011 Subwoofer Amplifier



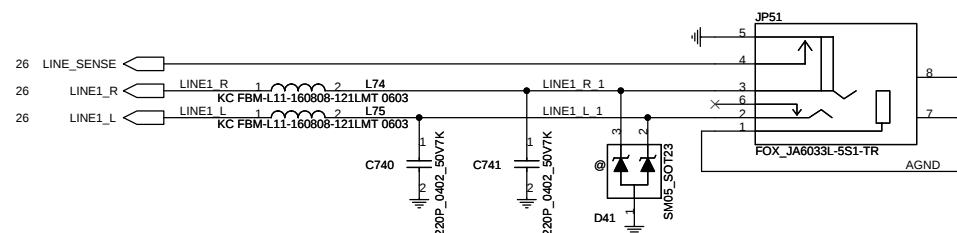
## MICROPHONE IN JACK



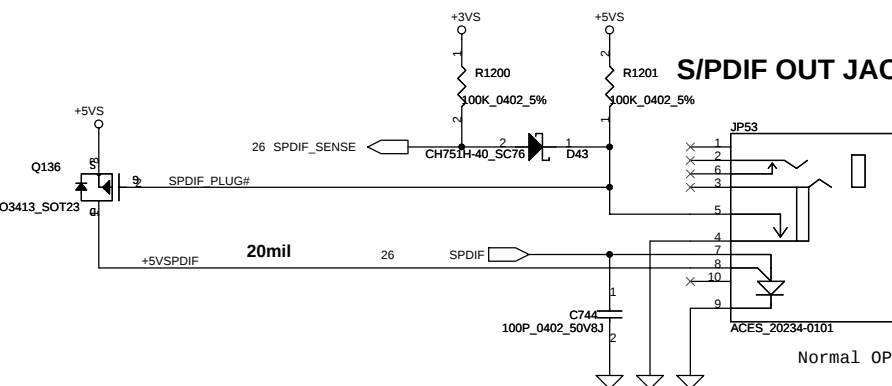
## HEADPHONE OUT JACK



## LINE IN JACK

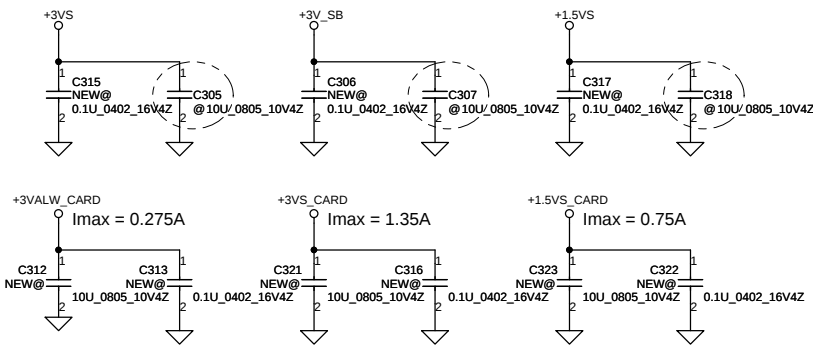
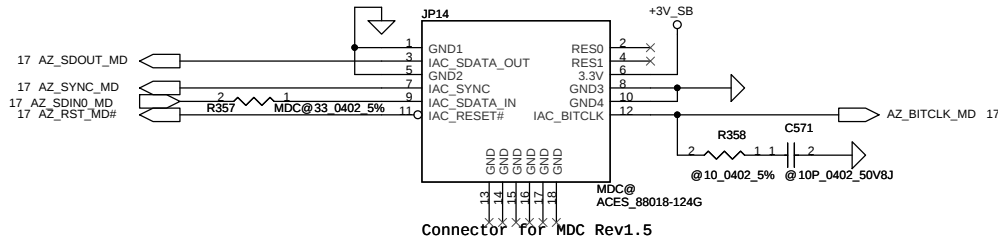
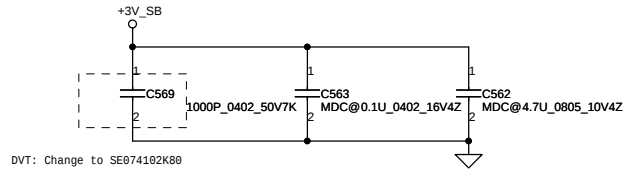


## S/SPDIF OUT JACK

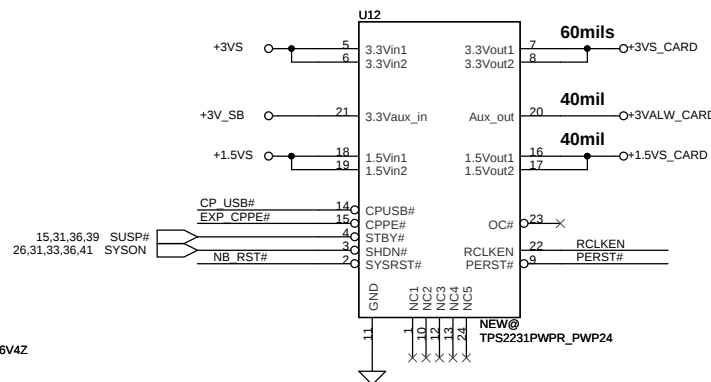
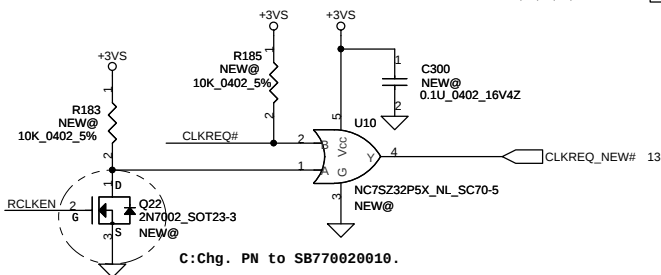


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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Sheet                    | 28 of 46                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Rev                      | D                           |

## MDC 1.5 Conn.

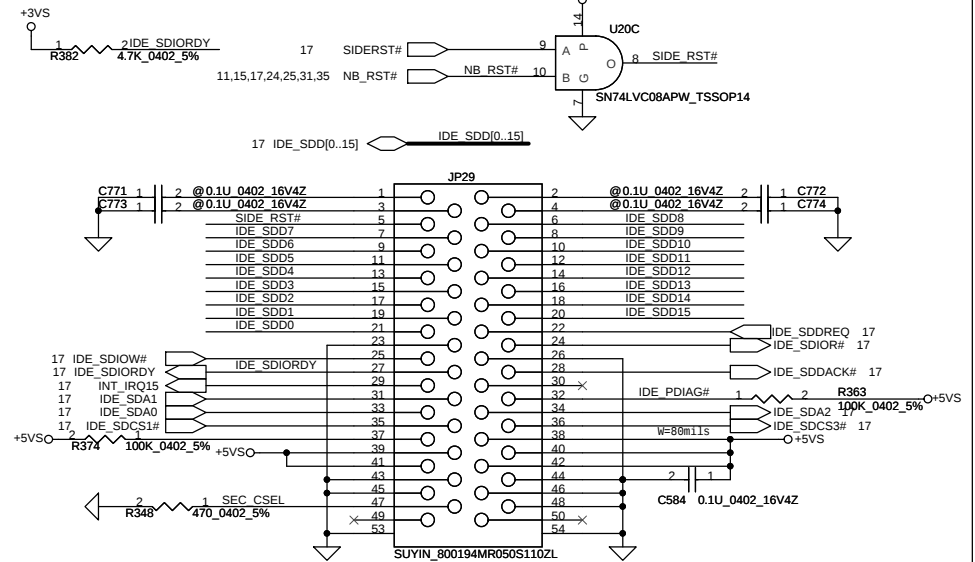


share with USB OC PIN  
need always pull high

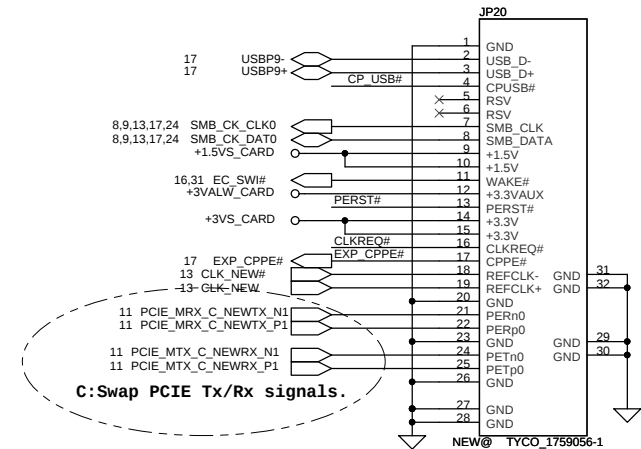


## ODD CONN

Place Components closely to ODD Conn.

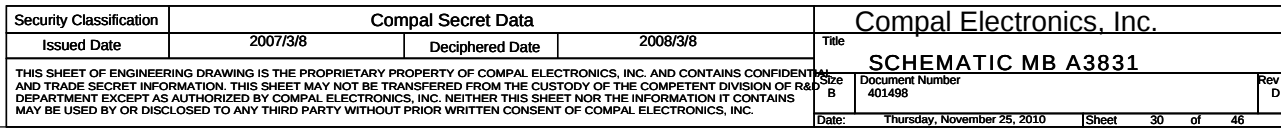


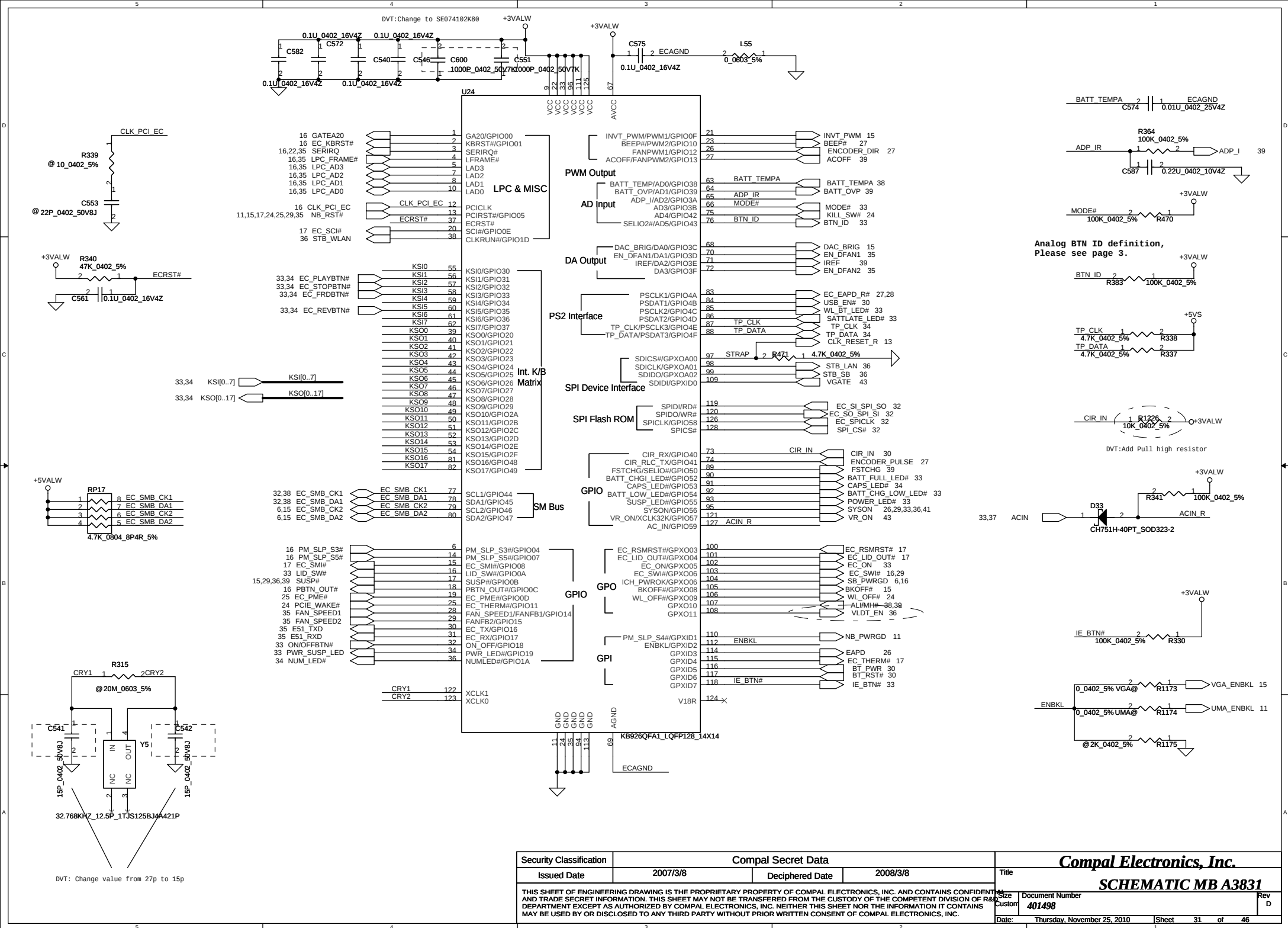
B: relink DC030006000.

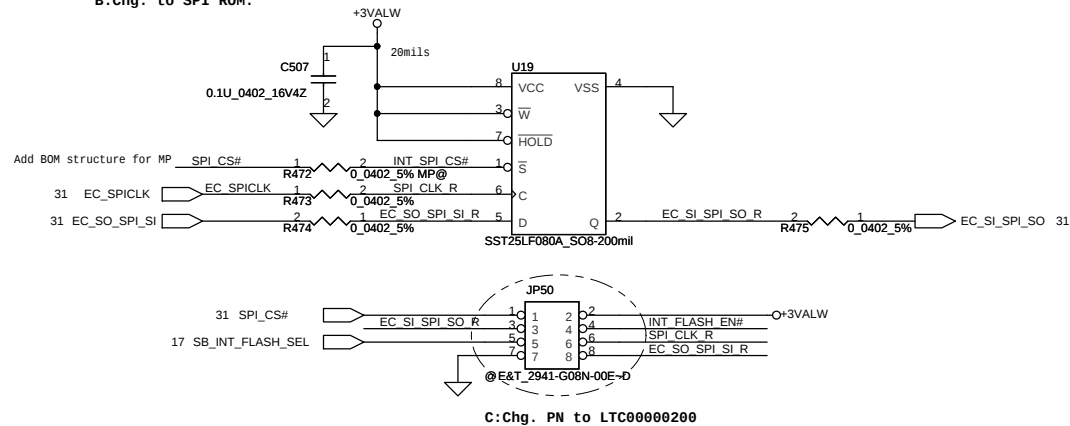
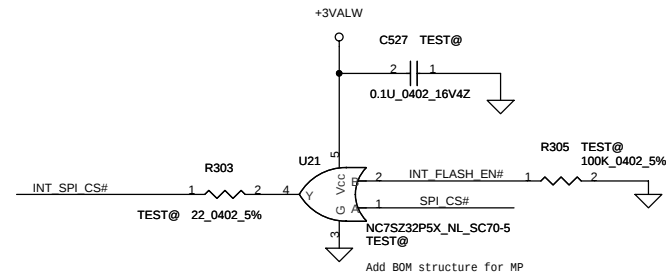


| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data          |                 | Title    |                    |
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Check 5VS or 3VS

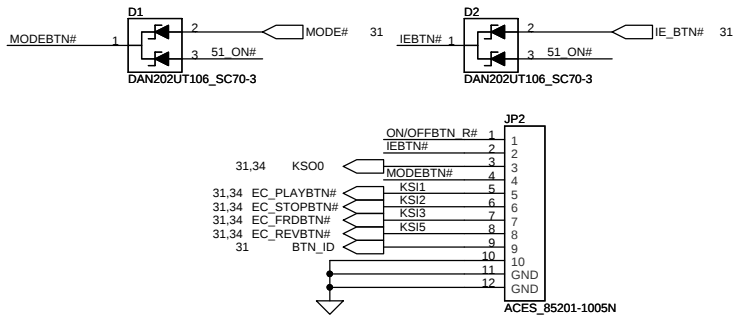




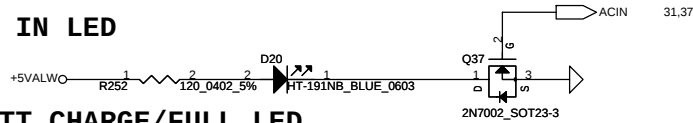


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |          |                                   |                        |       |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |          | Date: Thursday, November 25, 2010 | Sheet 32 of 46         |       |

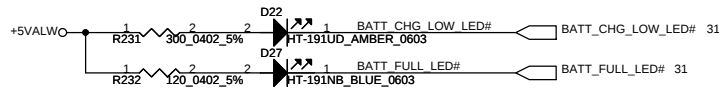
## SW/LED Connector



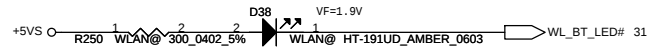
## AC IN LED



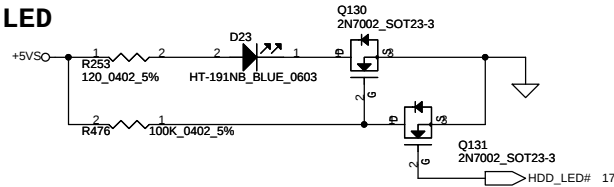
## BATT CHARGE/FULL LED



## WL&BT LED



## HDD LED

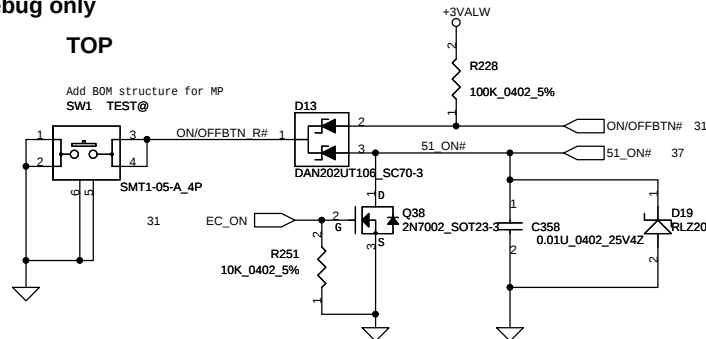


## Power Button

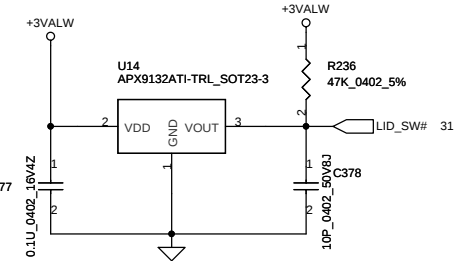
For debug only

BTN

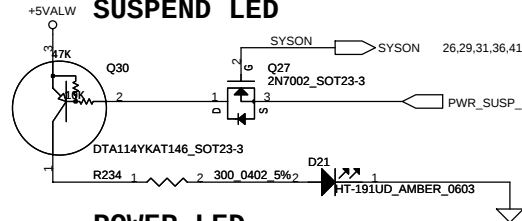
TOP



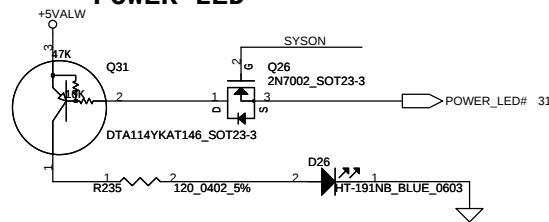
## Lid SW



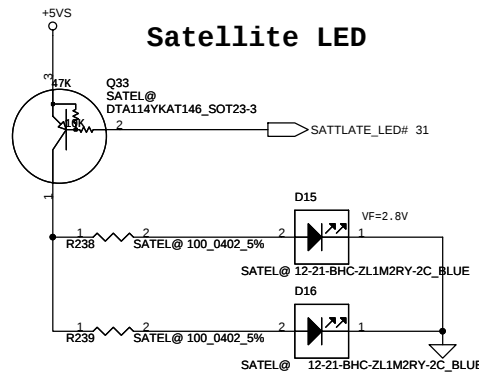
## SUSPEND LED



## POWER LED

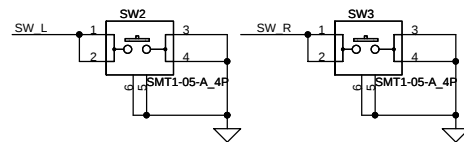
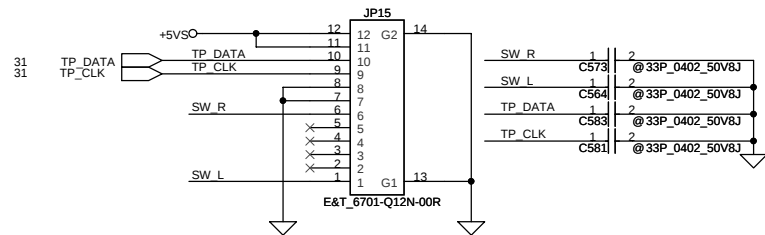


## Satellite LED



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          |                          |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------|----------|--------------------------|-----------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |          | Compal Secret Data |          | Compal Electronics, Inc. |                             |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2007/3/8 | Deciphered Date    | 2008/3/8 | Title                    | SCHEMATIC MB A3831          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Custom                   | m401498                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Date                     | Thursday, November 25, 2010 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Sheet                    | 33 of 46                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Rev                      | D                           |

## TP Button



14 KSI14

13 KSI13

12 KSI12

11 KSI11

10 KSI10

9 KSI9

8 KSI8

7 KSI7

6 KSI6

5 KSI5

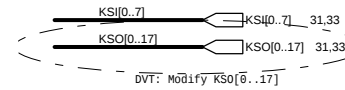
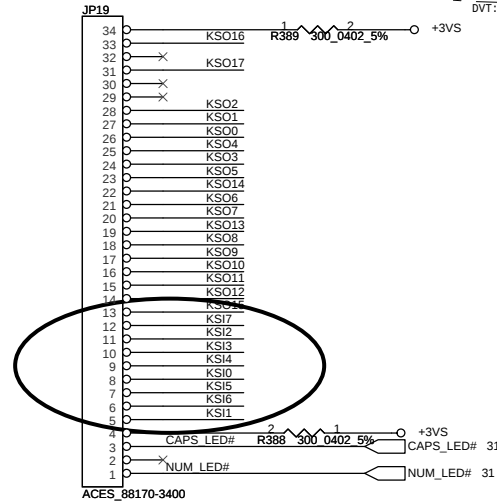
4 KSI4

3 KSI3

2 KSI2

1 KSI1

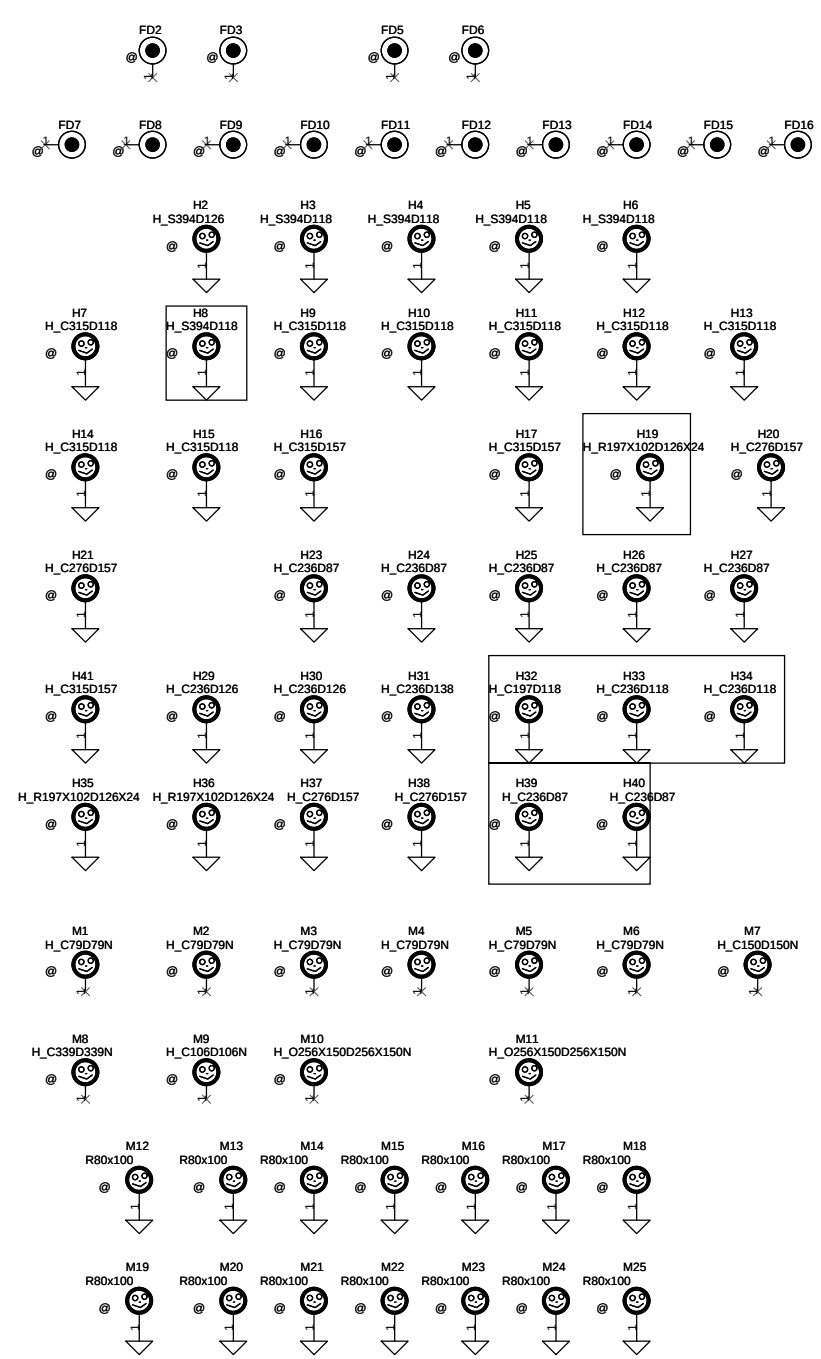
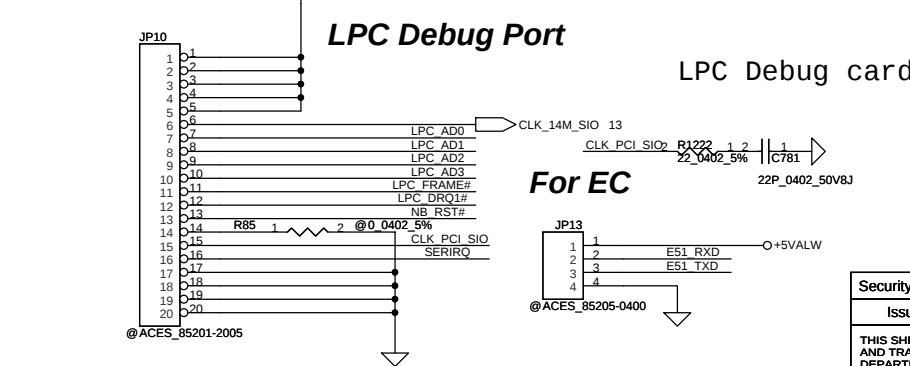
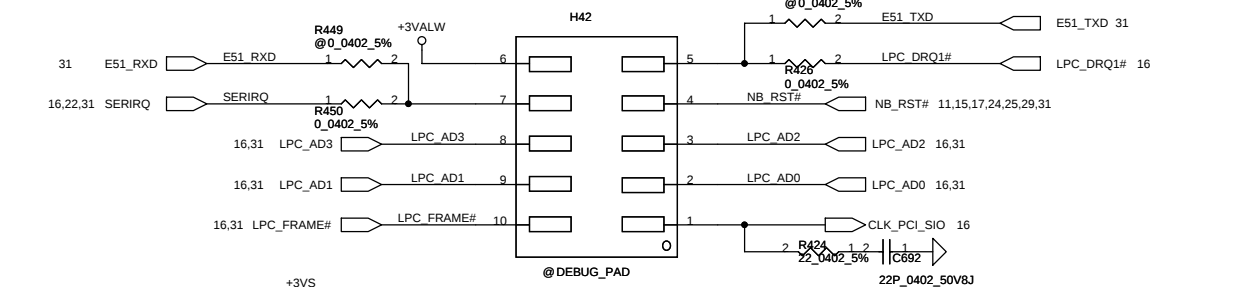
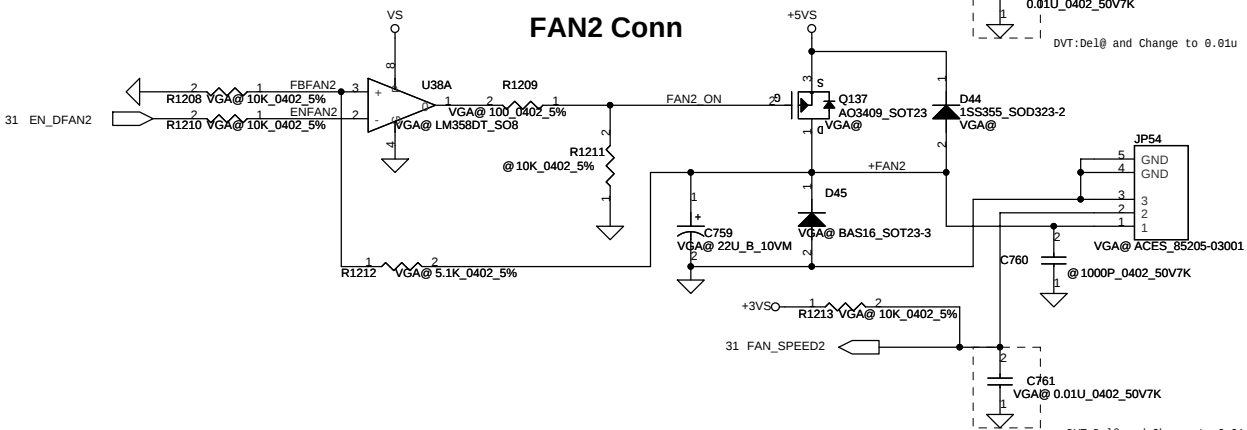
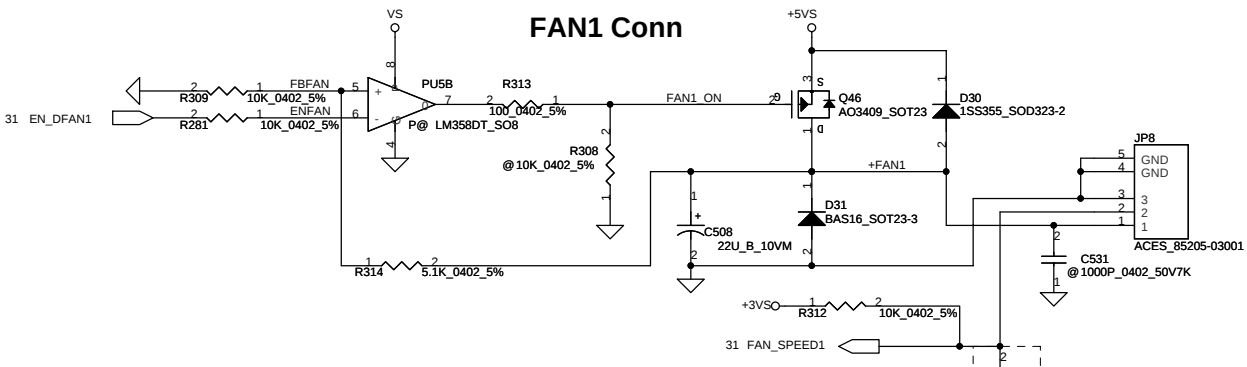
0 KSI0



|           |      |                 |
|-----------|------|-----------------|
| KSO2      | 1    | 2               |
|           | C630 | 100P_0402_25V8K |
| KSO1      | 1    | 2               |
|           | C616 | 100P_0402_25V8K |
| KSO0      | 1    | 2               |
|           | C629 | 100P_0402_25V8K |
| KSO4      | 1    | 2               |
|           | C615 | 100P_0402_25V8K |
| KSO3      | 1    | 2               |
|           | C628 | 100P_0402_25V8K |
| KSO5      | 1    | 2               |
|           | C614 | 100P_0402_25V8K |
| KSO14     | 1    | 2               |
|           | C627 | 100P_0402_25V8K |
| KSO6      | 1    | 2               |
|           | C613 | 100P_0402_25V8K |
| KSO7      | 1    | 2               |
|           | C626 | 100P_0402_25V8K |
| KSO13     | 1    | 2               |
|           | C612 | 100P_0402_25V8K |
| KSO8      | 1    | 2               |
|           | C625 | 100P_0402_25V8K |
| KSO9      | 1    | 2               |
|           | C611 | 100P_0402_25V8K |
| KSO10     | 1    | 2               |
|           | C624 | 100P_0402_25V8K |
| KSO11     | 1    | 2               |
|           | C610 | 100P_0402_25V8K |
| KSO12     | 1    | 2               |
|           | C623 | 100P_0402_25V8K |
| KSO15     | 1    | 2               |
|           | C609 | 100P_0402_25V8K |
| KS17      | 1    | 2               |
|           | C622 | 100P_0402_25V8K |
| KS12      | 1    | 2               |
|           | C608 | 100P_0402_25V8K |
| KS13      | 1    | 2               |
|           | C621 | 100P_0402_25V8K |
| KS14      | 1    | 2               |
|           | C607 | 100P_0402_25V8K |
| KS10      | 1    | 2               |
|           | C620 | 100P_0402_25V8K |
| KS15      | 1    | 2               |
|           | C606 | 100P_0402_25V8K |
| KS16      | 1    | 2               |
|           | C619 | 100P_0402_25V8K |
| KS1       | 1    | 2               |
|           | C605 | 100P_0402_25V8K |
| CAPS_LED# | 1    | 2               |
|           | C604 | 100P_0402_25V8K |
| KSO16     | 1    | 2               |
|           | C618 | 100P_0402_25V8K |
| NUM_LED#  | 1    | 2               |
|           | C617 | 100P_0402_25V8K |
| KSO17     | 1    | 2               |
|           | C758 | 100P_0402_25V8K |

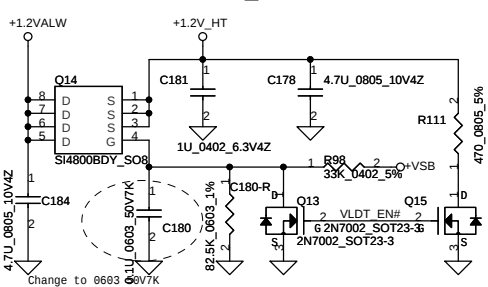
**For EMI Request**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |          |                                      |                                  |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|----------|--------------------------------------|----------------------------------|----------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |          | <b>Compal Electronics, Inc.</b>      |                                  |          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2007/3/8           | Deciphered Date | 2008/3/8 | Title                                | <b>SCHEMATIC MB A3831</b>        |          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |          | Date:<br>Thursday, November 25, 2010 | Sheet<br>34                      | of<br>46 |

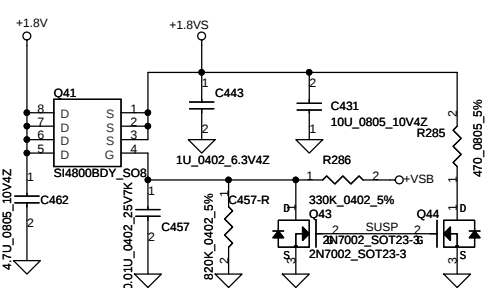


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          |                          |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------|----------|--------------------------|-----------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |          | Compal Secret Data |          | Compal Electronics, Inc. |                             |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Custom                   | 401498                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Date                     | Thursday, November 25, 2010 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Sheet                    | 35 of 46                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Rev                      | D                           |

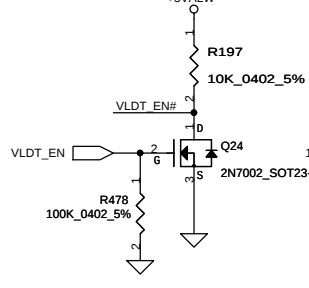
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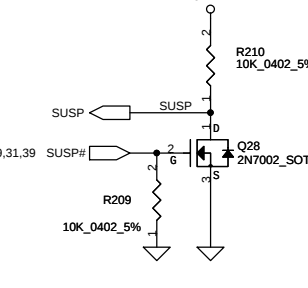
# +1.8V TO +1.8VS



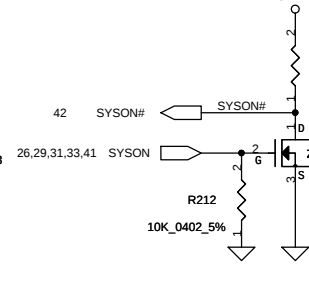
# +5VALW TO +5VALV



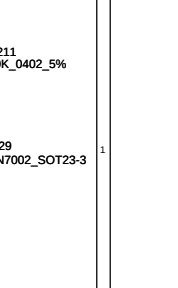
# +5VALW TO +5VALV



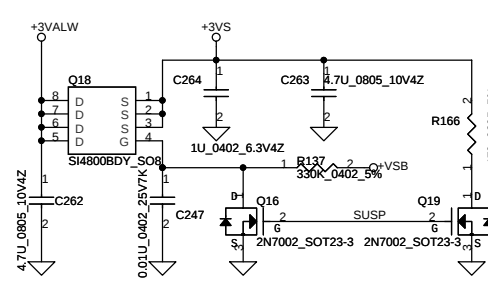
# +5VALW TO +5VALV



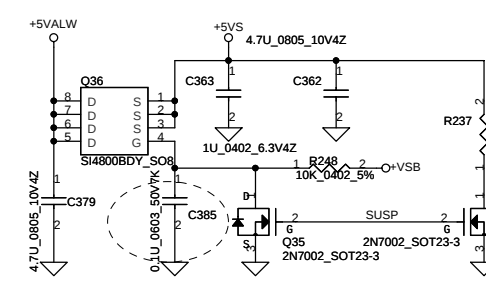
# +5VALW TO +5VALV



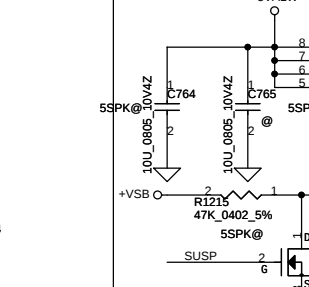
# +3VALW TO +3VS



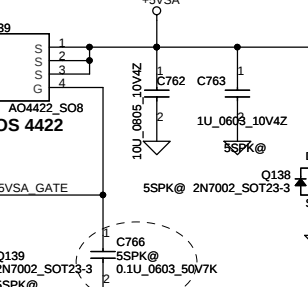
# +5VALW TO +5VS



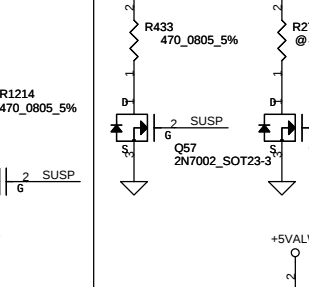
# +5VALW TO +5VS



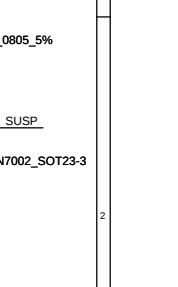
# +5VALW TO +5VS



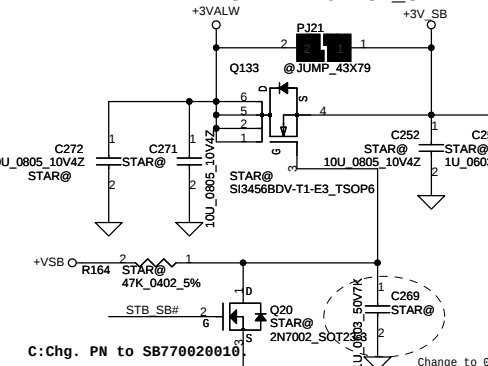
# +5VALW TO +5VS



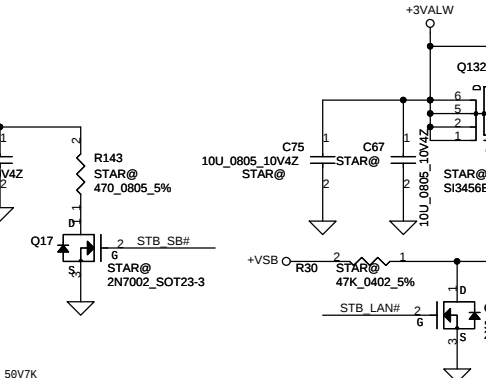
# +5VALW TO +5VS



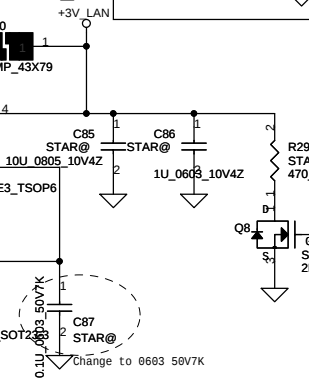
# +3VALW TO +3V\_SB



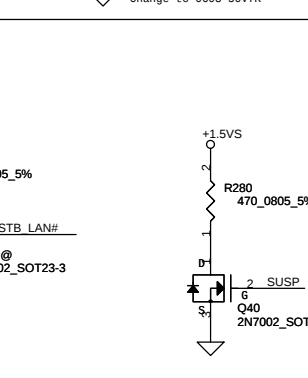
# +3VALW TO +3V\_LAN



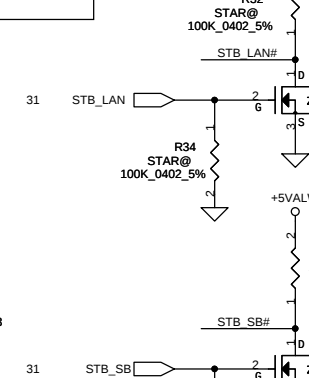
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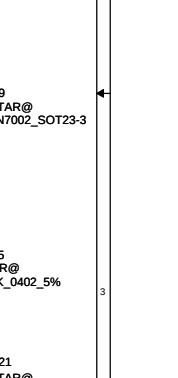
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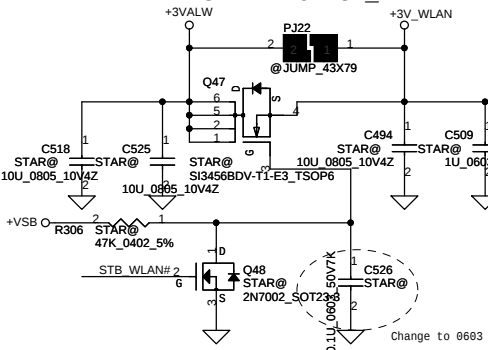
# +3VALW TO +3V\_LAN



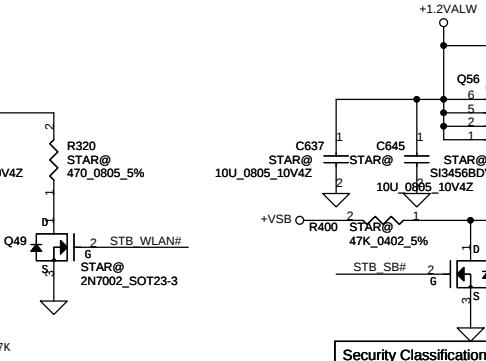
# +3VALW TO +3V\_LAN



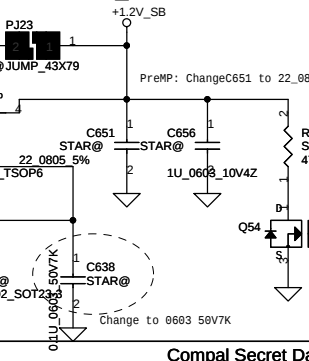
# +3VALW TO +3V\_WLAN



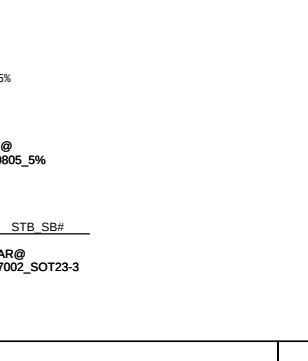
# +1.2VALW TO +1.2V\_SB



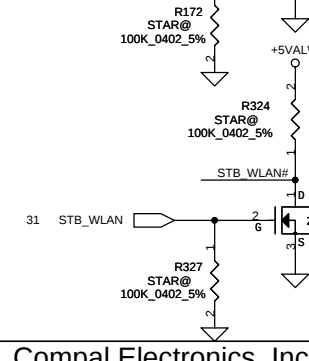
# +1.2VALW TO +1.2V\_SB



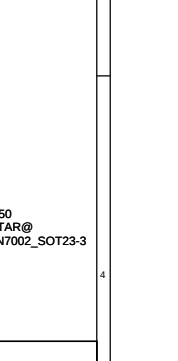
# +1.2VALW TO +1.2V\_SB



# +1.2VALW TO +1.2V\_SB

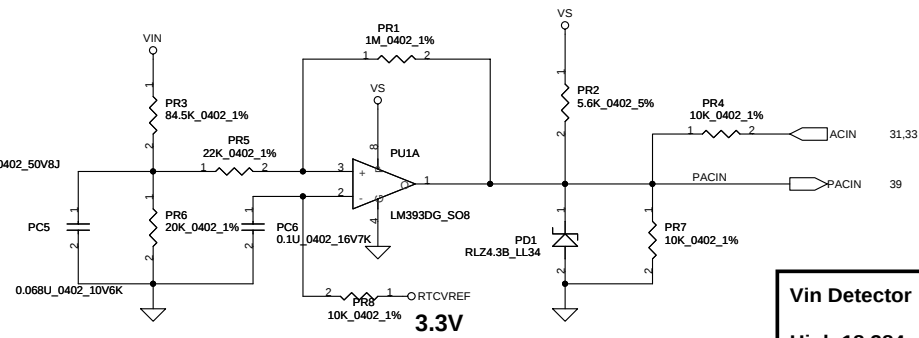
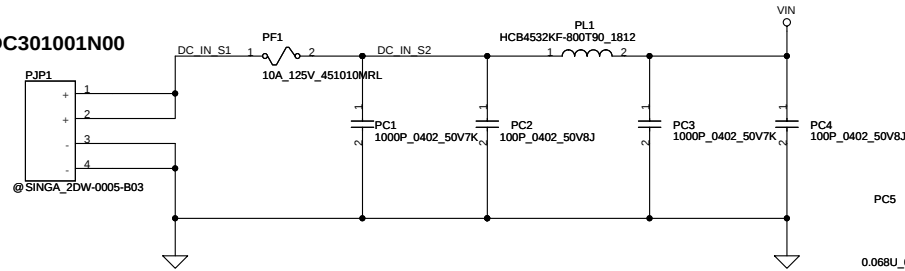


# +1.2VALW TO +1.2V\_SB



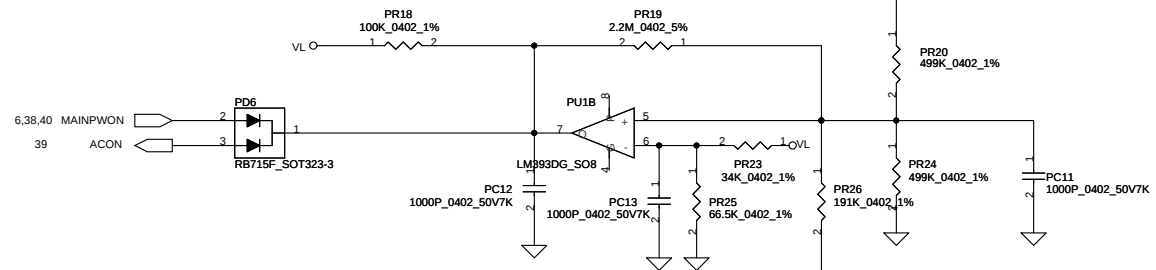
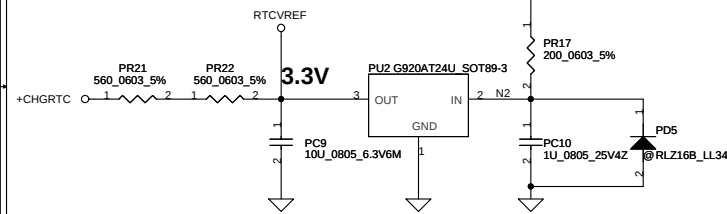
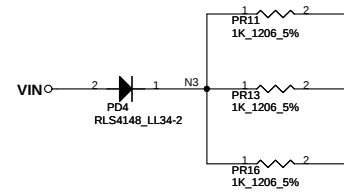
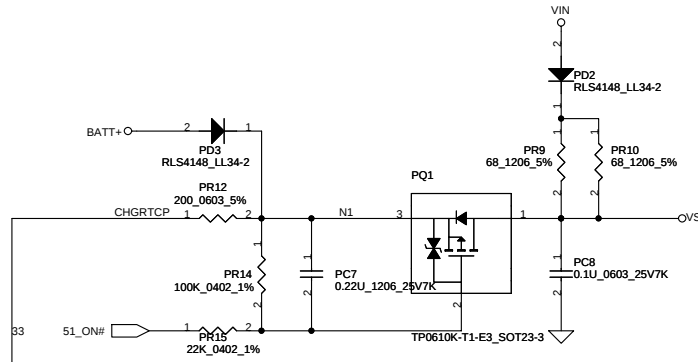
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          |                          |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------|----------|--------------------------|-----------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |          | Compal Secret Data |          | Compal Electronics, Inc. |                             |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2007/3/8 | Deciphered Date    | 2008/3/8 | Title                    | SCHEMATIC MB A3831          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Date:                    | Thursday, November 25, 2010 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |          | Sheet                    | 36 of 46                    |

# DC301001N00

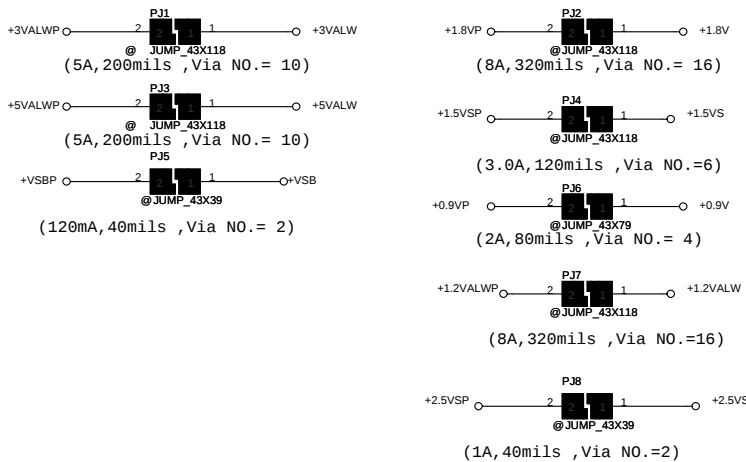
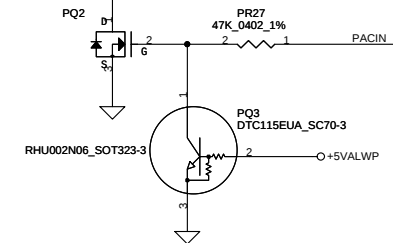


## Vin Detector

High 18.384 17.901 17.430  
Low 17.728 17.257 16.976

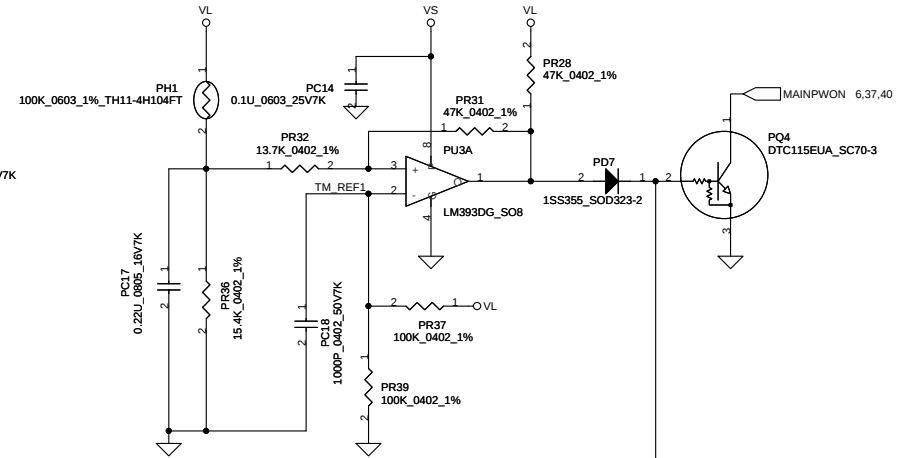
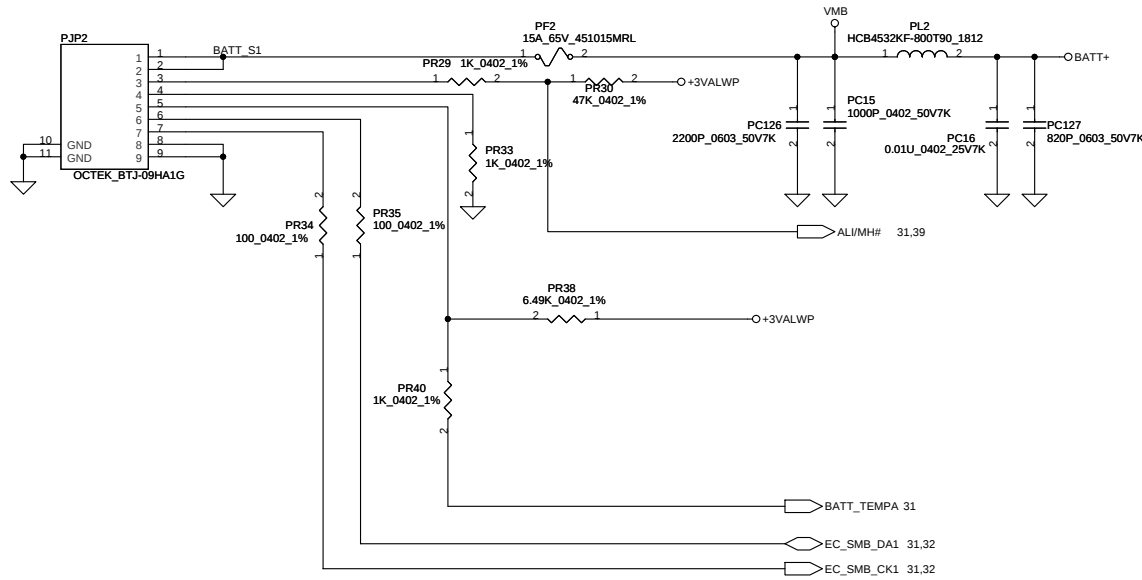


## Precharge detector 15.97V/14.84V FOR ADAPTOR

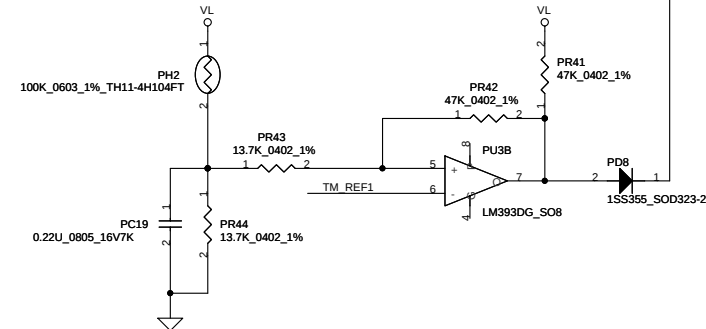
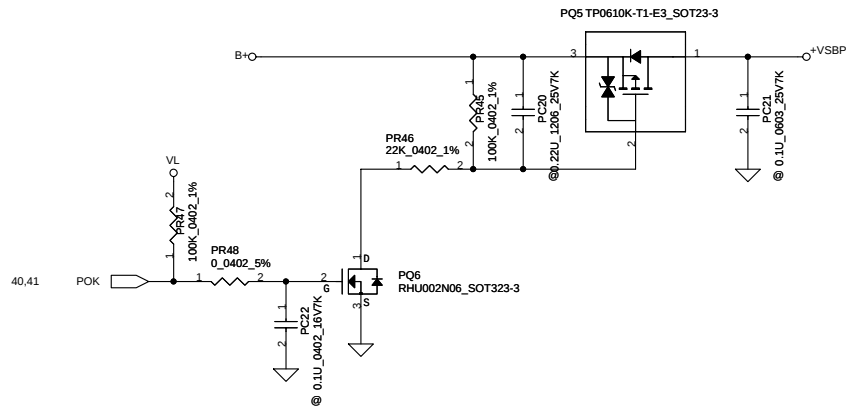


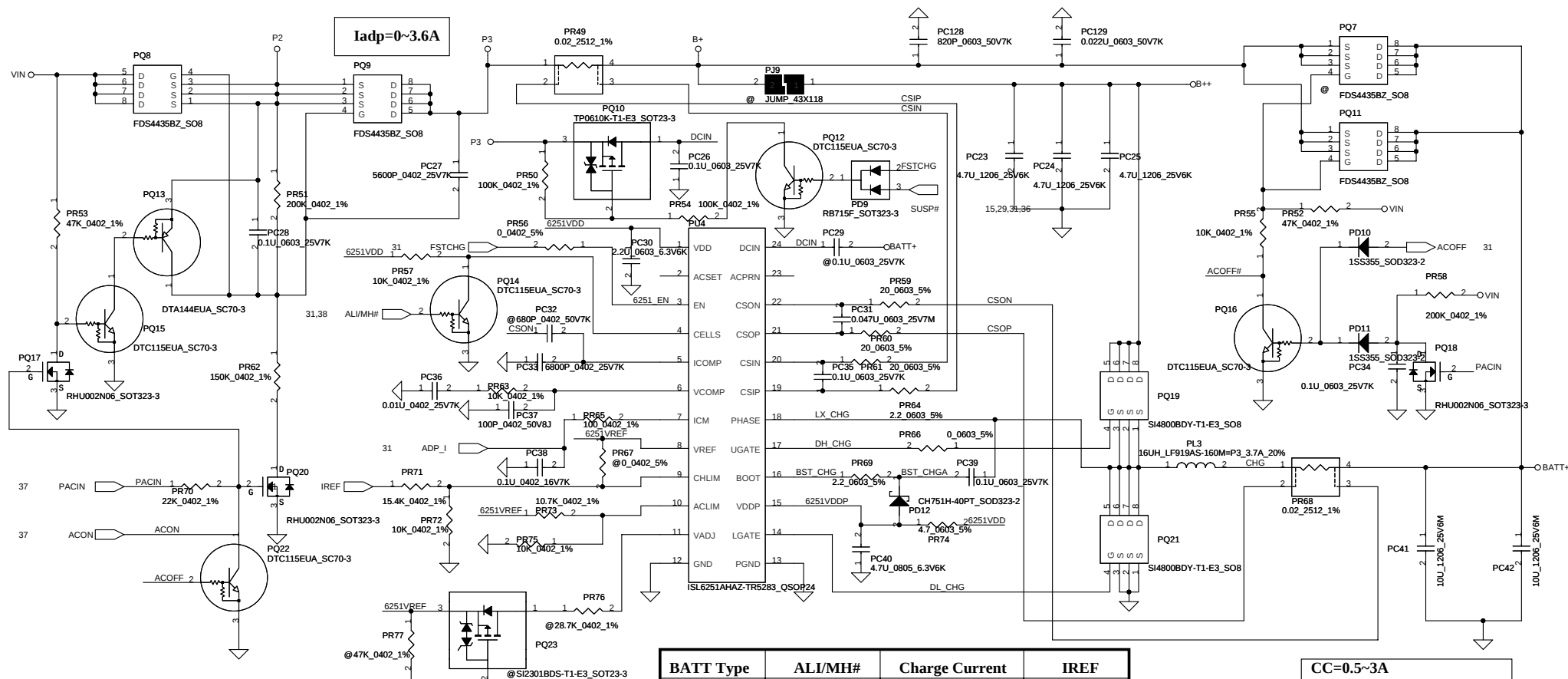
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|----------|--------------------------|-----------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |          | Compal Electronics, Inc. |                             |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2007/3/8           | Deciphered Date | 2008/3/8 | Title                    | SCHEMATIC MB A3831          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |          | Date                     | Thursday, November 25, 2010 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |          | Sheet                    | 37 of 46                    |

PH1 under CPU botten side :  
CPU thermal protection at 92 degree C  
Recovery at 56 degree C



PH2 near main Battery CONN :  
BAT. thermal protection at 95 degree C  
Recovery at 59 degree C





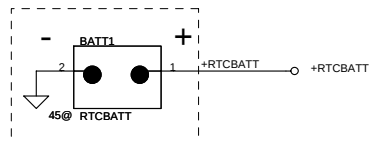
$$I_{REF} = 1.016 \cdot I_{charge}$$

$$I_{REF} = 0.508V \sim 3.048V$$

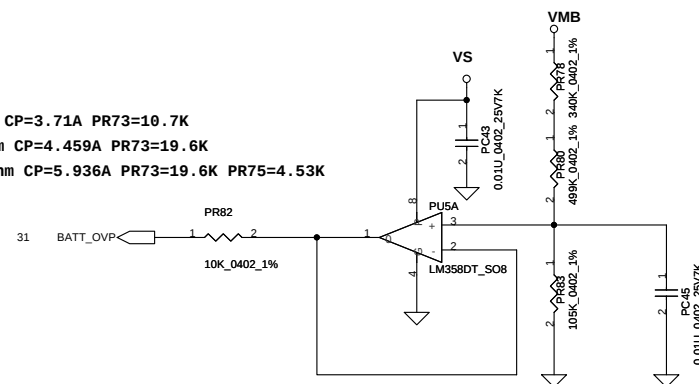
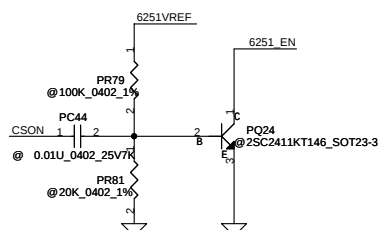
## RTC Battery

### Layout Note:

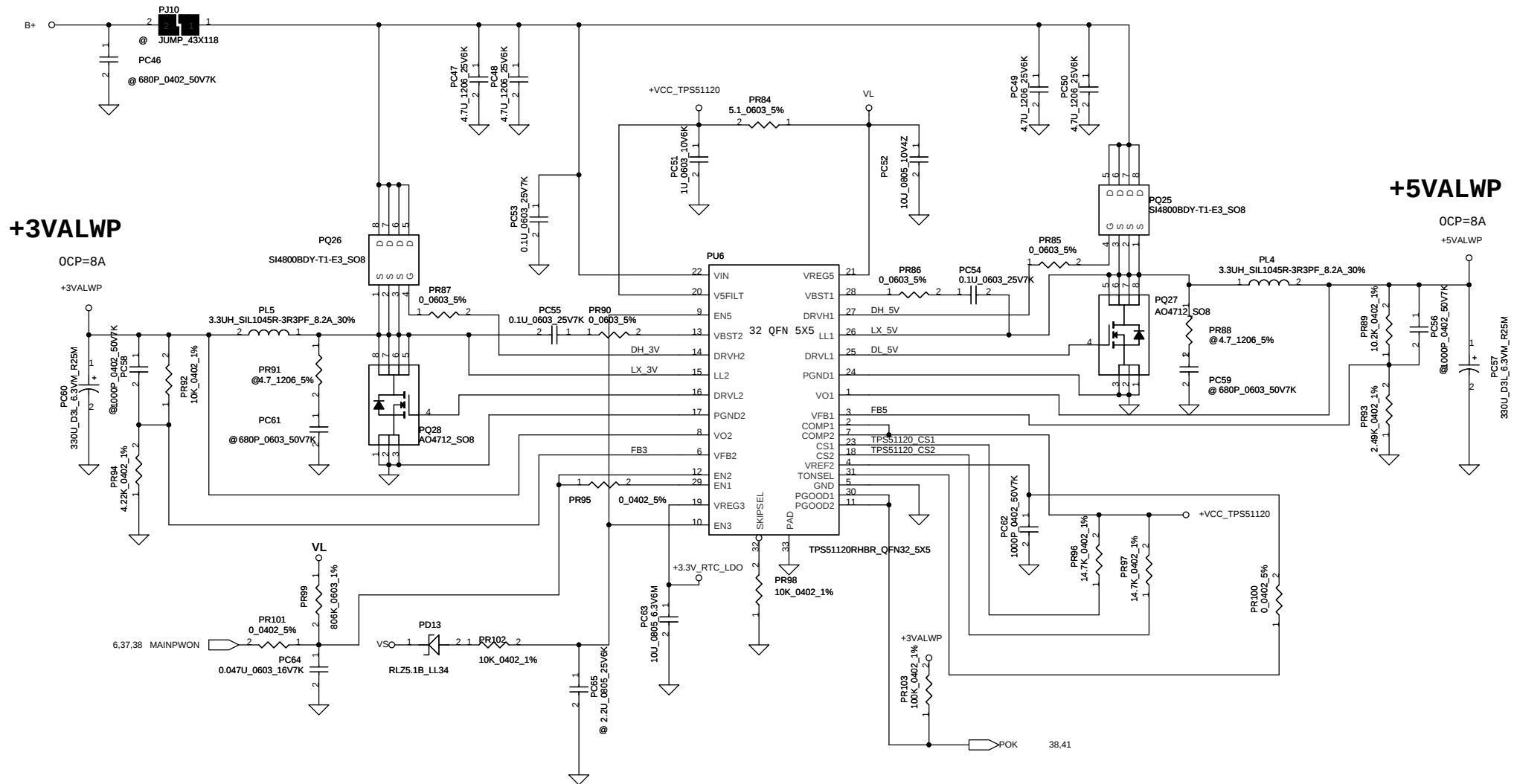
1. Under BATT1 battery Body, no Trace no Via
2. BATT1 + - PIN keep out 80mil from other component ,trace and via



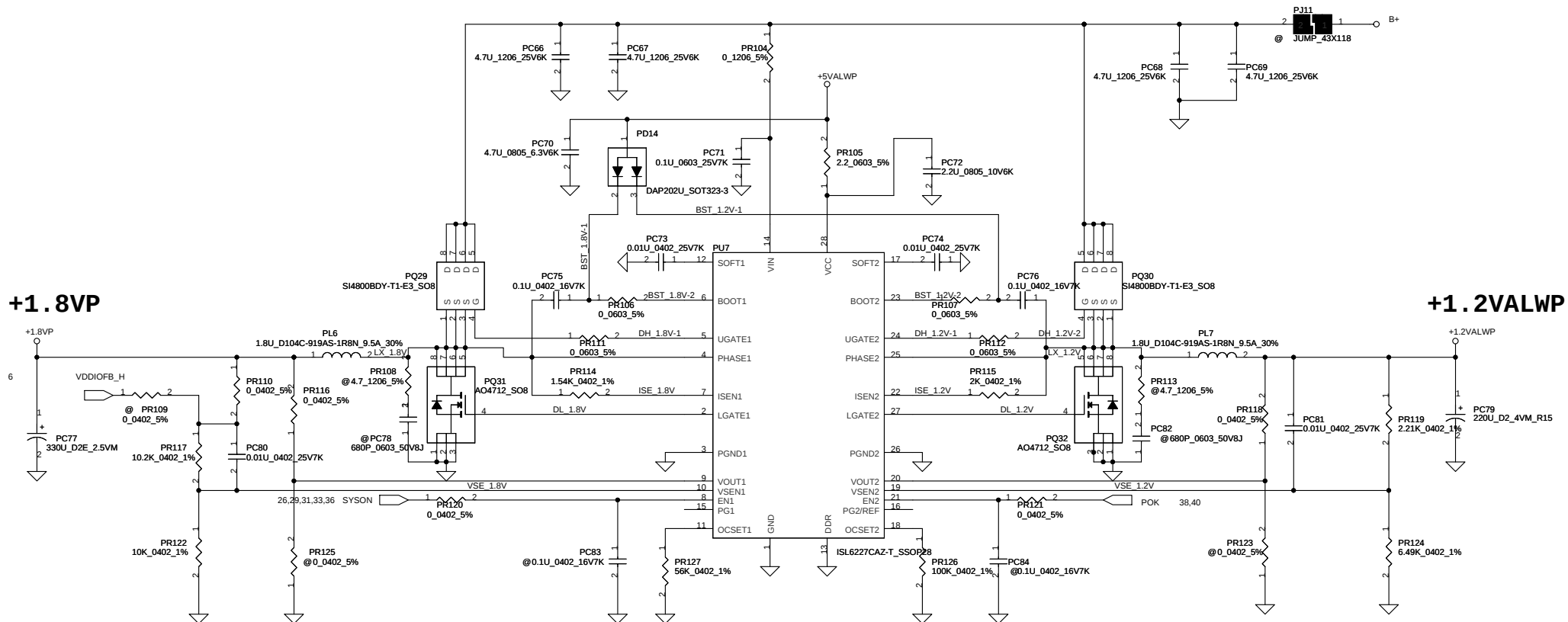
75W Iadapter=0~3.947A PR49=0.02 ohm CP=3.71A PR73=10.7K  
 90W Iadapter=0~4.737A PR49=0.015 ohm CP=4.459A PR73=19.6K  
 120W Iadapter=0~6.315A PR49=0.010 ohm CP=5.936A PR73=19.6K PR75=4.53K

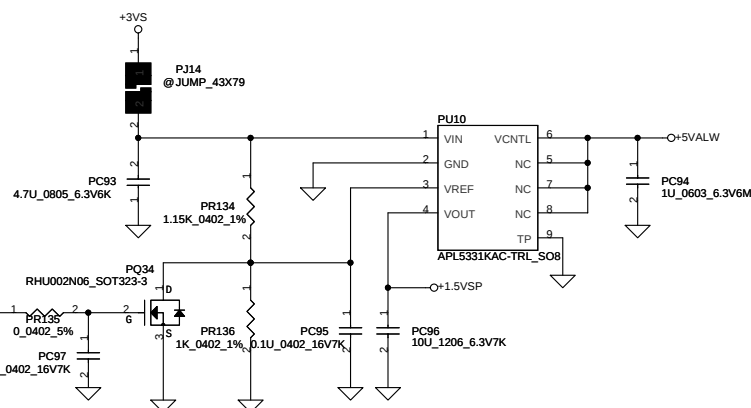
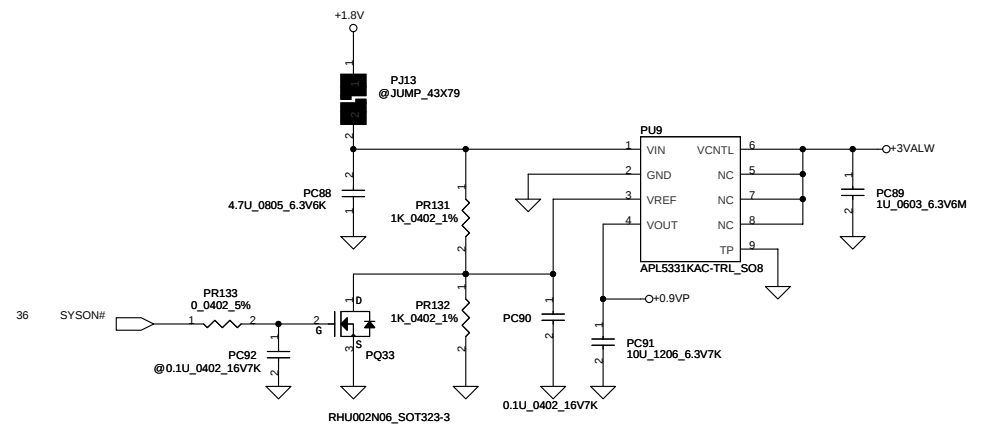
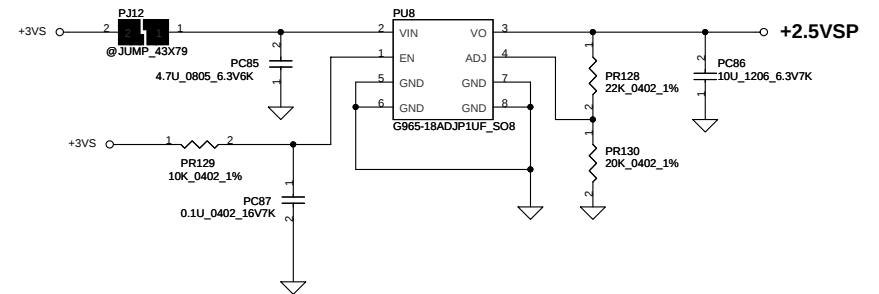


LI-3S :13.5V---BATT-OVP=1.5V  
 LI-4S :18V---BATT-OVP=2V  
 BATT-OVP=0.111\*BATT+

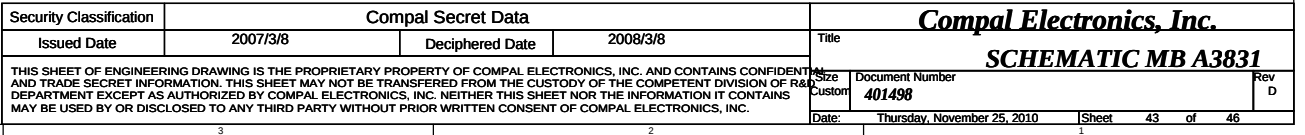


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                    |           |                          |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------|-----------|--------------------------|-----------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | Compal Secret Data |           | Compal Electronics, Inc. |                             |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                    |           | Sheet                    | 40 of 46                    |





|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                             |                          |                    |
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| Document Number                                                                                                                                                                                                                                                                                                                                                                                                                                               | 401498             | Date            | Thursday, November 25, 2010 | Sheet                    | 42 of 46           |



POWER PIR LIST

|       | page | Reason for change         | Modify list                                                                      |
|-------|------|---------------------------|----------------------------------------------------------------------------------|
| EVT   | 43   | design change             | change PQ36,PQ37,PQ39,PQ40 from SI4856ADY(SB000001Y00) to SI4856DY(SB000003800). |
| DVT   | 43   | offset                    | change PR149 to 51.1K                                                            |
|       | 43   | ocp                       | change PR151 to 5.36K                                                            |
|       | 43   | Vsense feedback           | PR163 change to mount                                                            |
|       | 43   | transient modification    | PC120 change to 0.1uF                                                            |
|       | 43   | EMI solution              | PR153, PR171 change to 4.70hm. PC108, PC124 change to 470pF.                     |
| PVT   | 38   | EMI solution              | add PC126 2200P and PC127 820P                                                   |
|       | 39   | EMI solution              | add PC128 820P and PC129 0.022U                                                  |
|       | 38   | OTP setting design change | change PR43 to 13.7K, PR44 to 13.7K                                              |
|       | 41   | OCP solution              | change PR114 to 2.61K, change PQ27, PQ28, PQ31, PQ32 to A04712                   |
|       | 40   | HW design change          | change PR89 to 10.2K                                                             |
|       | 43   | noise solution            | add PC130, 100U 25V                                                              |
| PreMP | 39   | component version change  | change PU4 from ISL6251AHAZ-T to ISL6251AHAZ-TR5283                              |
|       | 41   | OCP solution              | change PR114 to 3K                                                               |
|       | 41   | HW design change          | change PR117 to 10.2K                                                            |
|       | 43   | noise solution            | change PC130 to 220U 25V                                                         |
| MP    | 41   | 1.8V shutdown solution    | change PR114 to 1.54K, PR127 to 56K, PC77 to 330U(SGA19331D00)                   |

# HW4 Product Improvement Record (P.I.R.)

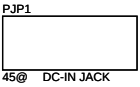
| Phase: A to B |                                   | Date: 0601                          |                                 |                                | Writer: Timo Teng                                                             |      |             |
|---------------|-----------------------------------|-------------------------------------|---------------------------------|--------------------------------|-------------------------------------------------------------------------------|------|-------------|
| Page#         | Action Plan<br>(add; del; change) | Location or<br>Net_List             | Before value<br>(Attached file) | After value<br>(Attached file) | Detail Discretion and Root Cause                                              | Rev. | DL/DM Check |
| 7             | Add @                             | C576, C785                          | 330U_D2_2.5VY_R9M               | @330U_D2_2.5VY_R9M             | After Power Jeff meausre CPU core ripple,<br>we can unmount the 2 capacitors. |      |             |
| 14            | Del @                             | CRT Pi-Filter circuit               | R16, R20...and so on            |                                | Remove pi filter from CRT board from S/B to M/B for EMI solution              |      |             |
|               | Add                               | CRT DDC circuit                     | D47, R1231 ...and so on.        |                                | Follow AMD PA                                                                 |      |             |
| 15            | Add                               | +HDMI_DDC_CLK, +5VS                 | NC                              | AT JP23.193, J23.182           | Follow AMD PA                                                                 |      |             |
| 17            | Del @                             | C780, U40                           | @0.1u and @7408                 | 0.1u and 7408                  | Add buffer avoid the leakage issue from LAN CHIP                              |      |             |
|               | Add @                             | R1221                               | 0 ohm                           | @0 ohm                         |                                                                               |      |             |
| 22            | Add                               | R1233, R1234, C788, C789            | NC                              | 10ohm and 1p                   | Add RC for reduce EMI noise                                                   |      |             |
| 31            | Add                               | R1226                               | NC                              | 10k                            | For CIR function.                                                             |      |             |
| 34            | Change                            | KS0[0..15]                          | KS0[0..15]                      | KS0[0..17]                     | For Keyboard some keys function.                                              |      |             |
| 36            | Change                            | C180, C385, C87, C269<br>C638, C526 | 0.1uF 0402                      | 0.1uF 0603                     | Change X7R                                                                    |      |             |

| Phase: B to C |                                   | Date: 0628                                                    |                                                    |                                | Writer: Gino Lu                                            |      |             |
|---------------|-----------------------------------|---------------------------------------------------------------|----------------------------------------------------|--------------------------------|------------------------------------------------------------|------|-------------|
| Page#         | Action Plan<br>(add; del; change) | Location or<br>Net_List                                       | Before value<br>(Attached file)                    | After value<br>(Attached file) | Detail Discretion and Root Cause                           | Rev. | DL/DM Check |
| 14            | Del                               | R1227, R1228<br>R1229, R1230<br>D47<br>Q4, Q5<br>R1231, R1232 | 0_0402_5%<br>19.2K_0402_5%<br>CH491D_SC59<br><br>@ | NC<br>NC<br>NC<br>UMA@<br>VGA@ | AMD CRT level shift solution already be implement on VGA/B |      |             |
| 25            | DEL<br>Add<br>Net                 | C727, C728<br>L78<br>C727, R293                               | 22U_A_4VM                                          | 4.7uH_1008HC                   | Update RTL8101E/8102E/8111B/8111C co-layout circuit        |      |             |

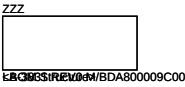
| Phase: C to PreMP |                                   | Date: 0723              |                                 |                                | Writer: Gino Lu                            |      |             |
|-------------------|-----------------------------------|-------------------------|---------------------------------|--------------------------------|--------------------------------------------|------|-------------|
| Page#             | Action Plan<br>(add; del; change) | Location or<br>Net_List | Before value<br>(Attached file) | After value<br>(Attached file) | Detail Discretion and Root Cause           | Rev. | DL/DM Check |
| 27                | Add<br>Add                        | R486, R487<br>C790      |                                 | 0_0603_5%<br>10U_0805_10V4Z    | Reserve for +HVDD power select             |      |             |
| 16                | Add                               | C679, C688              | 12P_0402_50V8J                  | 18P_0402_50V8J                 | For Real time clock adjust                 |      |             |
| 25                | Change                            | C118, C120, C121, C135  | 0.01U_0402_25V4Z                | 0.1U_0402_16V4Z                | for Gigalan EMI solution                   |      |             |
| 25                | BOM structure<br>change           | C728<br>C558            | CAM@                            | D_CAM@<br>BT@                  | For Camera reserve<br>For Bluetooth select |      |             |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                             |                    |          |                           |                    |
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| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Thursday, November 25, 2010 |                    |          | Sheet                     | 45 of 46           |

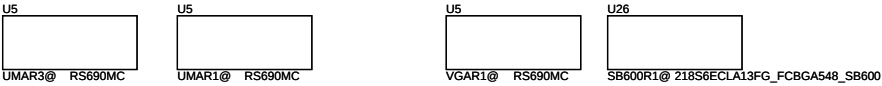
45@ Part



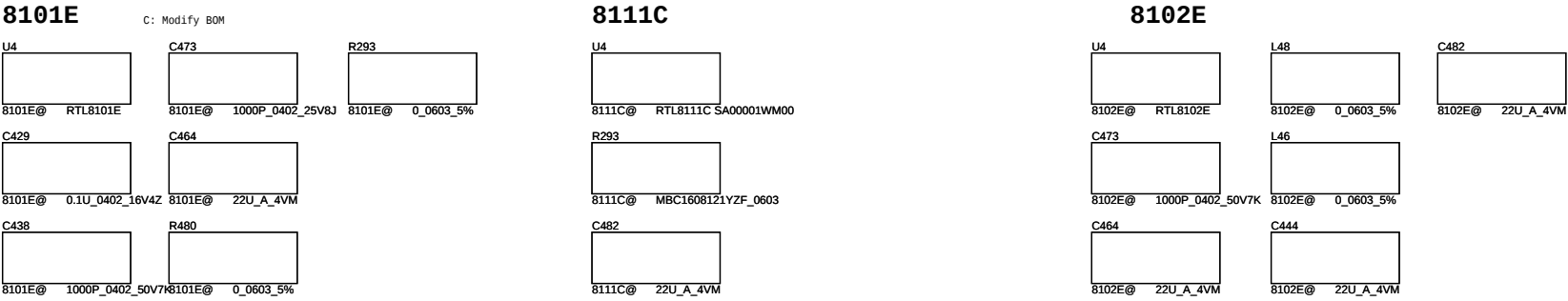
PCB



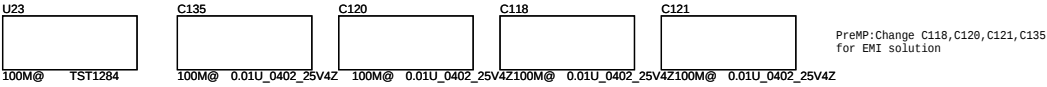
CHIPSET



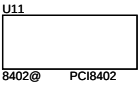
LAN



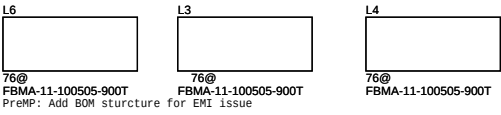
TRANSFORMER



Card BUS



M76 CRT



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |                 |                             |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|-----------------|-----------------------------|----------------|
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | Date               |                 | Thursday, November 25, 2010 | Sheet 46 of 46 |