

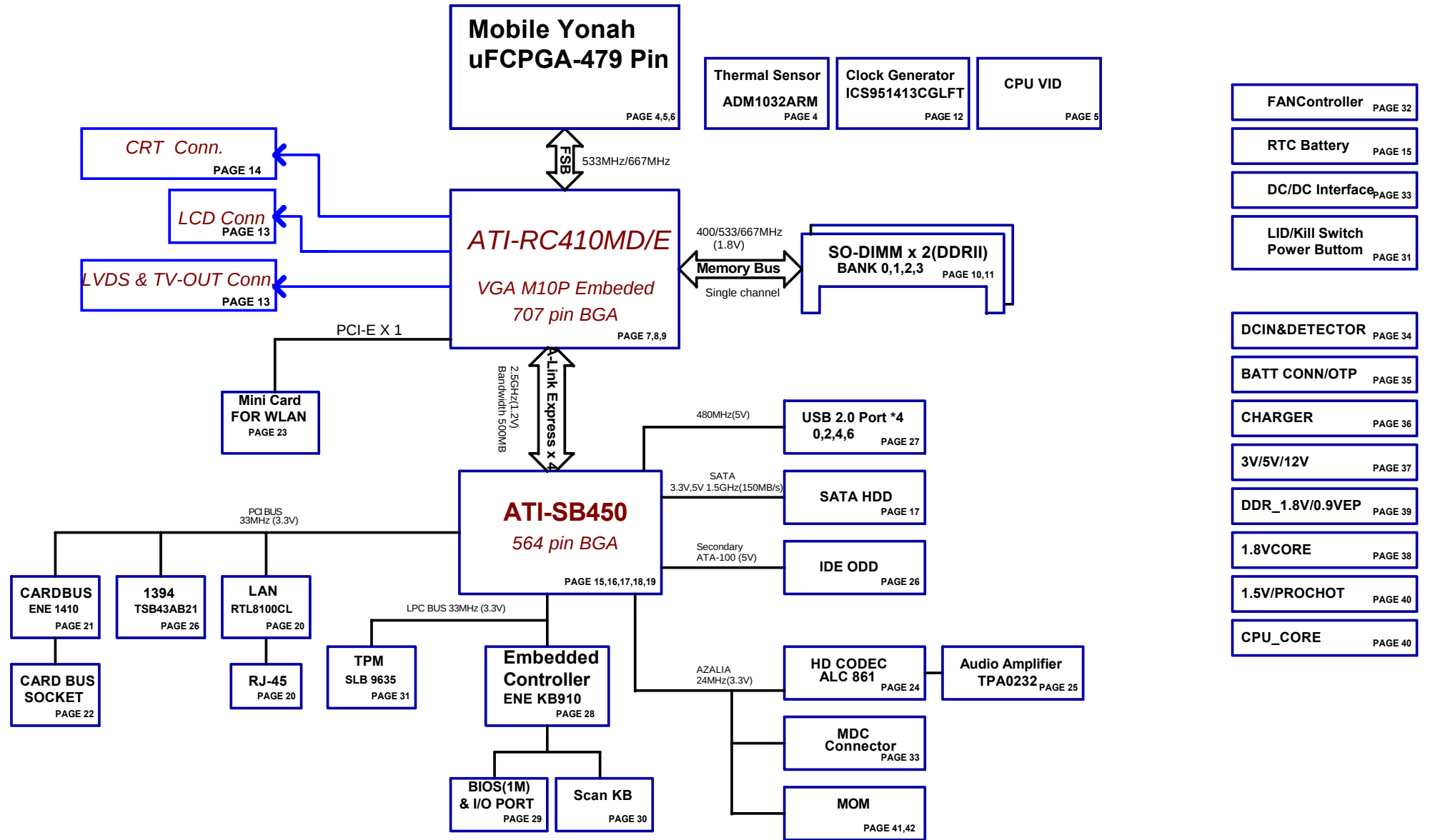
# HAWAA

## LA-3141 REV 0.3 Schematic

**uFCPGA Yonah/ ATi-RC410MD(A12)/ ATi-SB450(A13)**  
**2006-01-26 Rev.0.3**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                          |                          |               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|--------------------------|---------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                          |               |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2005/11/01         | Deciphered Date | 2006/11/30 | Title                    | Black Diagram            |               |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Cust                     | HAWAA(LA3141)            | 0.3           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date:                    | Friday, January 27, 2006 | Sheet 1 of 43 |

# HAWAA LA-3141 FUNCTION BLOCK DIAGRAM



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|----------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                            |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2005/11/01 | Deciphered Date    | 2006/11/30 | Title                    | Block Diagram              |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 2 of 43                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev                      | 0.3                        |

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  |
| +CPU_CORE   | Core voltage for CPU                        | ON | OFF | OFF |
| +CPUVID     | 1.2V switched power rail for CPU AGTL Bus   | ON | OFF | OFF |
| +1.2VS      | 1.2VS for PCI-Express                       | ON | OFF | OFF |
| +0.9VS      | 0.9V switched power rail                    | ON | OFF | OFF |
| +1.5VS      | Yonah                                       | ON | OFF | OFF |
| +1.8VS      | 1.8VS switched power rail                   | ON | OFF | OFF |
| +1.8VALW    | 1.8V always on power rail                   | ON | ON  | ON* |
| +1.8V       | 1.8V power rail                             | ON | ON  | OFF |
| +3VALW      | 3.3V always on power rail                   | ON | ON  | ON* |
| +3VS        | 3.3V switched power rail                    | ON | OFF | OFF |
| +5VALW      | 5V always on power rail                     | ON | ON  | ON* |
| +5VS        | 5V switched power rail                      | ON | OFF | OFF |
| +RTCVCC     | RTC power                                   | ON | ON  | ON  |
|             |                                             |    |     |     |
|             |                                             |    |     |     |
|             |                                             |    |     |     |

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 |
|----------|--------|----------|------------|
| ENE 1410 | AD20   | 2        | PIRQB      |
| LAN      | AD22   | 1        | PIRQG      |
| 1394     | AD16   | 0        | PIRQA      |

EC SM Bus1 address

| Device        | Address     | Device  | Address     |
|---------------|-------------|---------|-------------|
| Smart Battery | 0001 011X b | ADM1032 | 1001 110X b |

EC SM Bus2 address

SB450 SM Bus address

| Device                              | Address       |
|-------------------------------------|---------------|
| Clock Generator<br>(ICS951413BGLFT) | 1101 001Xb    |
| DDRII DIMM0                         | 1010 0100b A4 |
| DDRII DIMM1                         | 1010 0110b A6 |

| 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     | HIGH    | ON    | OFF | OFF | OFF   |
| S5 (Soft OFF)        | LOW     | LOW     | ON    | OFF | OFF | OFF   |

Board ID Table for AD channel

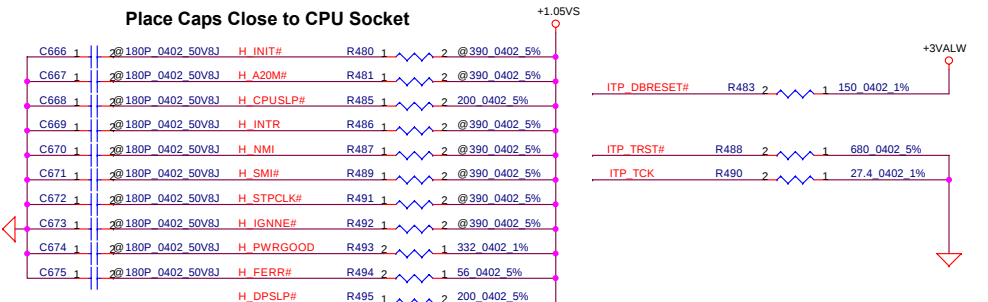
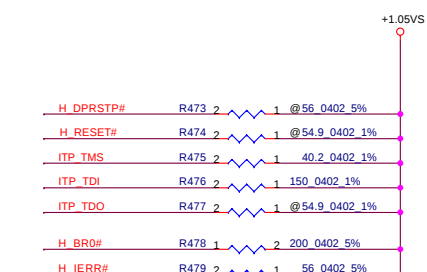
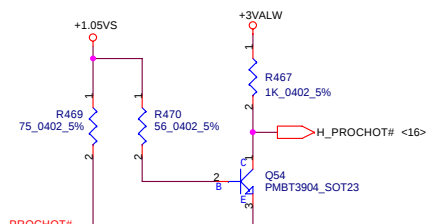
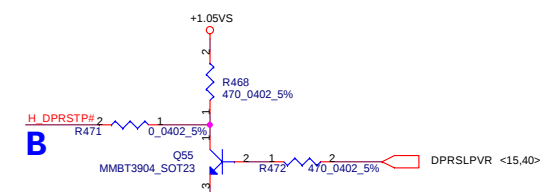
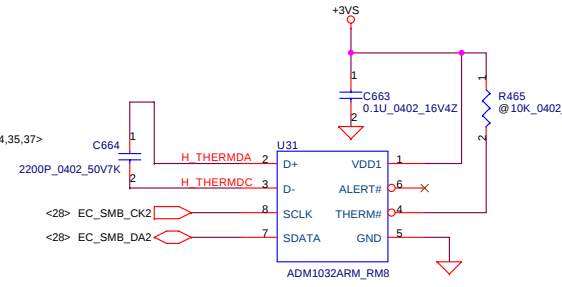
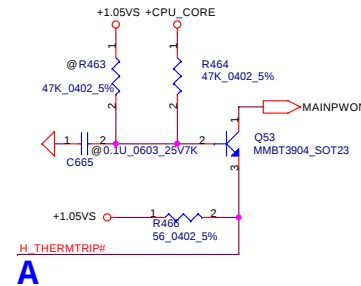
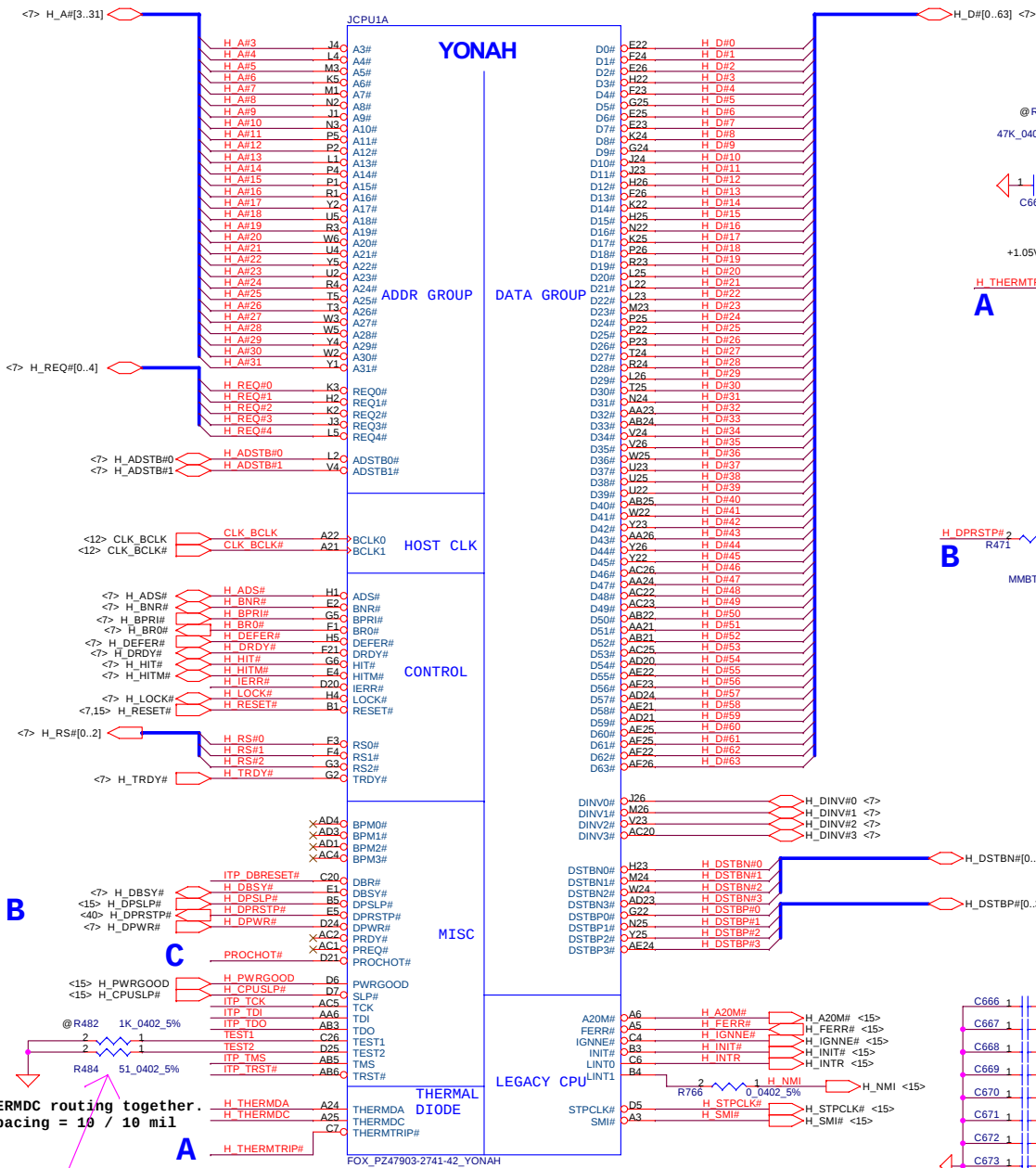
|          |             |             |             |             |
|----------|-------------|-------------|-------------|-------------|
| Vcc      | 3.3V +/- 5% |             |             |             |
| Ra/Rc    | 100K +/- 5% |             |             |             |
| Board ID | Rb / Rd     | 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     |

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

| SKU ID | PCB Revision |
|--------|--------------|
| 0      | —            |
| 1      | SKU 1        |
| 2      | SKU 2        |
| 3      | SKU 3        |
| 4      | SKU 4(JP)    |
| 5      | SKU 5        |
| 6      |              |
| 7      |              |

| BTN ID | BTN Status |
|--------|------------|
| 0      | 1 Buttons  |
| 1      |            |
| 2      |            |
| 3      |            |
| 4      | 6 Buttons  |
| 5      |            |
| 6      |            |
| 7      |            |

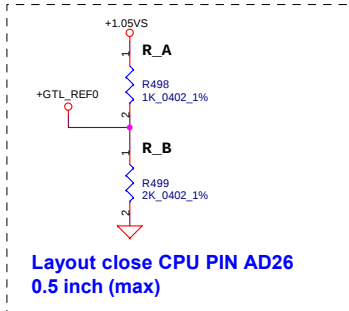
| BTO Function | BOM structure |
|--------------|---------------|
| 1394         | 1394@         |
| Wireless LAN | WLAN@         |
| TV-OUT       | TVOUT@        |
| TPM          | TPM@          |
|              |               |
|              |               |
|              |               |



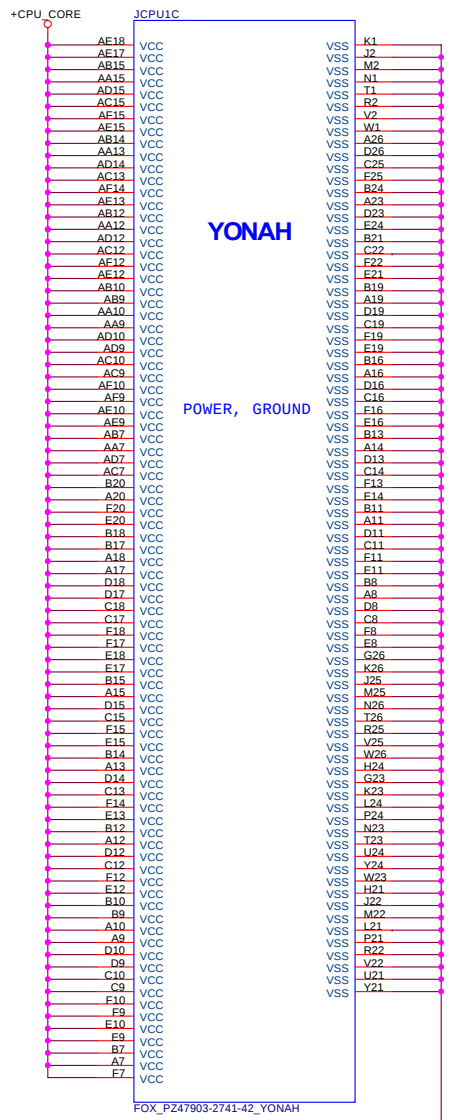
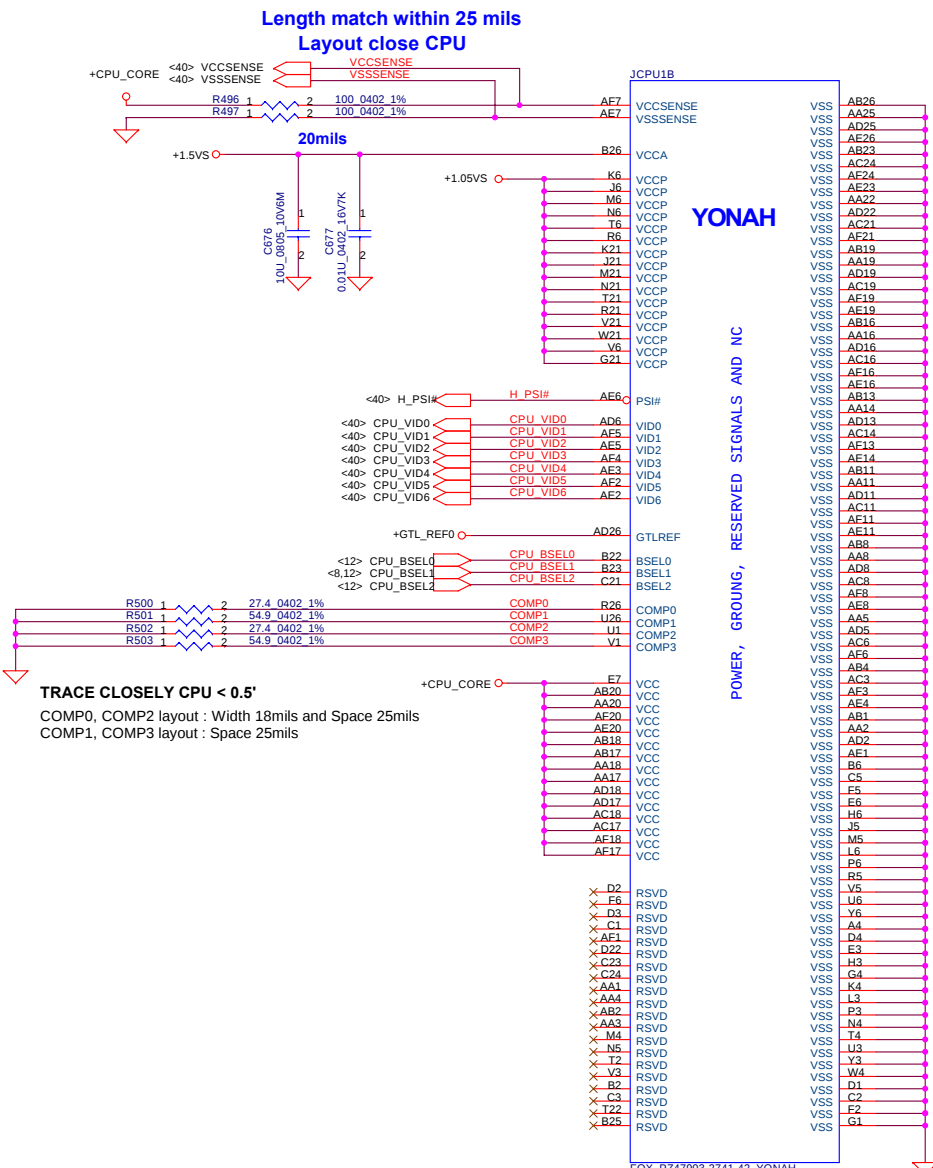
H\_THERMDA, H\_THERMDC routing together.  
Trace width / Spacing = 10 / 10 mil

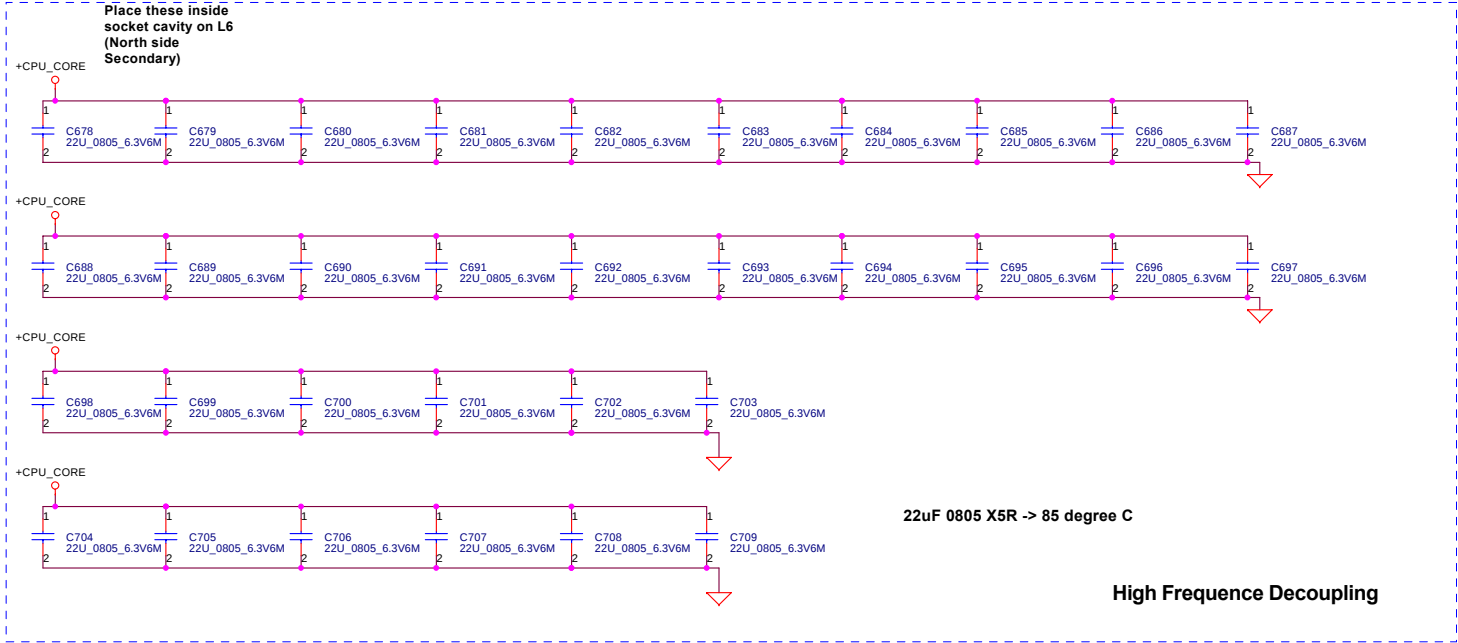
For B-0 stepping engineering samples (ES) of Celeron M processor need to pop this 51 ohm resistor.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |                    |            |                            |                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------|------------|----------------------------|-------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 | Compal Secret Data |            | Compal Electronics, Inc.   |                   |
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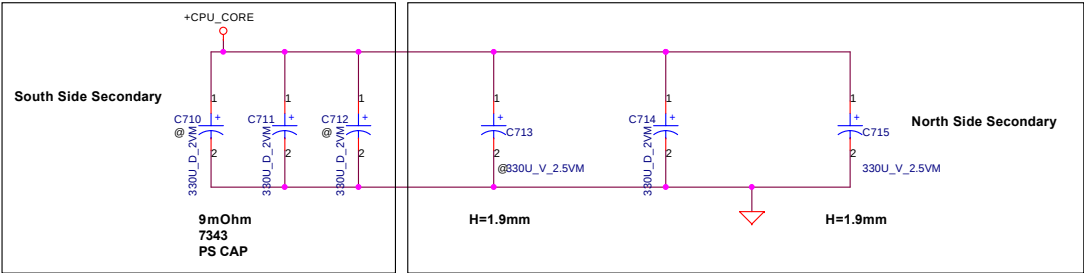


| CPU_BSEL | CPU_BSEL0 | CPU_BSEL1 | CPU_BSEL2 |
|----------|-----------|-----------|-----------|
| 133      | 0         | 0         | 1         |
| 166      | 0         | 1         | 1         |

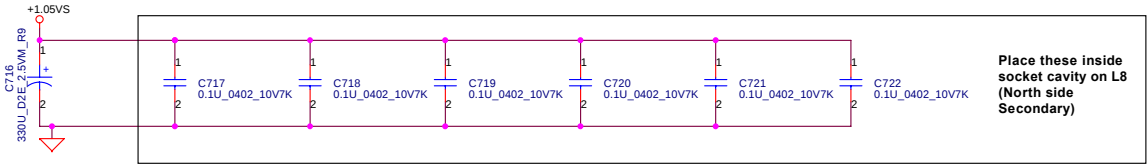




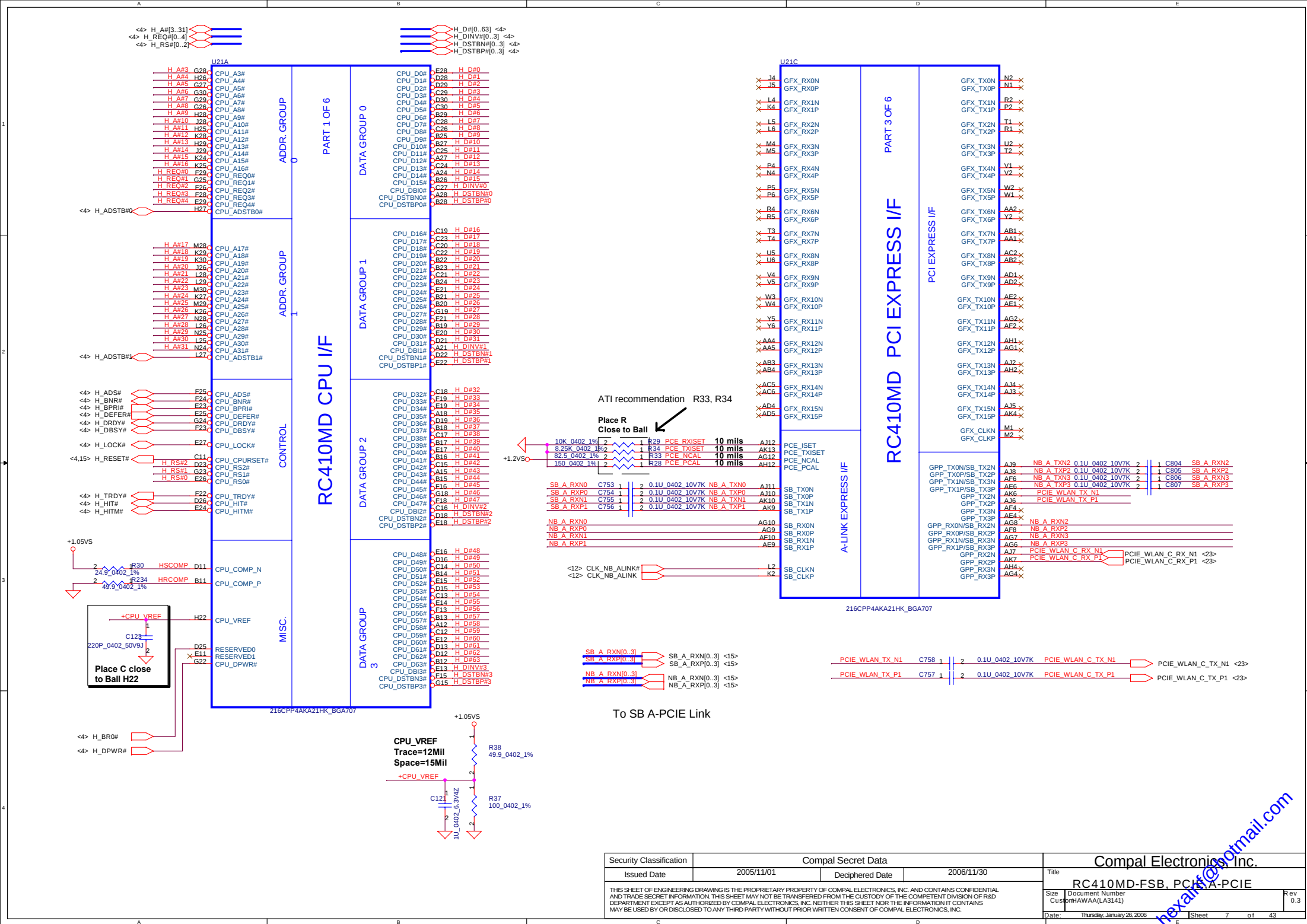
Near VCORE regulator.

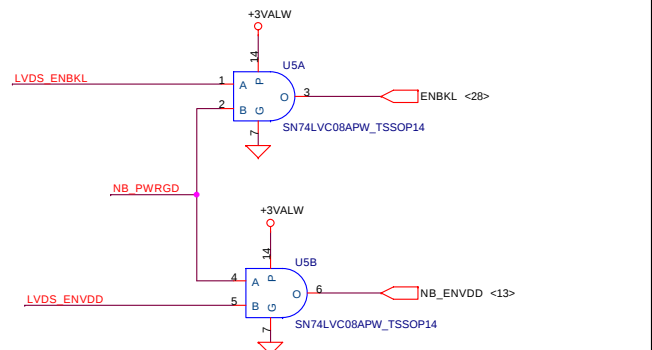
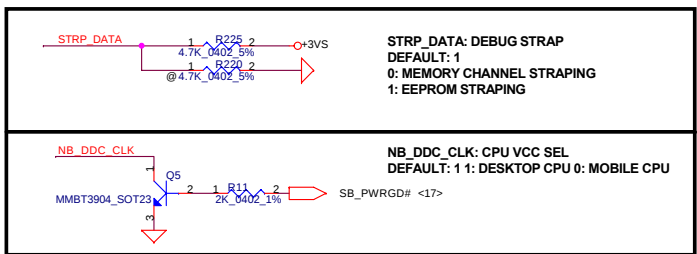
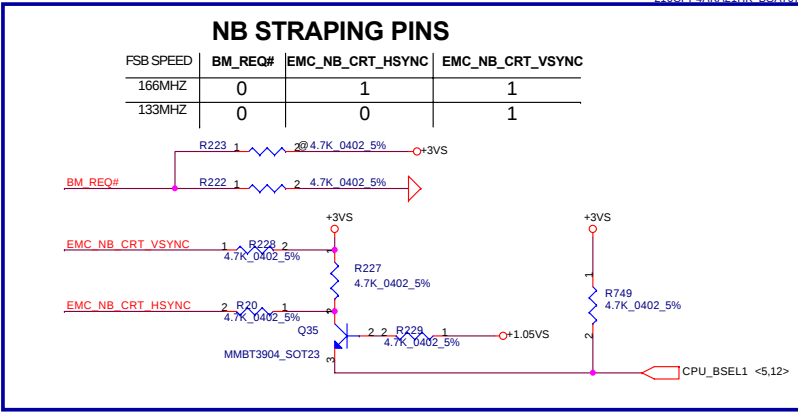
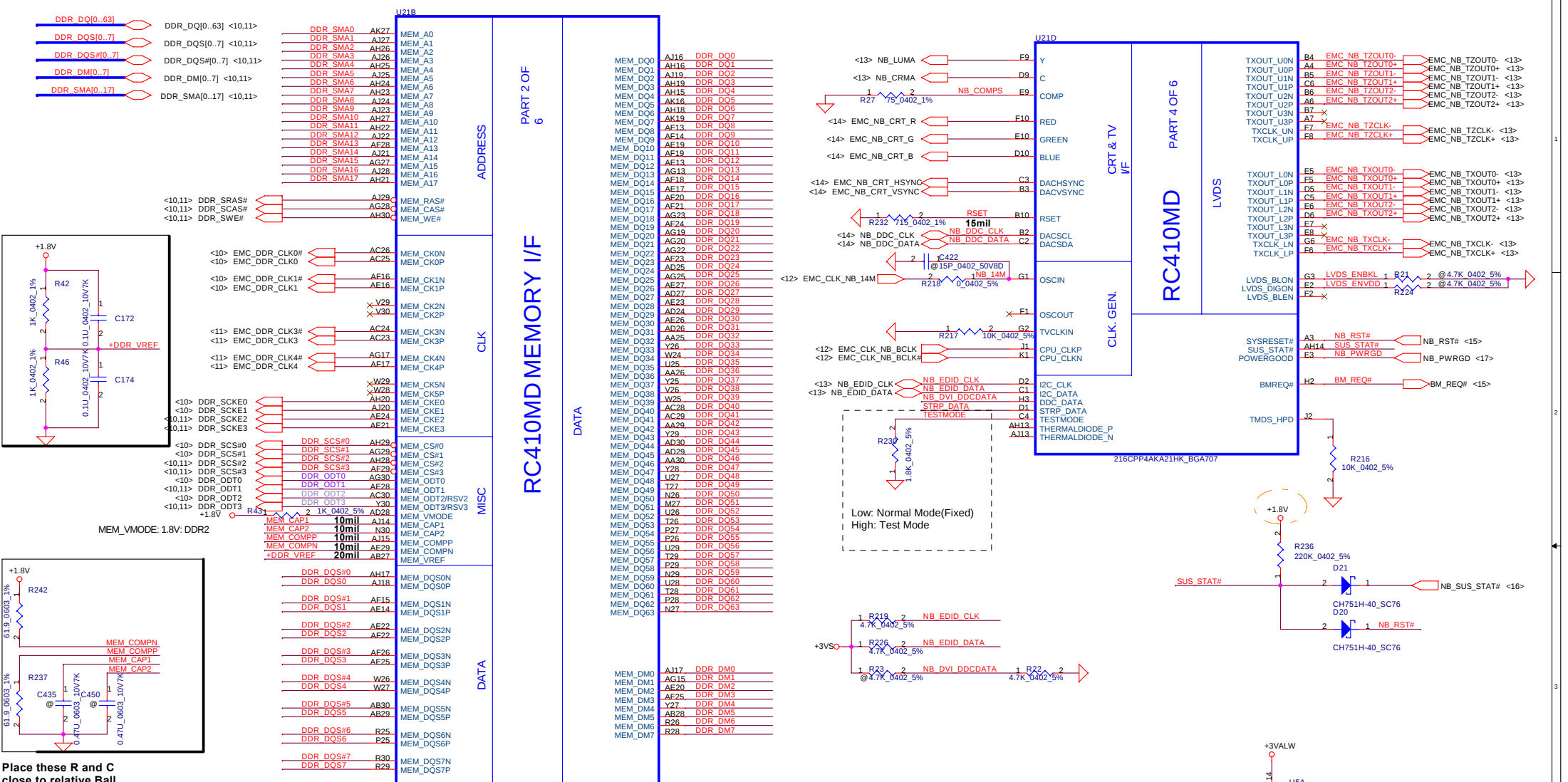


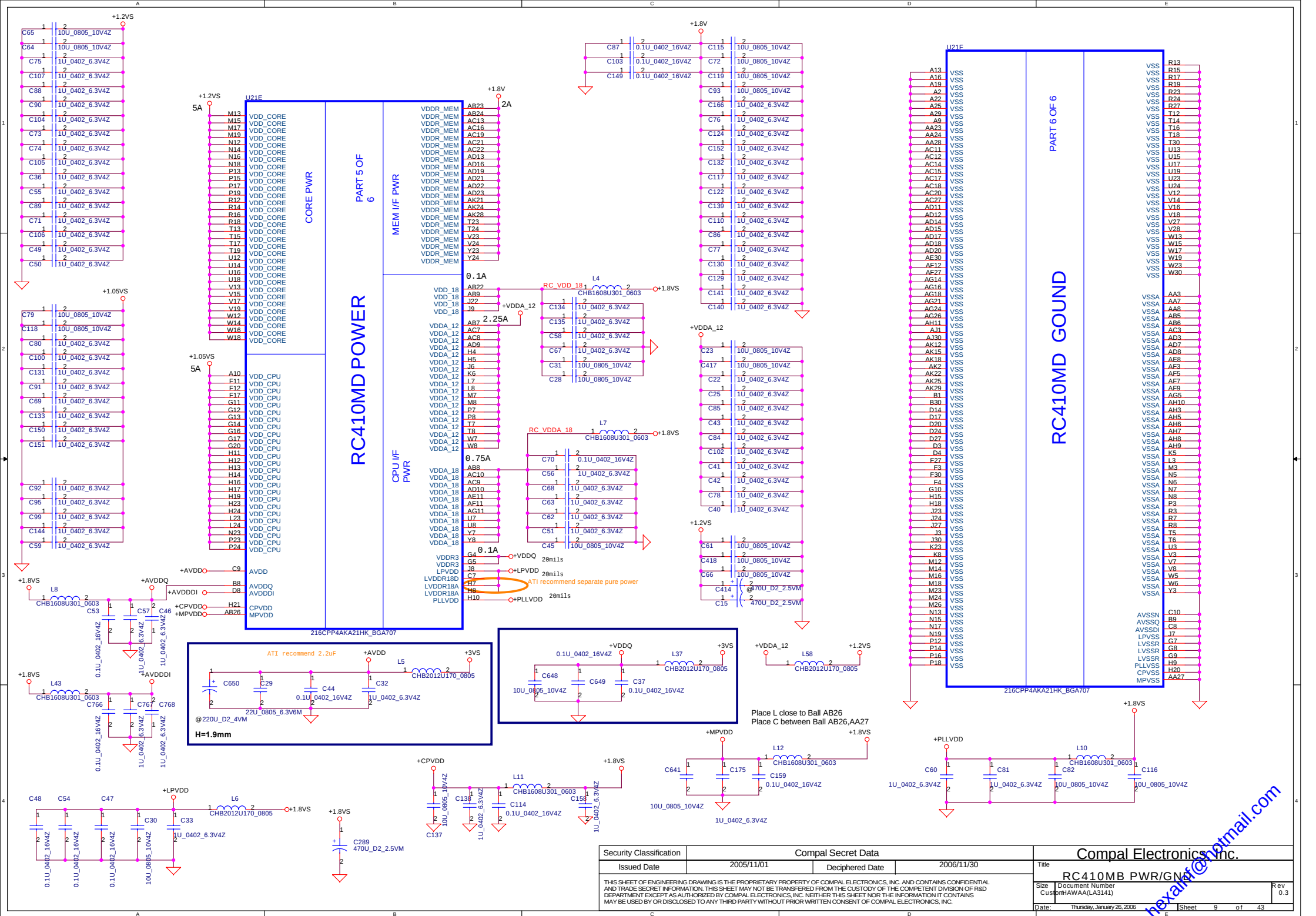
ESR <= 1.5m ohm  
Capacitor > 1980uF



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                          |                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|----------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                            |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Sheet                    | 6 of 43                    |







Layout Note:  
Place near JDIM1

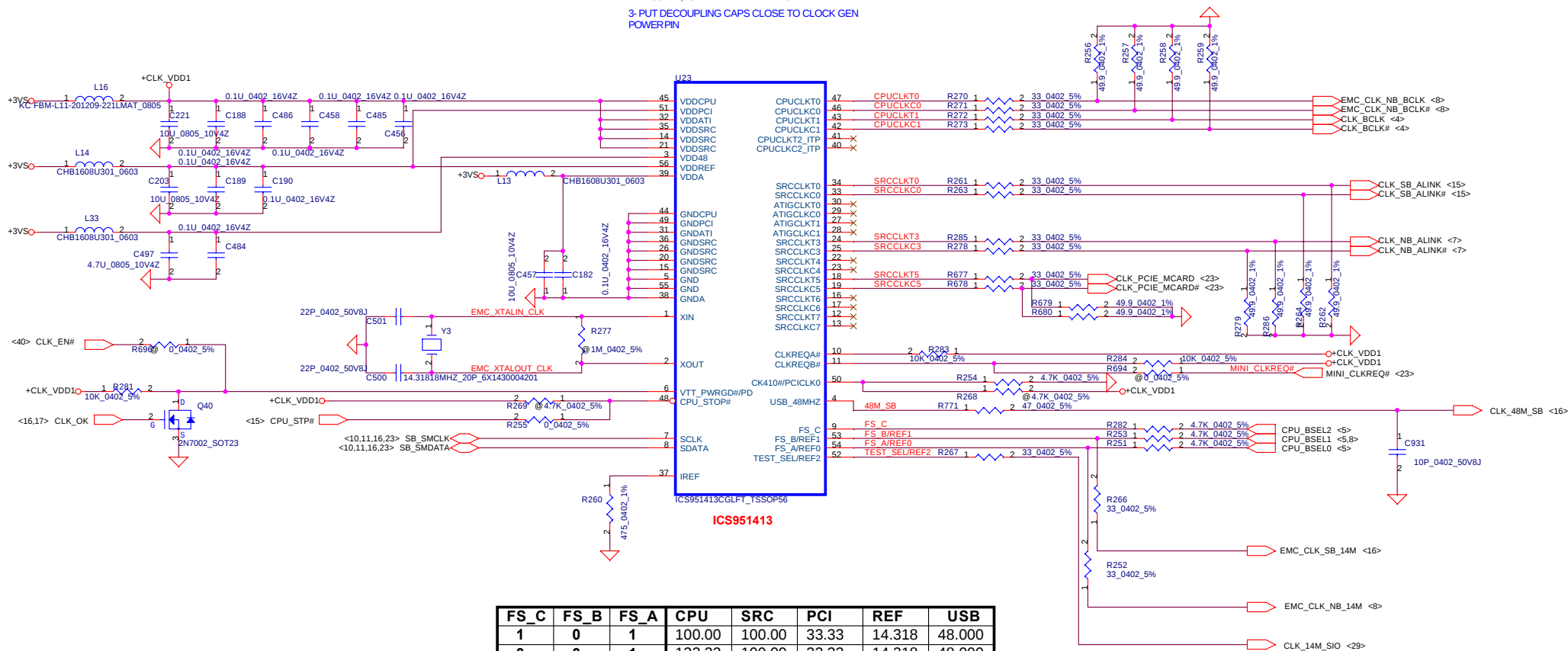
Layout Note:  
Place one cap close to every 2 pullup  
resistors terminated to V\_DDR\_MCH\_REF

Layout Note:  
Every four parallel termination resistors with two caps,  
one is connected to ground, the other one is connected  
between +1.8V and +0.9VS. Need to place each parallel  
resistor with one cap to GND and one cap between  
+1.8V and +0.9VS



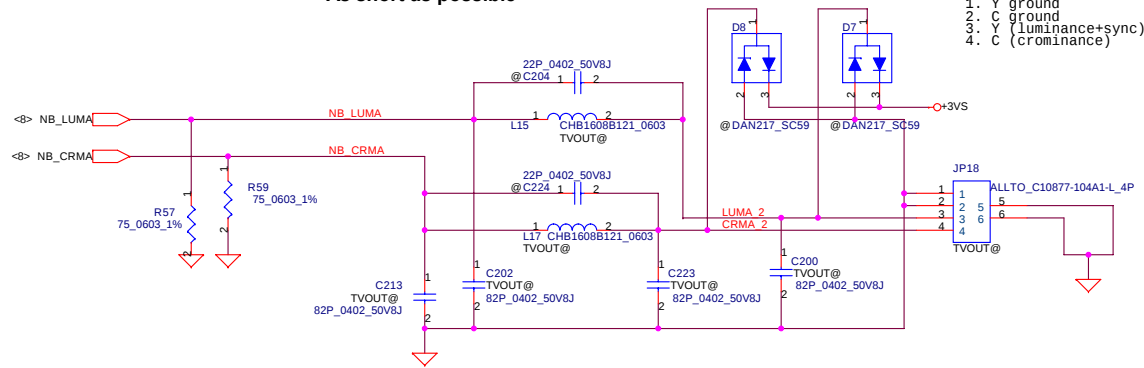
# Clock Generator

- 1- PLACE ALL THE SERIES TERMINATION RESISTORS AS CLOSE TO CLOCK GEN AS POSSIBLE
- 2- ROUTE ALL CPUCLK/#, NBCLK/#, ITPCLK/# AND SCR/# AS DIFFERENT PAIR RULE
- 3- PUT DECOUPLING CAPS CLOSE TO CLOCK GEN POWERPIN

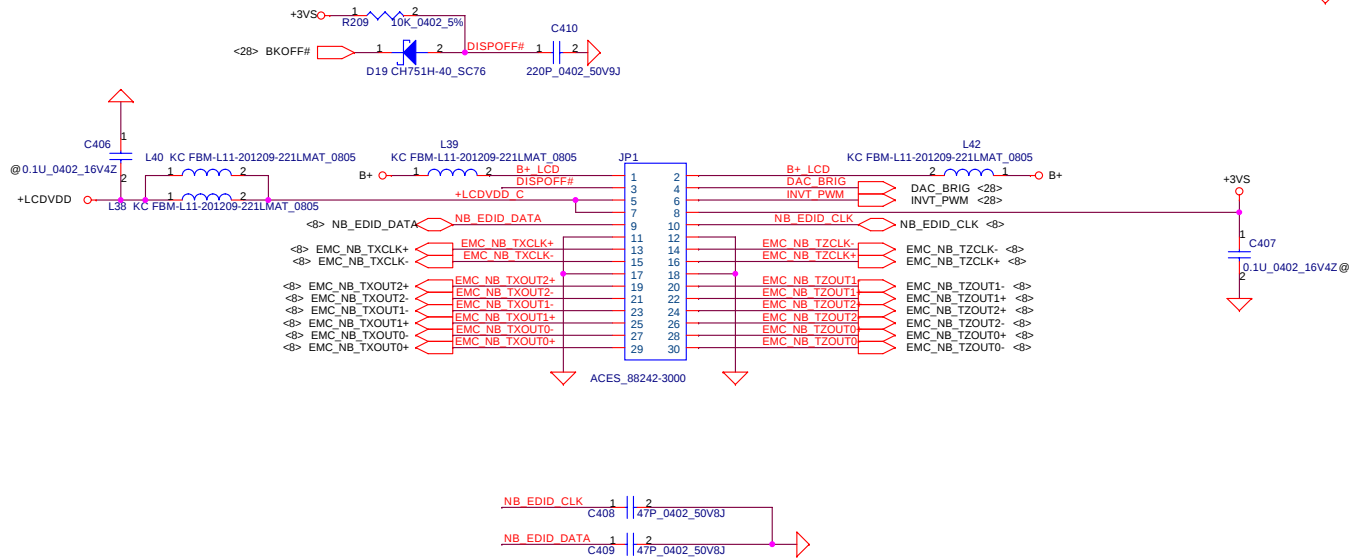


## TV-OUT CONNECTOR

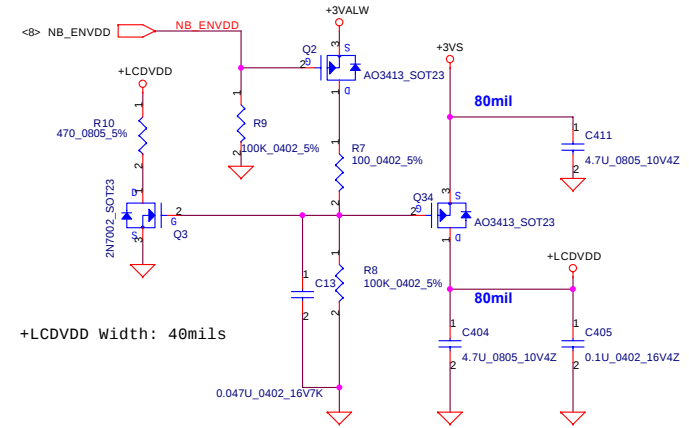
Reduce LUMA\_1 and CRMA\_1 length  
As short as possible



## LCD/PANEL BD. Conn.

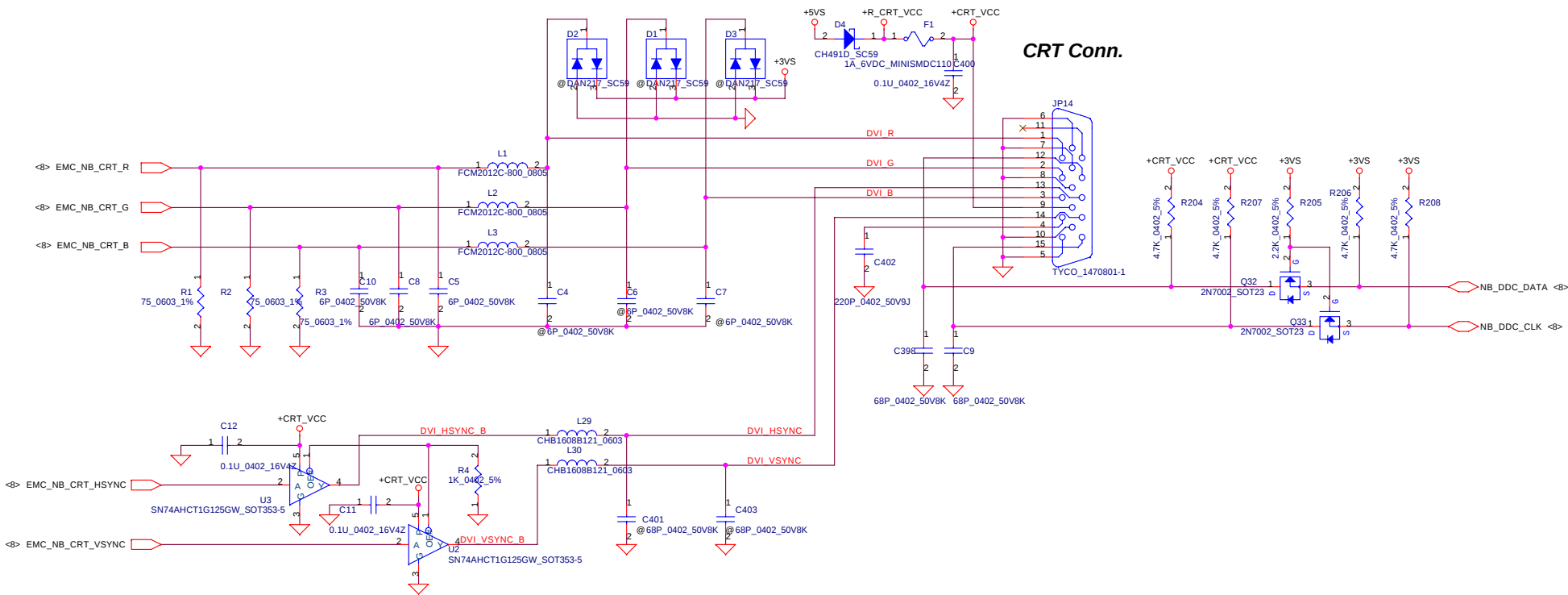


## PANEL +LCDVDD CTRL CKT

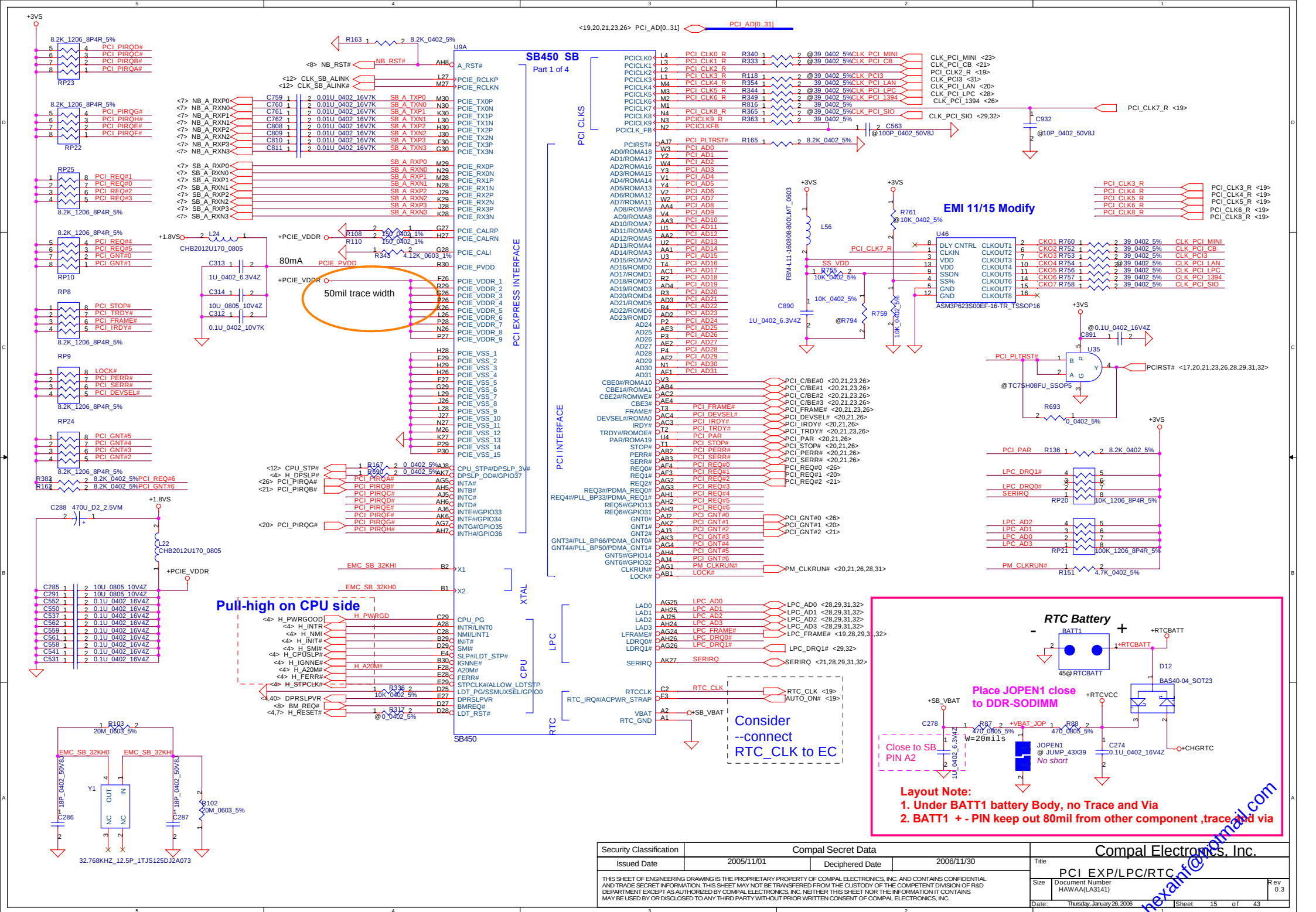


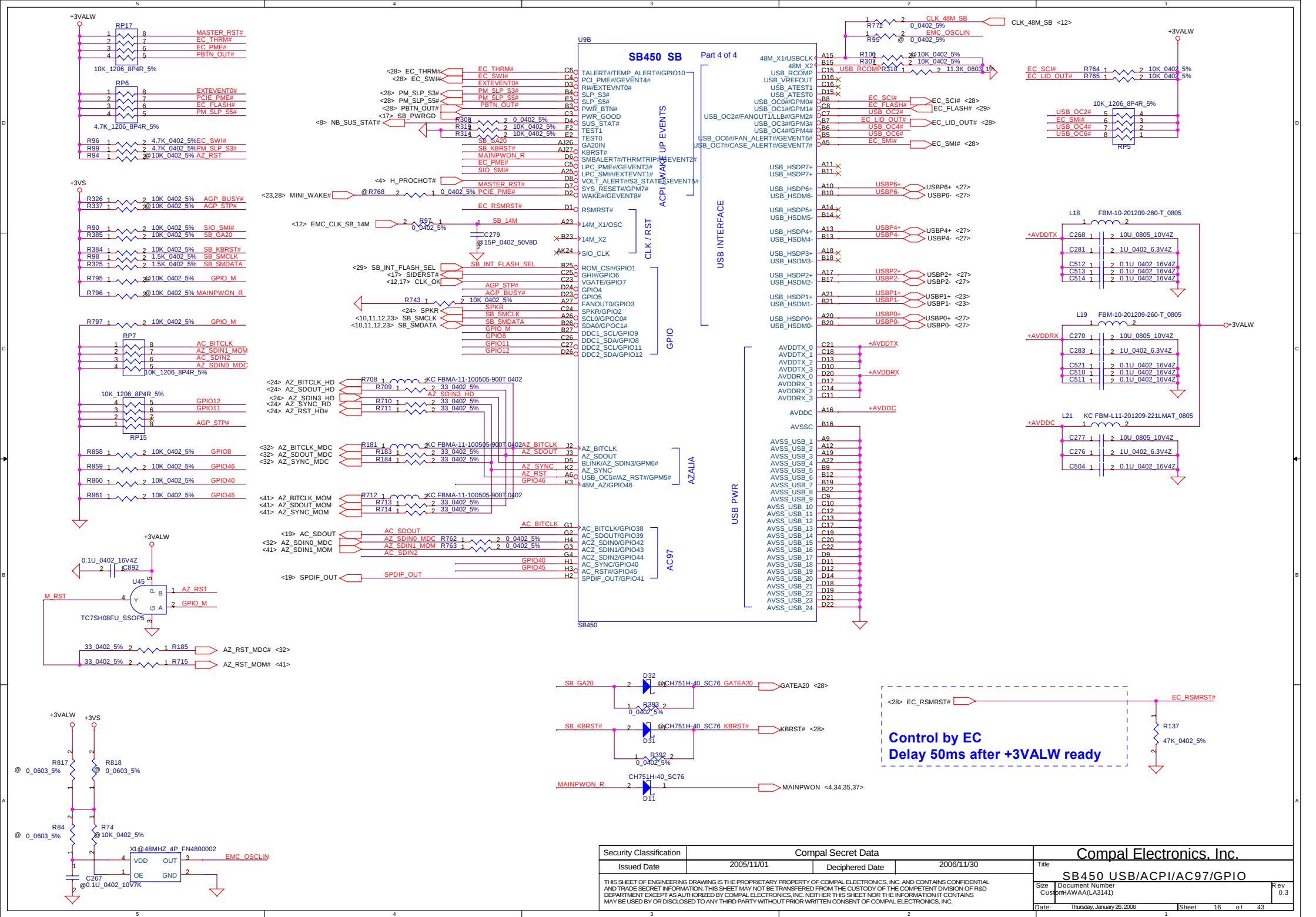
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data         |                 |            | Compal Electronics, Inc. |                                                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2005/11/01                 | Deciphered Date | 2006/11/30 | Title                    | TV-OUT, LVDS CONNECTOR                         |
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| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Thursday, January 26, 2006 | Sheet           | 13         | of                       | 43                                             |

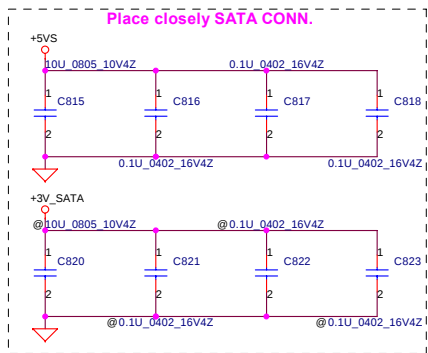
CRT CONNECTOR



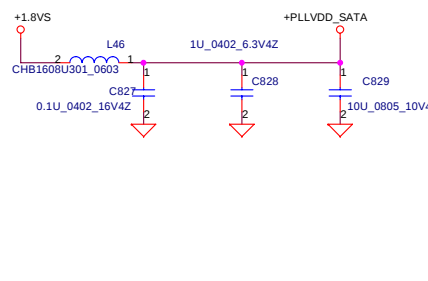
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | Document Number            |            |                          | Rev   |
| Customer                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            | pmHAWAA(LA3141)            |            |                          | 0.3   |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            | Thursday, January 26, 2006 | Sheet      | 14                       | of 43 |



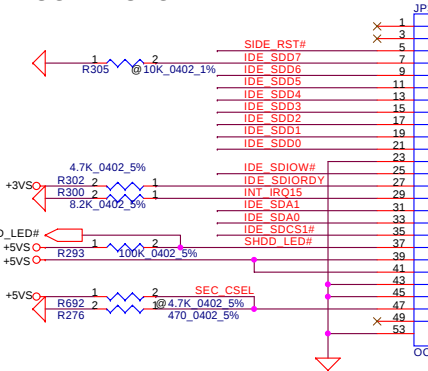


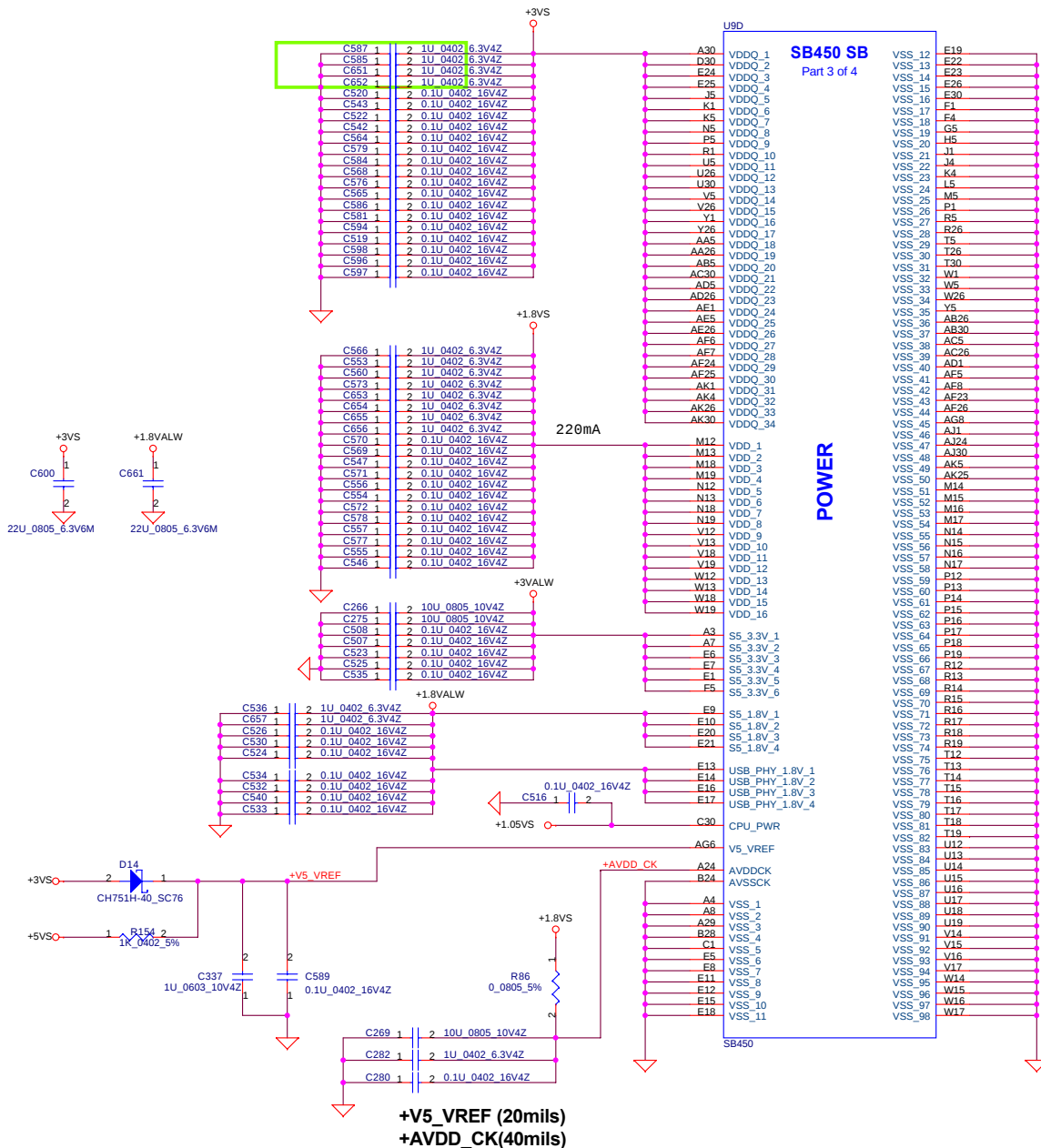


## SATA HDD CONNECTOR



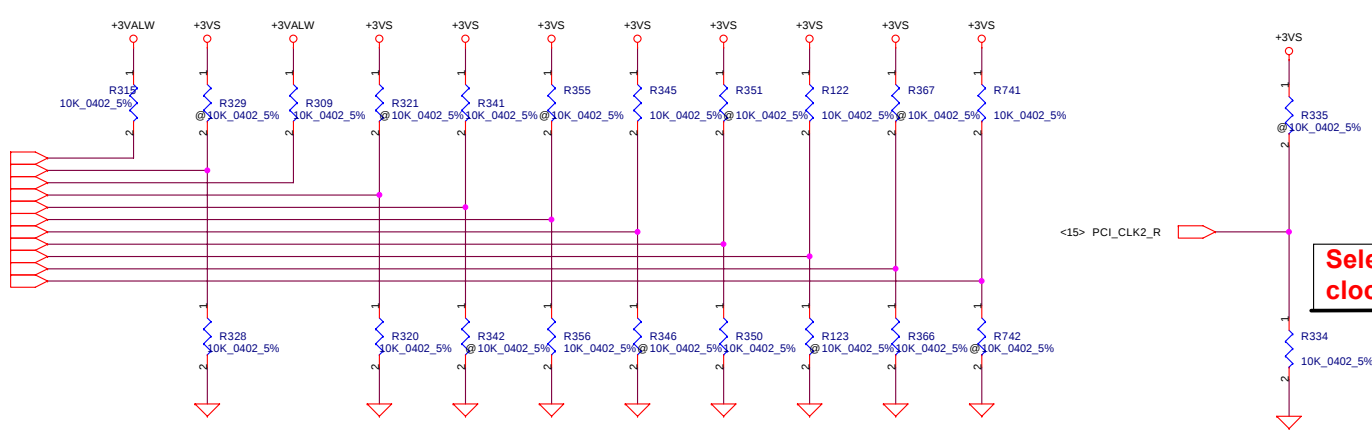
## ODD CONNECTOR





|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|----------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                            |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date                     | Thursday, January 26, 2006 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 18 of 43                   |

<15> AUTO\_ON#  
<16> AC\_SDOOUT  
<15> RTC\_CLK  
<16> SPDIF\_OUT  
<15> PCI\_CLK3\_R  
<15> PCI\_CLK4\_R  
<15> PCI\_CLK5\_R  
<15> PCI\_CLK6\_R  
<15> PCI\_CLK7\_R  
<15> PCI\_CLK8\_R  
<15,28,29,31,32> LPC\_FRAME#

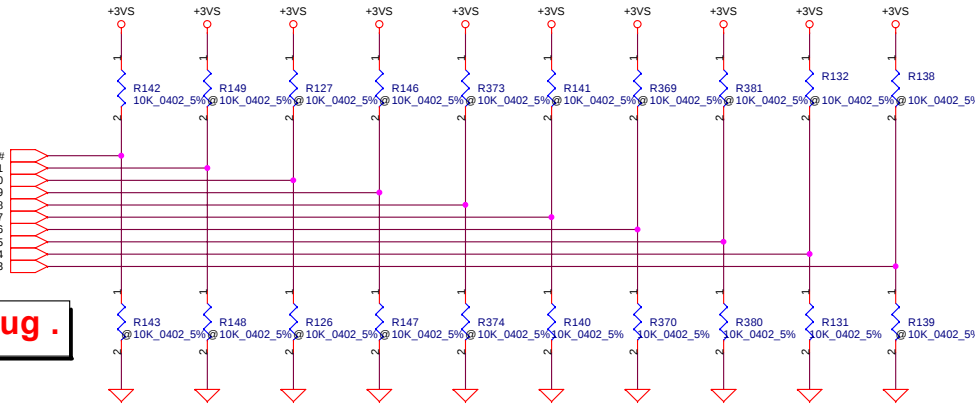


## REQUIRED STRAPS



|           | AUTO_ON#                 | AC97_SDOOUT                    | RTC_CLK                                            | SPDIF_OUT                         | CLK_PCI3                           | CLK_PCI4                  | CLK_PCI5                             | PCI_CLK6                | PCI_CLK7                                                                          | PCI_CLK8 | LFRAME#                      | CLK_PCI2                      |
|-----------|--------------------------|--------------------------------|----------------------------------------------------|-----------------------------------|------------------------------------|---------------------------|--------------------------------------|-------------------------|-----------------------------------------------------------------------------------|----------|------------------------------|-------------------------------|
| PULL HIGH | MANUAL PWR ON<br>DEFAULT | USE DEBUG STRAPS               | INTERNAL RTC<br>DEFAULT                            | PU for 48Mhz XTAL mode<br>DEFAULT | USB PHY PWRDOWN DISABLE<br>DEFAULT | Internal PLL              | PCIE AUTO detect<br>DEFAULT          | CPU I/F = K8<br>DEFAULT | ROM TYPE<br>H,H = PCI ROM<br>H,L = LPC ROM I<br>L,H = LPC ROM II<br>L,L = FWH ROM |          | THERMTRIP# ENABLE<br>DEFAULT | Crystal Pad                   |
| PULL LOW  | AUTO PWR ON              | IGNORE DEBUG STRAPS<br>DEFAULT | EXTERNAL RTC (NOT SUPPORTED W/ IT8712 )<br>DEFAULT | 48M OSC mode<br>DEFAULT           | USB PHY PWRDOWN ENABLE             | External Clock<br>DEFAULT | Forcing PCIE to 2 lanes (debug only) | CPU I/F = P4<br>DEFAULT |                                                                                   |          | THERMTRIP# DISABLE           | Clock input buffer<br>DEFAULT |

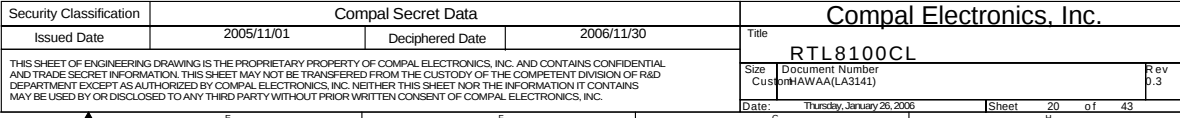
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<15,20,21,26> PCI\_AD30  
<15,20,21,26> PCI\_AD29  
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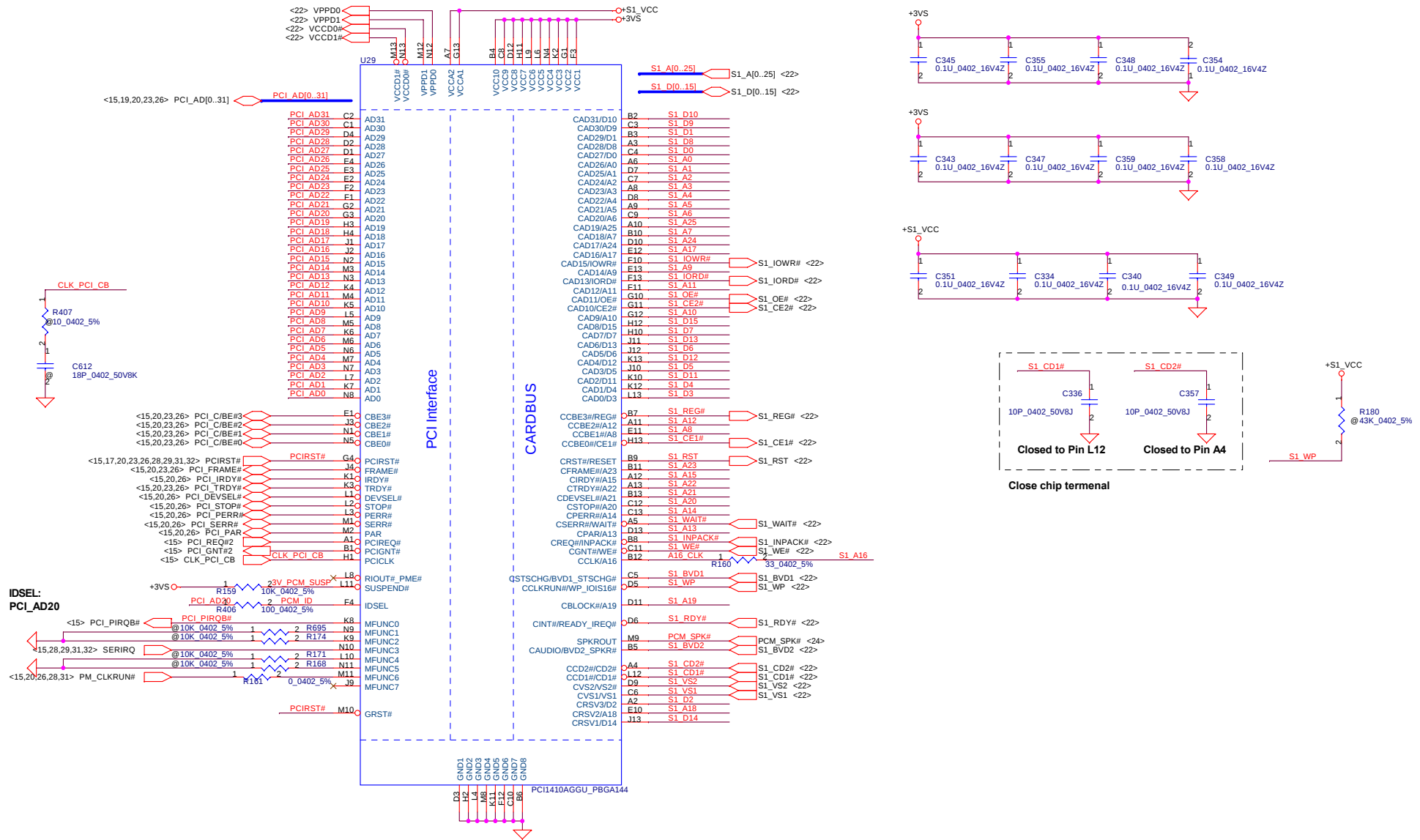


Pop R634 when debug .

## DEBUG STRAPS

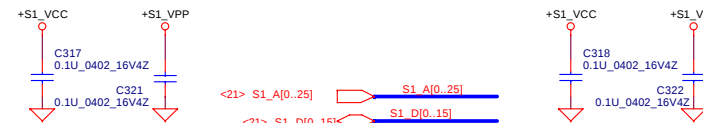
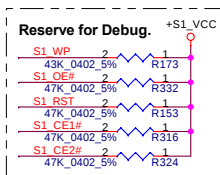
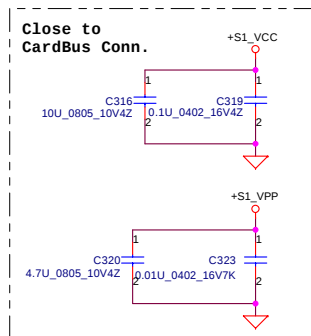
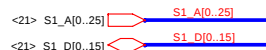
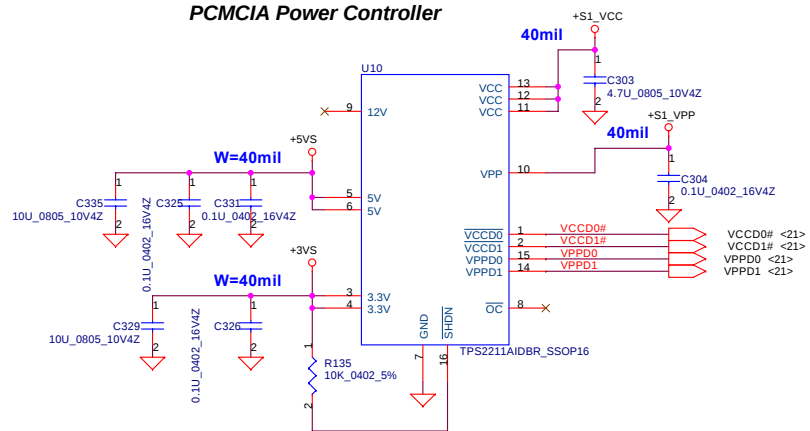
|           | IDE_PDDACK#               | PCI_AD31 | PCI_AD30 | PCI_AD29 | PCI_AD28 | PCI_AD27               | PCI_AD26                 | PCI_AD25               | PCI_AD24                           | PCI_AD23 |
|-----------|---------------------------|----------|----------|----------|----------|------------------------|--------------------------|------------------------|------------------------------------|----------|
| PULL HIGH | USE LONG RESET<br>DEFAULT | Reserved | Reserved | Reserved | Reserved | BYPASS PCI PLL         | BYPASS ACPI BCLK         | BYPASS IDE PLL         | USE EEPROM PCIE STRAPS             | Reserved |
| PULL LOW  | USE SHORT RESET           |          |          |          |          | USE PCI PLL<br>DEFAULT | USE ACPI BCLK<br>DEFAULT | USE IDE PLL<br>DEFAULT | USE DEFAULT PCIE STRAPS<br>DEFAULT |          |



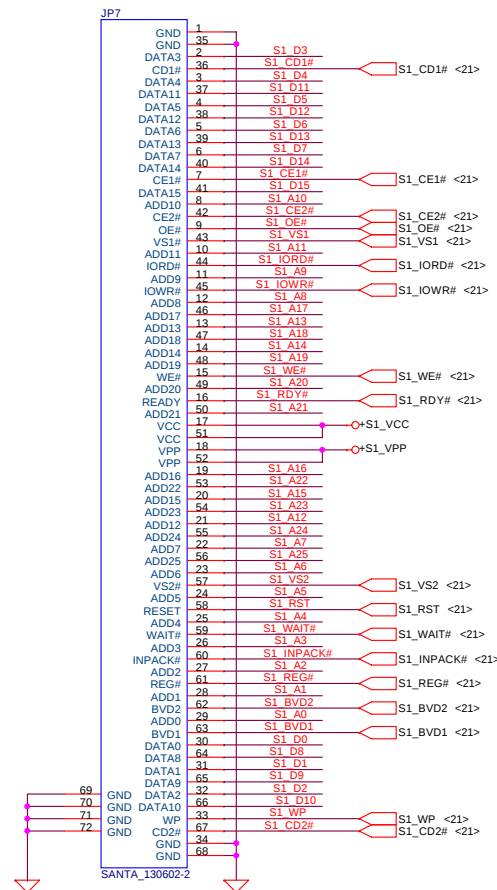


|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                 |                         |                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|-------------------------|----------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                        | Compal Secret Data |                 | Compal Electronics Inc. |                                  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2005/11/01         | Deciphered Date | 2006/11/30              | Title                            |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                 |                         | Size Document Number             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                 |                         | Customer HAWAII (LA3141)         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                 |                         | Rev 0.3                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                 |                         | Date: Thursday, January 26, 2006 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                 |                         | Sheet 21 of 43                   |

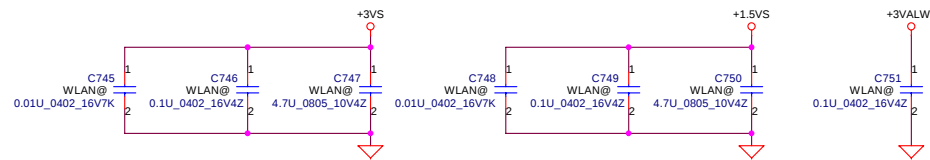
### PCMCIA Power Controller



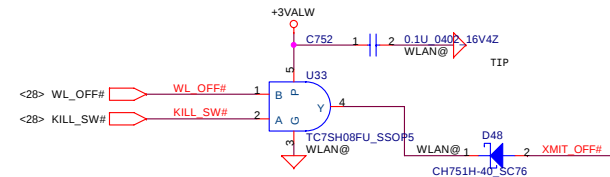
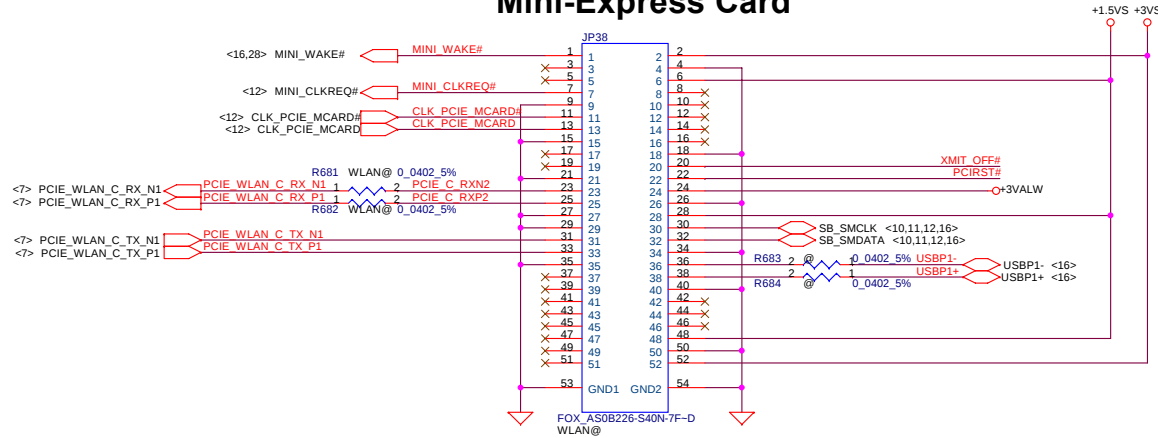
## CardBus Socket



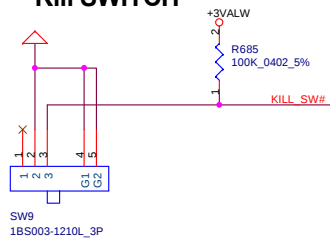
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                            |                 |     |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2005/11/01 | Deciphered Date    | 2006/11/30 | Title                    | CARD BUS SOCKET            |                 |     |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | CUSTOMER                 |                            | 14A4AA(L) (R&D) | 0.3 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                    | Thursday, January 26, 2006 | Sheet           | 22  |



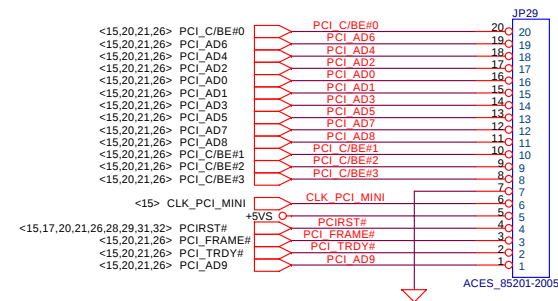
## Mini-Express Card



## Kill SWITCH



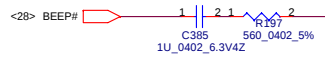
## Port 80 Debug Card Connector



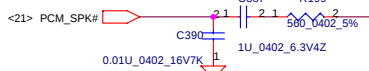
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|--------------------------|----------------------------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 | Compal Electronics, Inc. |                                                    |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2005/11/01         | Deciphered Date | 2006/11/30               | Title                                              |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          | Size : Document Number<br>Customer : MAWAA(LA3141) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          | Rev : 0.3                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          | Date : Thursday, January 26, 2006                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          | Sheet : 23 of 43                                   |

hexainf@hmail.com

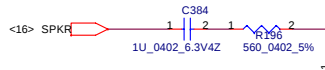
## EC Bleep



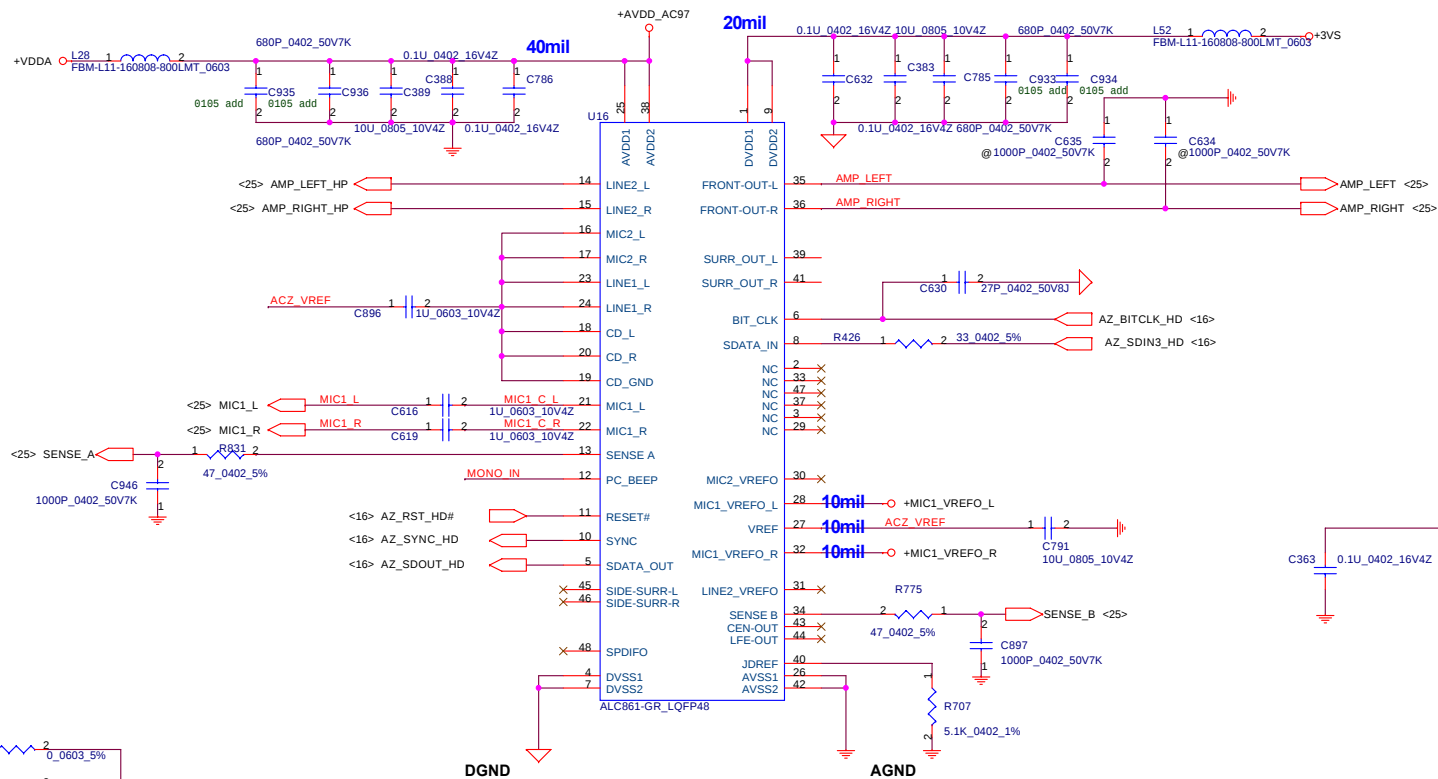
## CardBus Bleep



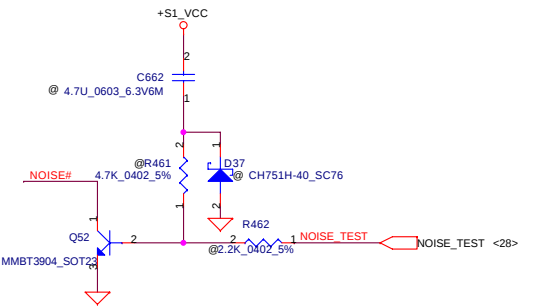
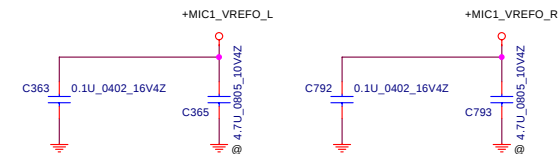
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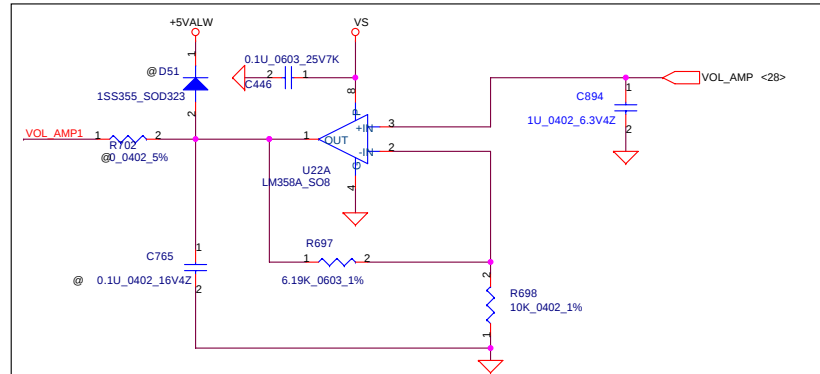
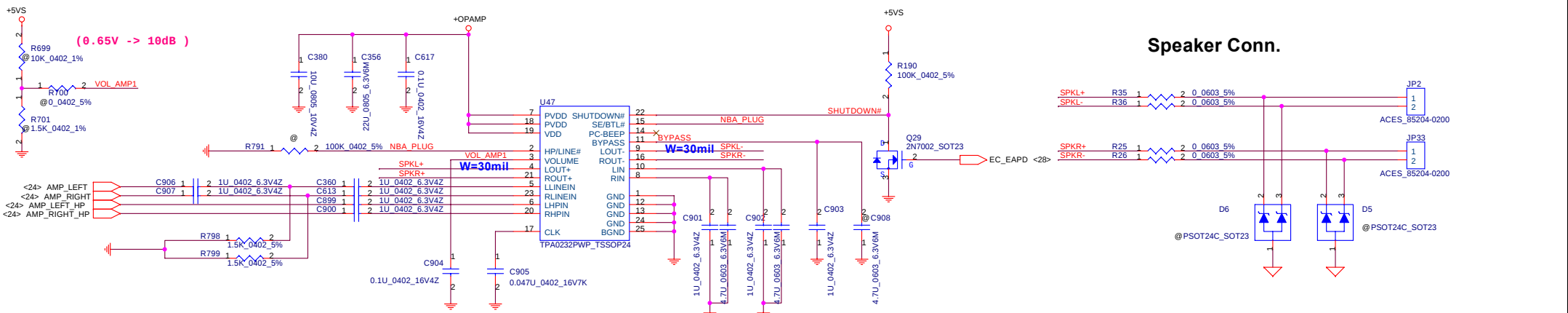
## HD Audio Codec



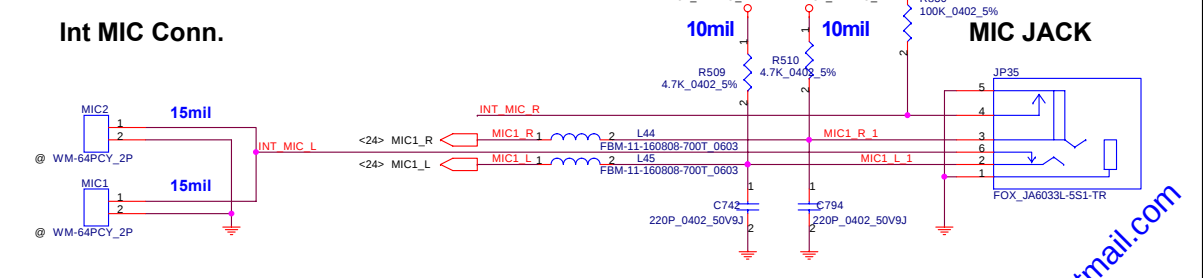
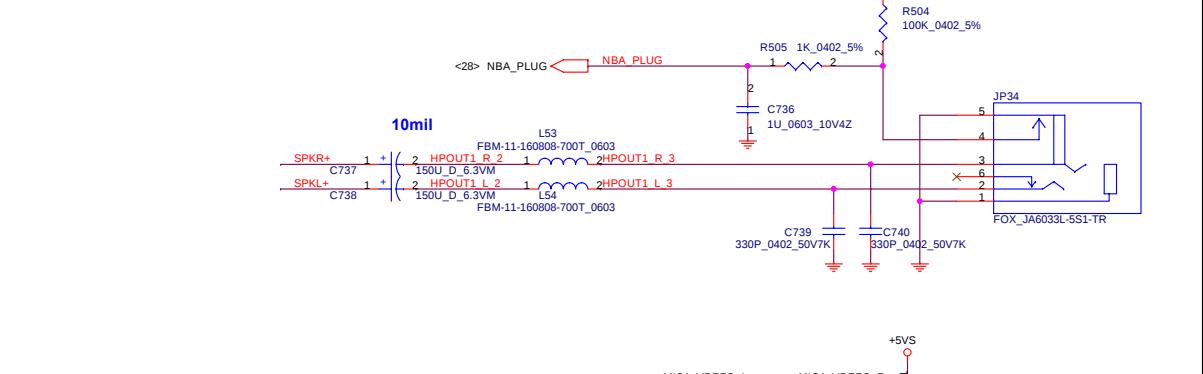
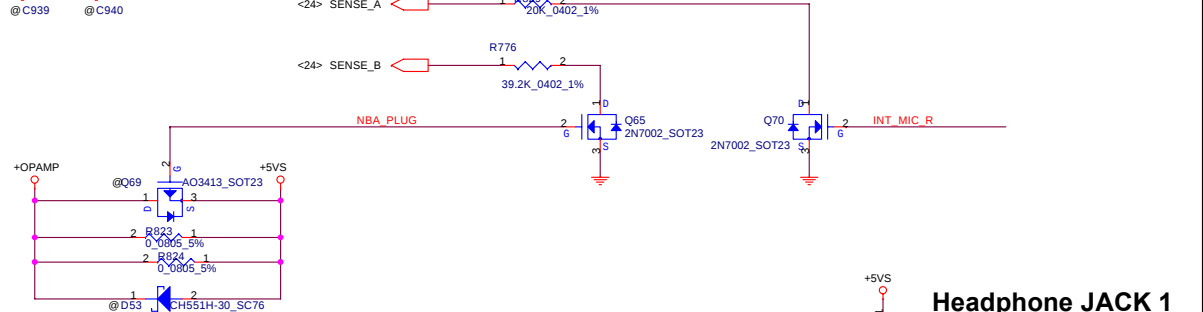
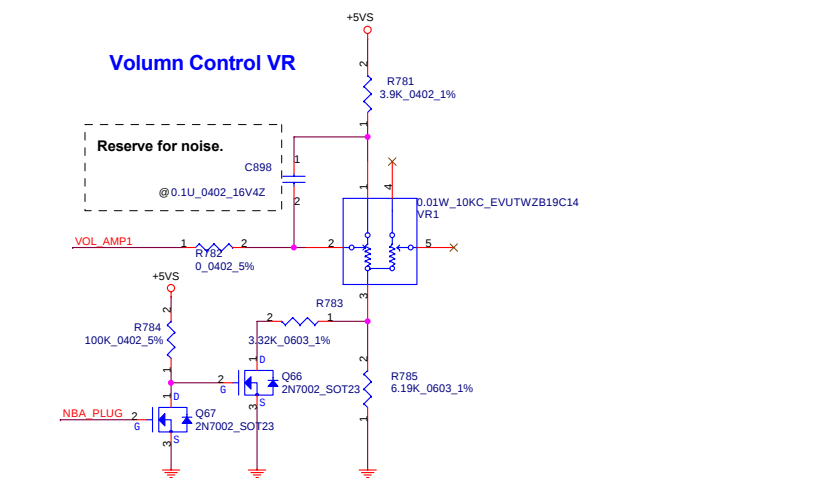
## Analog Reference V



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|----------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                            |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2005/11/01 | Deciphered Date    | 2006/11/30 | Title                    | HD Audio Codec ALC861      |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Custom                   | HAWAA(LA3141)              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                    | Thursday, January 26, 2006 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 24 of 43                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev                      | 0.3                        |



| Gain Settings |    |            |
|---------------|----|------------|
|               | dB | VOL_AMP    |
| SPK           | 10 | 0.4V~2.5V  |
| HP            | -6 | 0.75V~2.5V |



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IDSEL:PCI\_AD16

PCI\_AD16 1 R830 2 1394 IDSEL  
1394@100\_0402\_5%

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<15> PCI\_REQ#0  
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CLK\_PCI 1394

R846 2  
@10\_0402\_5%

C967 2  
@10P\_0402\_50V8K

1394@220\_0402\_5%

1394@220\_0402\_5%

1394@220\_0402\_5%

TSB43AB21  
(TSB43AB22)

PCI BUS INTERFACE

BIAS CURRENT

OSCILLATOR

FILTER

EEPROM 2 WIRE BUS

POWER CLASS

PHY PORT 1

TEST9  
TEST8  
TEST3  
TEST2  
TEST1  
TEST0

TEST9  
TEST8  
TEST3  
TEST2  
TEST1  
TEST0

TEST9  
TEST8  
TEST3  
TEST2  
TEST1  
TEST0

TEST9  
TEST8  
TEST3  
TEST2  
TEST1  
TEST0

TEST9  
TEST8  
TEST3  
TEST2  
TEST1  
TEST0

TEST9  
TEST8  
TEST3  
TEST2  
TEST1  
TEST0

TEST9  
TEST8  
TEST3  
TEST2  
TEST1  
TEST0

TEST9  
TEST8  
TEST3  
TEST2  
TEST1  
TEST0

TEST9  
TEST8  
TEST3  
TEST2  
TEST1  
TEST0

TEST9  
TEST8  
TEST3  
TEST2  
TEST1  
TEST0

TEST9  
TEST8  
TEST3  
TEST2  
TEST1  
TEST0

TEST9  
TEST8  
TEST3  
TEST2  
TEST1  
TEST0

TEST9  
TEST8  
TEST3  
TEST2  
TEST1  
TEST0

TEST9  
TEST8  
TEST3  
TEST2  
TEST1  
TEST0

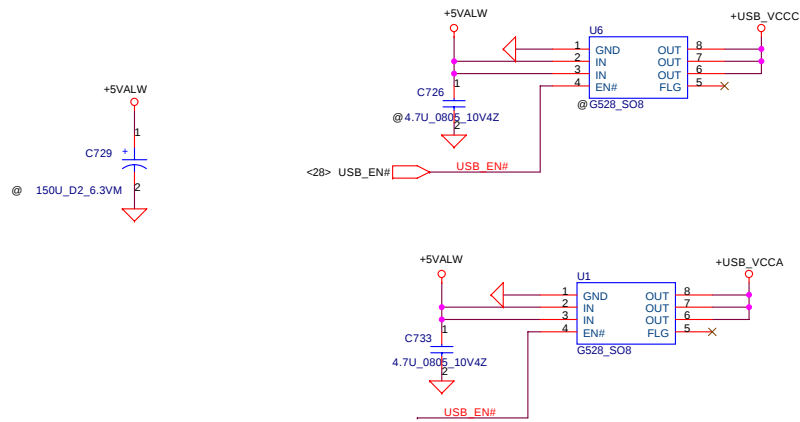
TEST9  
TEST8  
TEST3  
TEST2  
TEST1  
TEST0

TEST9  
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TEST3  
TEST2  
TEST1  
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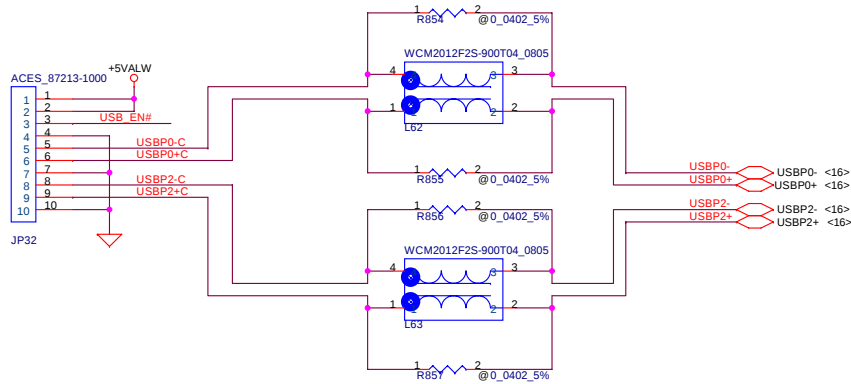
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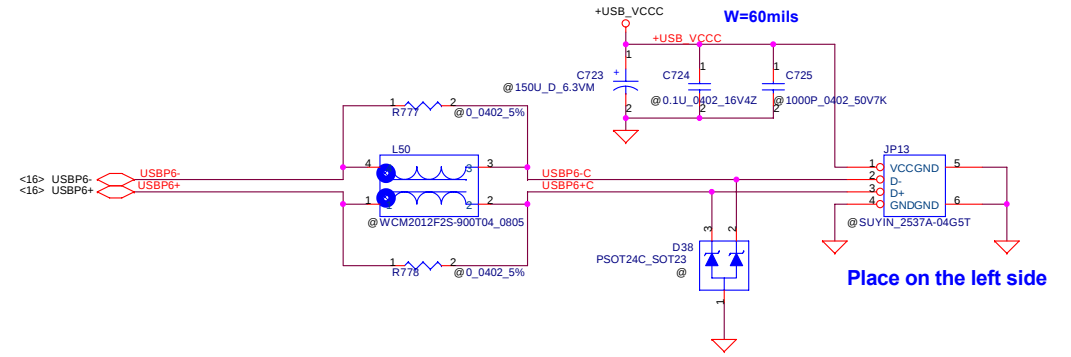
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                        | Compal Secret Data         |                 | Compal Electronics, Inc. |           |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2005/11/01                 | Deciphered Date | 2006/11/30               | Title     |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Document Number            | Customer        | Rev                      | 0.3       |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Thursday, January 26, 2006 | Sheet           | 26                       | of 43     |



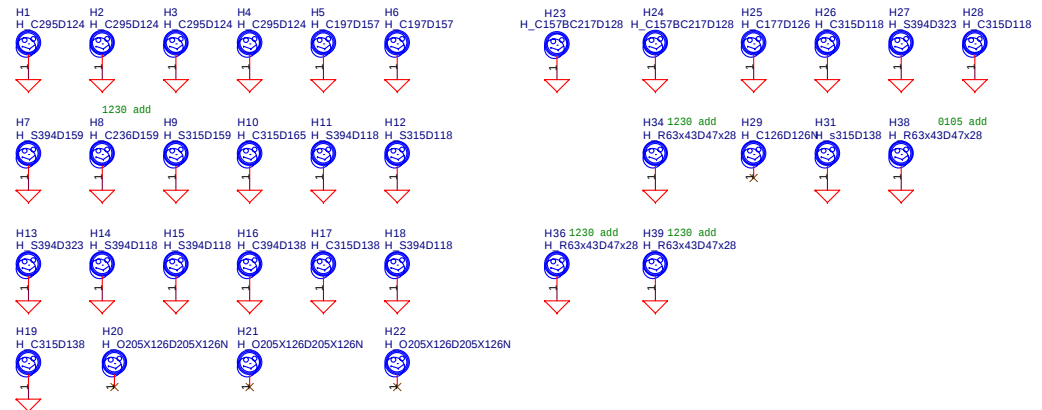
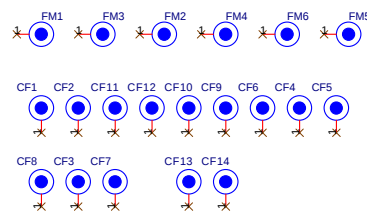
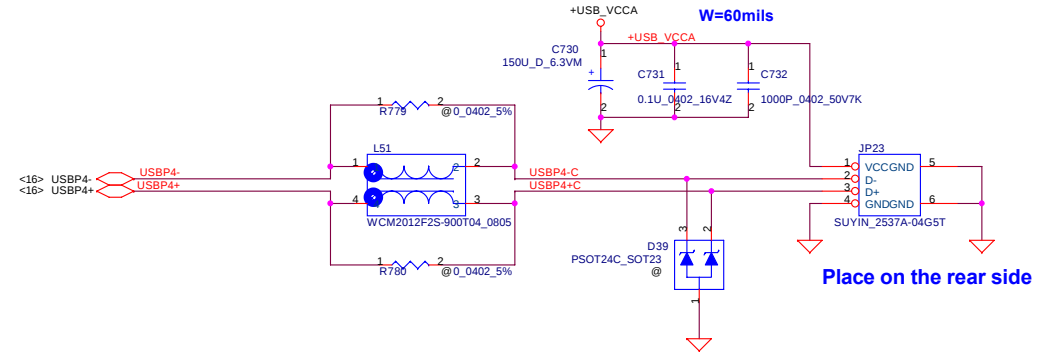
2 port in right side



## USB CONN. 1

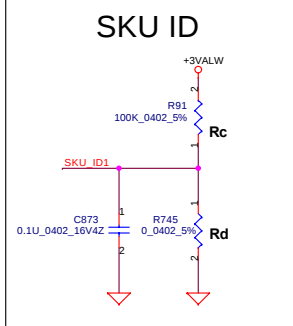
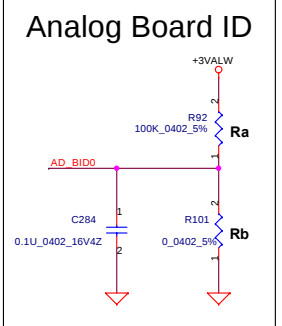
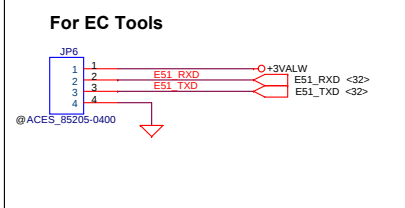
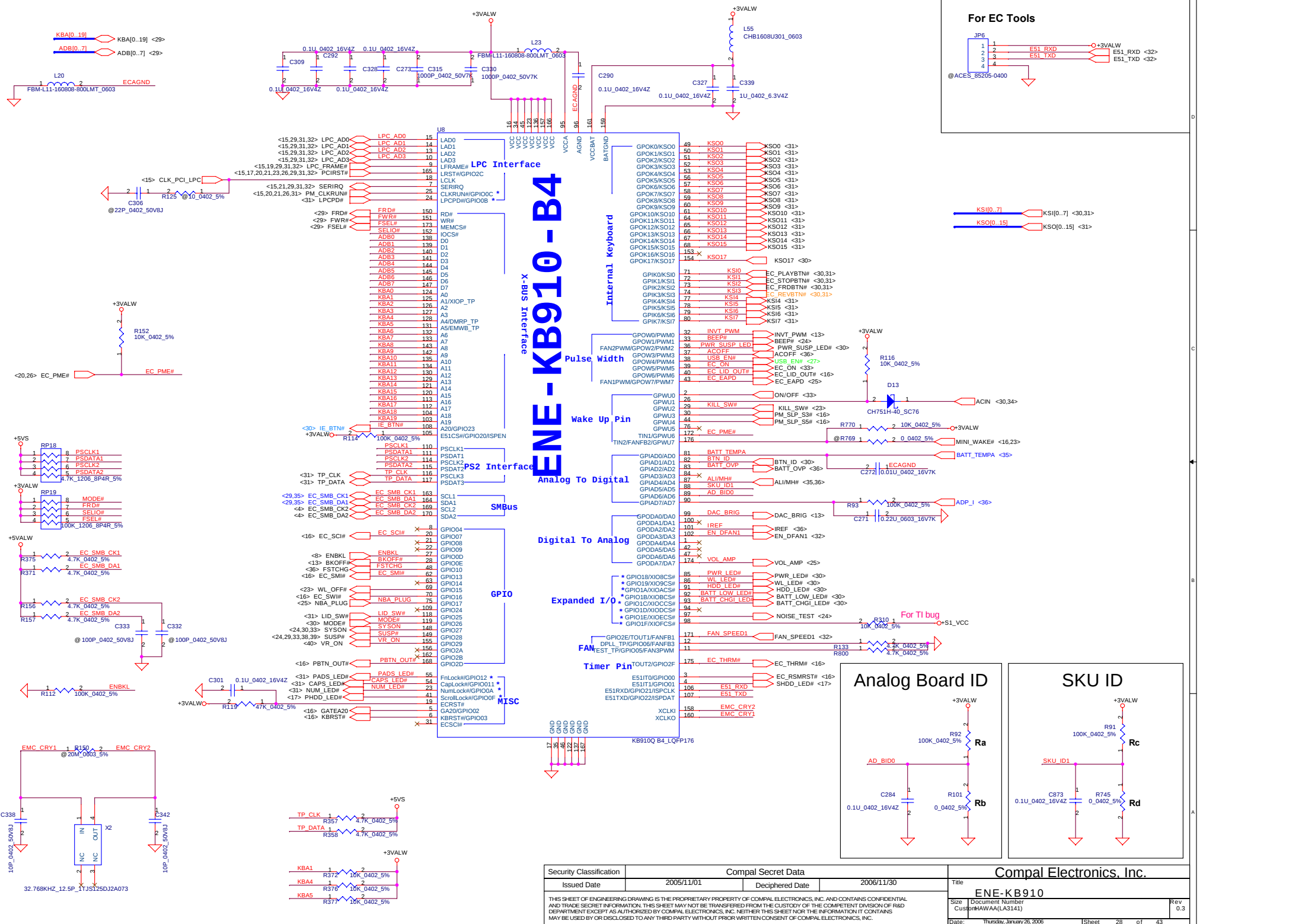


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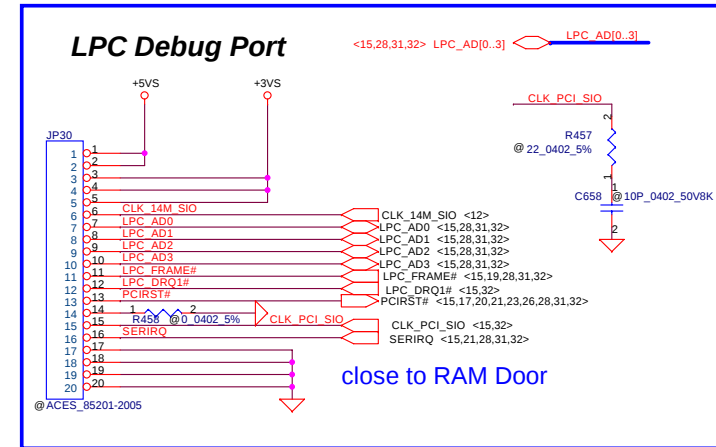
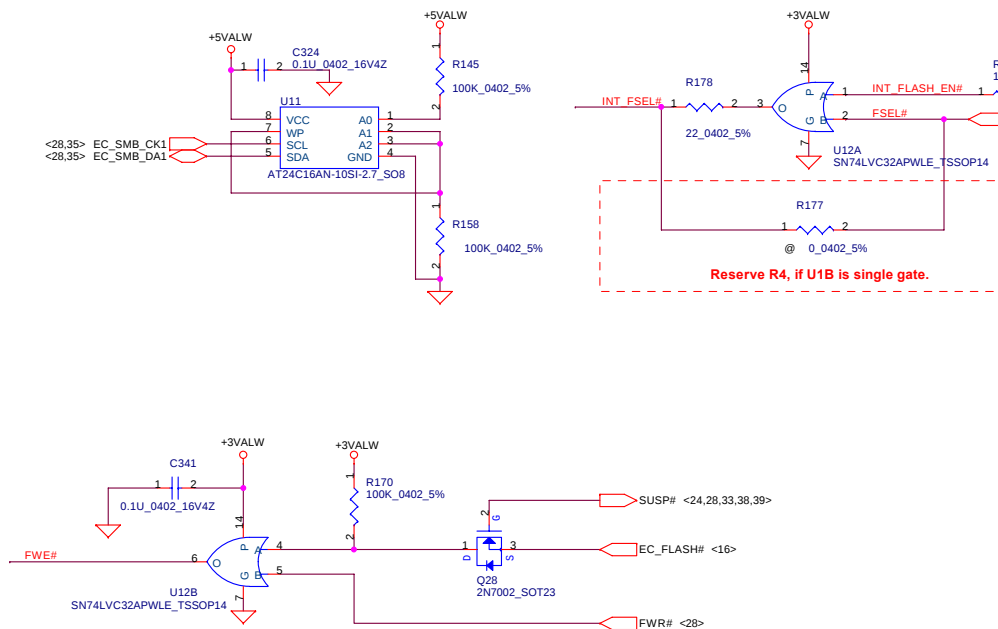


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                         |                            |         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|-------------------------|----------------------------|---------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics Inc. |                            |         |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2005/11/01 | Deciphered Date    | 2006/11/30 | Title                   |                            |         |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Size                    | Document Number            | Rev 0.2 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Customer                | AWAA(LA3141)               |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date                    | Thursday, January 26, 2006 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                   | 27 of 43                   |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                         |                            |         |

herainf@gmail.com



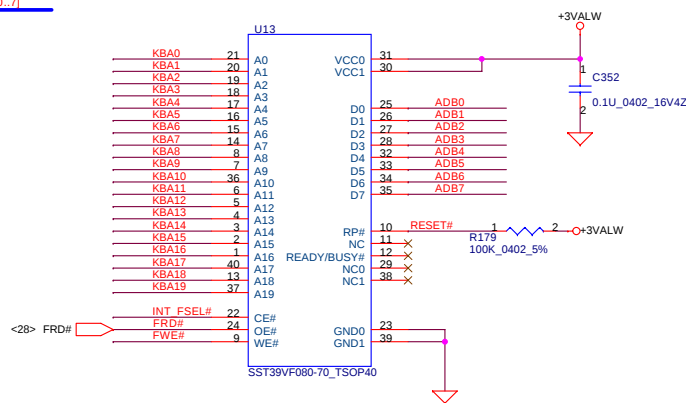
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc.         |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|----------------------------------|----------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2005/11/01 | Deciphered Date    | 2006/11/30 | Title                            |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Size / Document Number           | Rev            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Customer/HAWAII (LA3141)         | 0.3            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date: Thursday, January 26, 2006 | Sheet 28 of 43 |



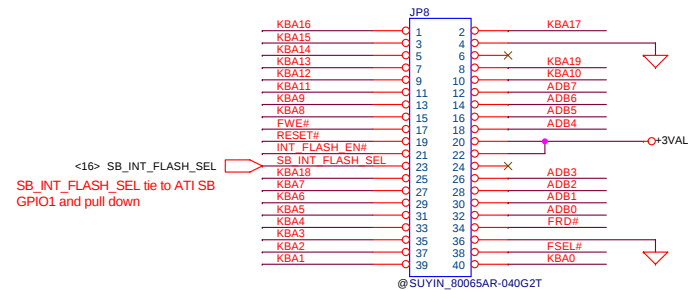
<28> KBA[0..19] KBA[0..19]

<28> ADB[0..7] ADB[0..7]

## 1MB Flash ROM



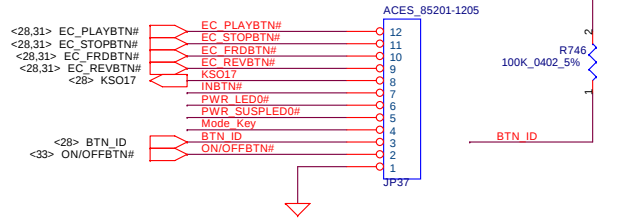
## 1MB ROM Socket



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                         |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|-------------------------|----------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 | Compal Electronics Inc. |          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2005/11/01         | Deciphered Date | 2006/11/30              | Title    |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                         | Customer |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                         | Date     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                         | Sheet    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                         | of       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                         | 43       |

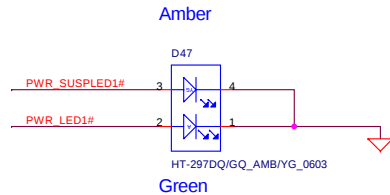
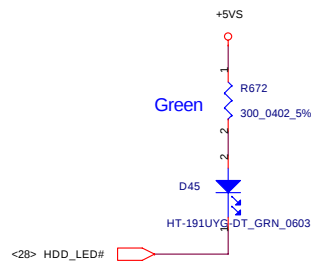
hexainf@hmail.com

## PWR BTN/B

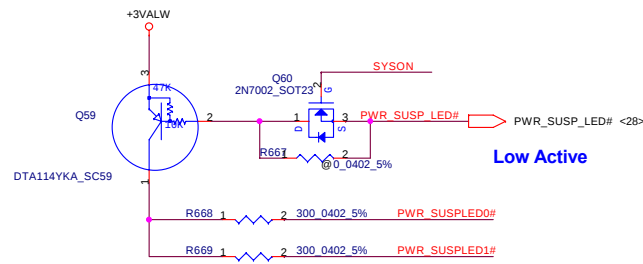
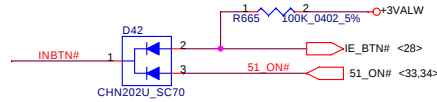
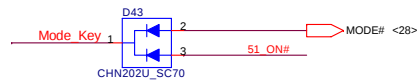


|               |      |                 |
|---------------|------|-----------------|
| EC_PLAYBTN#   | C874 | 100P_0402_25V8K |
| EC_STOPBTN#   | C875 | 100P_0402_25V8K |
| EC_FRDBTN#    | C876 | 100P_0402_25V8K |
| EC_REVBTN#    | C877 | 100P_0402_25V8K |
| KSO17         | C878 | 100P_0402_25V8K |
| INBTN#        | C879 | 100P_0402_25V8K |
| PWR_LED0#     | C880 | 100P_0402_25V8K |
| PWR_SUSPLED0# | C881 | 100P_0402_25V8K |
| Mode_Key      | C882 | 100P_0402_25V8K |
| BTN_ID        | C883 | 120P_0402_25V8K |
| ON/OFFBTN#    | C884 | 120P_0402_25V8K |

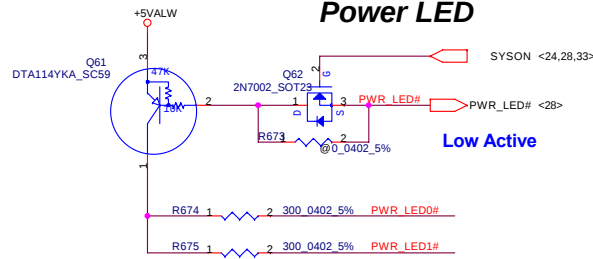
## HDD LED



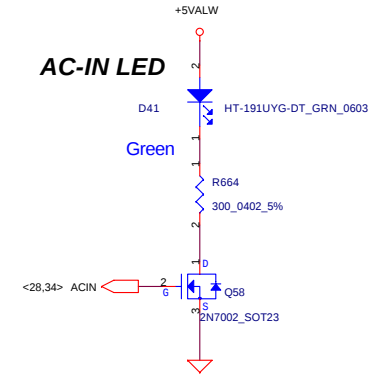
## Vivace Button



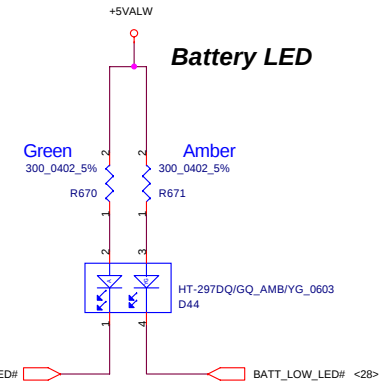
## Power LED



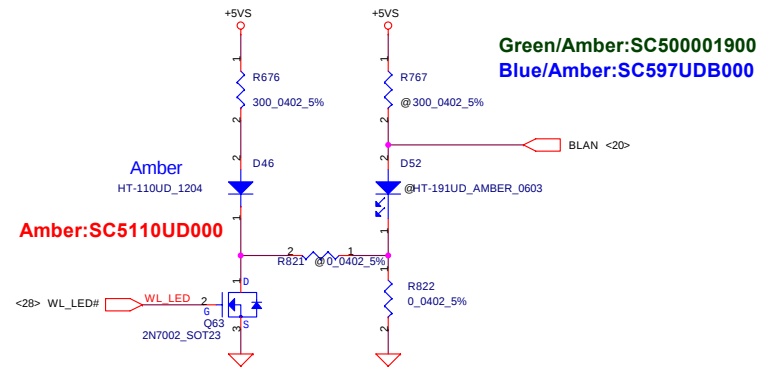
## AC-IN LED



## Battery LED



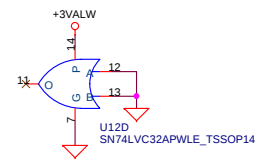
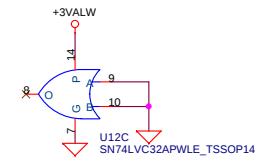
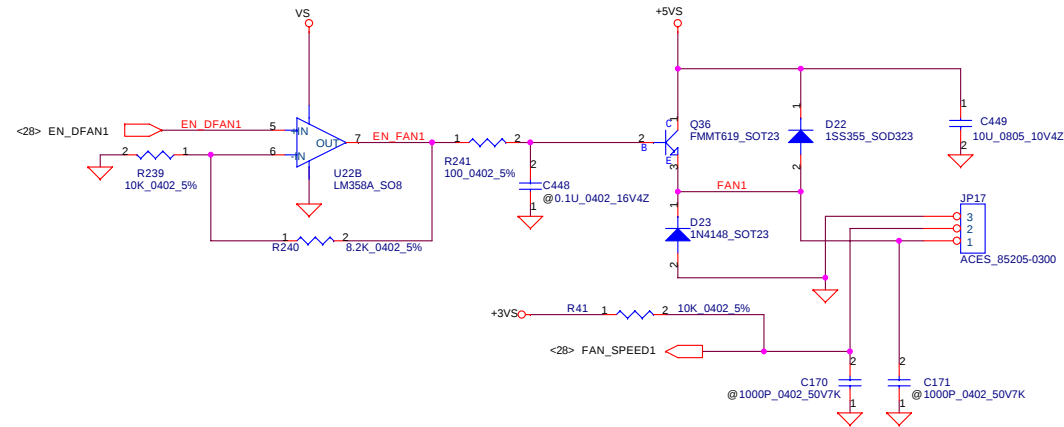
## Wireless Lan LED



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |                 |                          |                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------|--------------------------|-------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data         |                 | Compal Electronics, Inc. |                         |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2005/11/01                 | Deciphered Date | 2006/11/30               | Title                   |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number            | Rev             |                          | 0.2                     |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Thursday, January 26, 2006 | Sheet           | 30 of 43                 |                         |

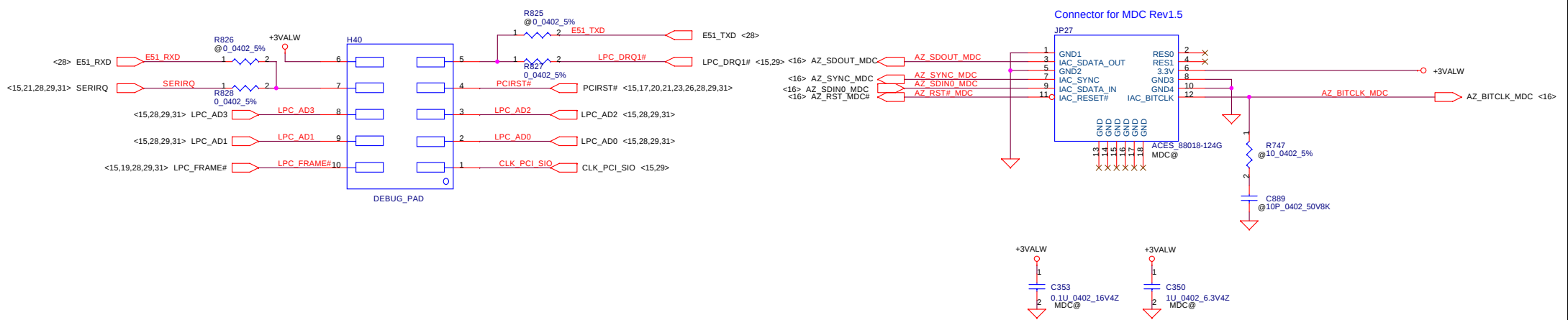


**FAN**



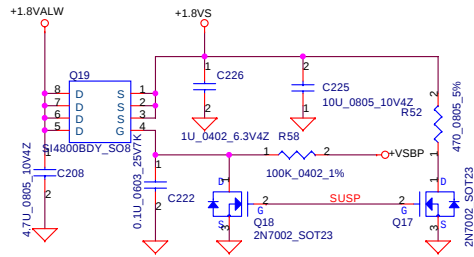
**MDC CONN.**

Connector for MDC Rev1.5

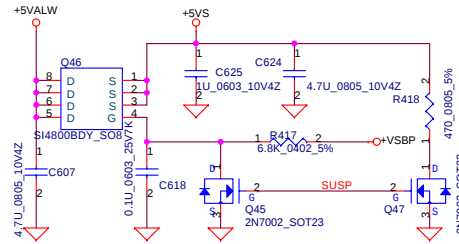


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                            |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|----------------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                            |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2005/11/01 | Deciphered Date    | 2006/11/30 | Title                    | FAN & MDC                  |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          | CuspmhAWAA(LA3141)         | 0.3            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                    | Thursday, January 26, 2006 | Sheet 32 of 43 |

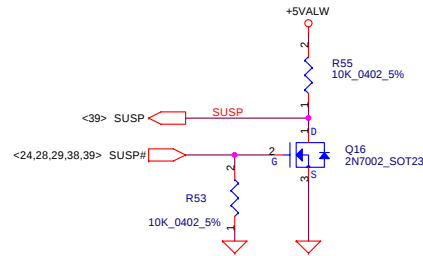
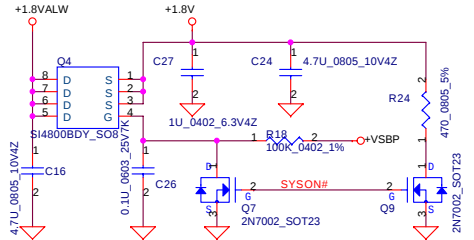
### +1.8VALW TO +1.8VS



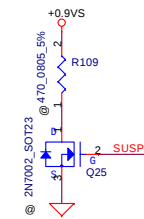
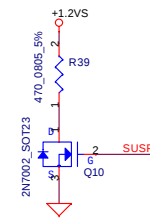
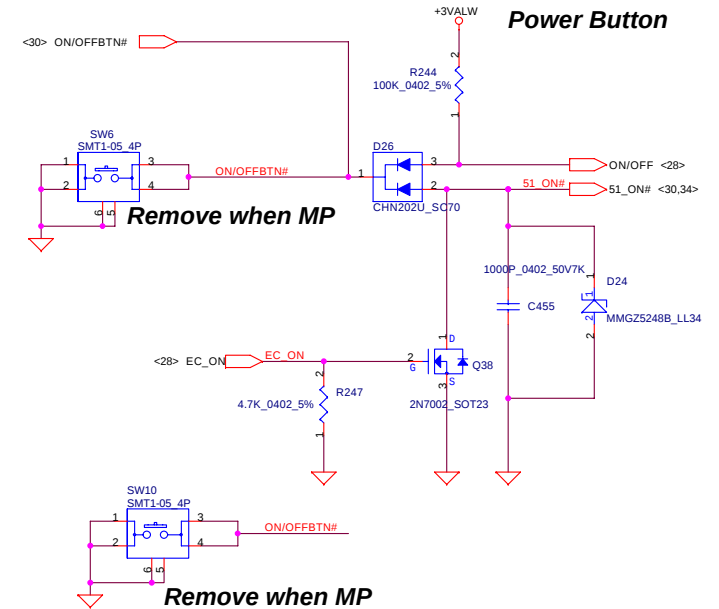
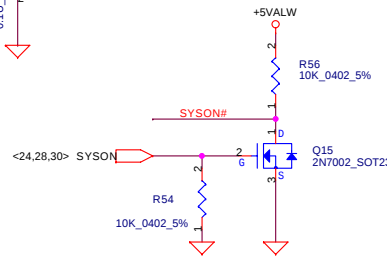
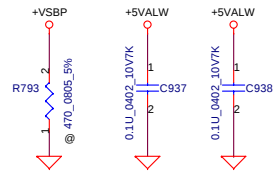
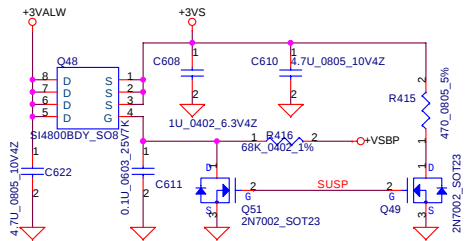
### +5VALW TO +5VS



### +1.8VALW TO +1.8V

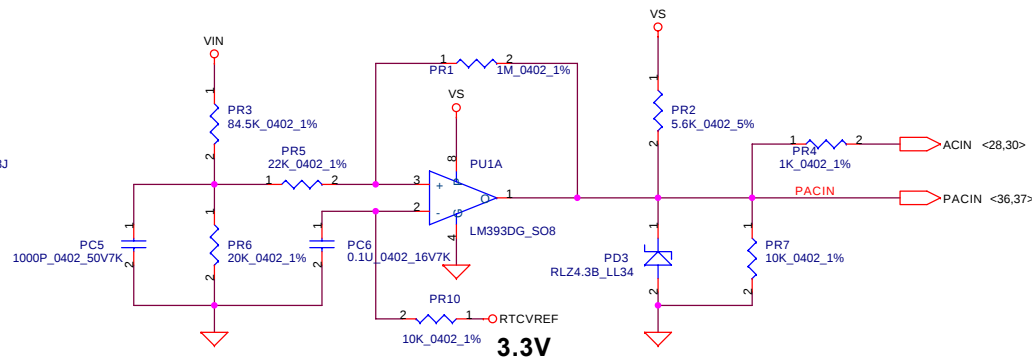
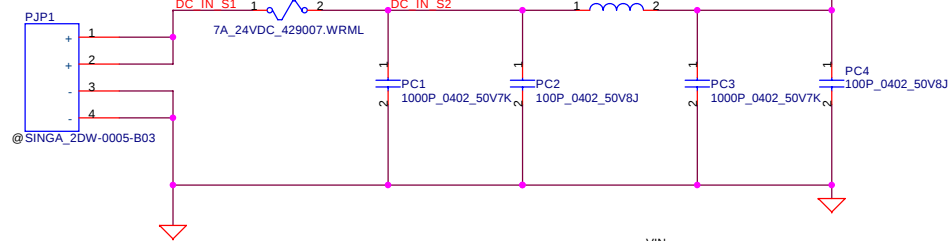


### +3VALW TO +3VS

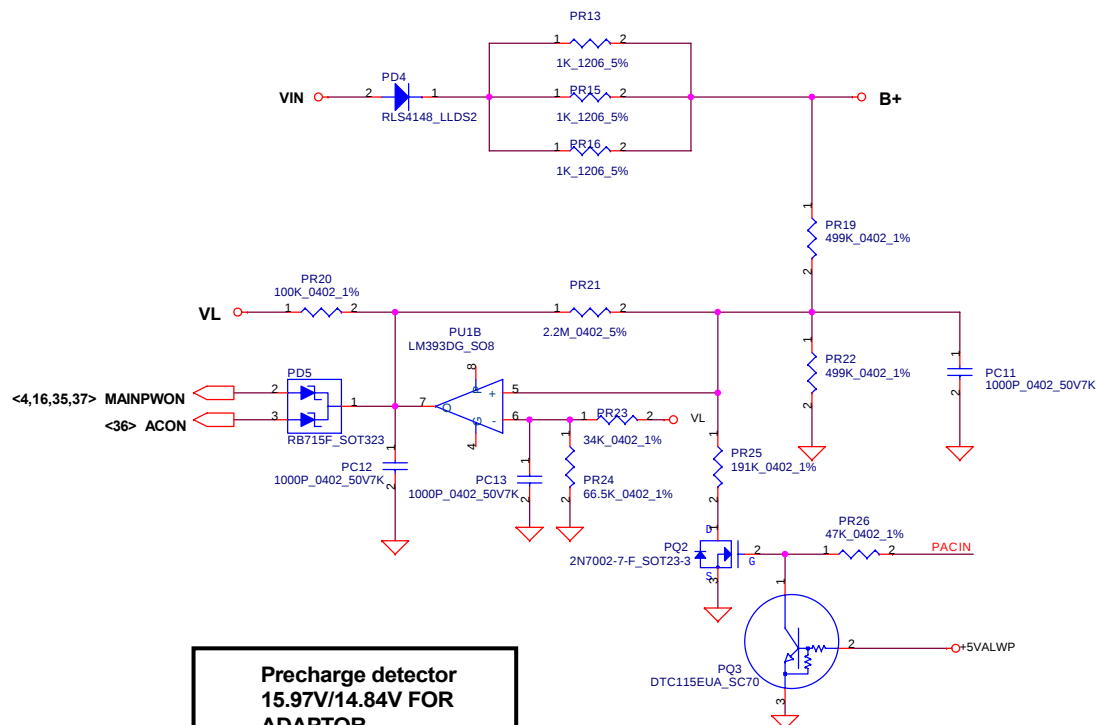
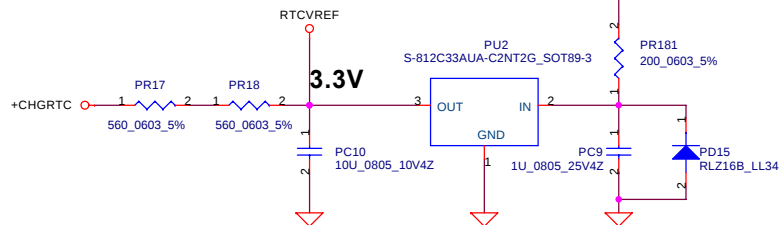
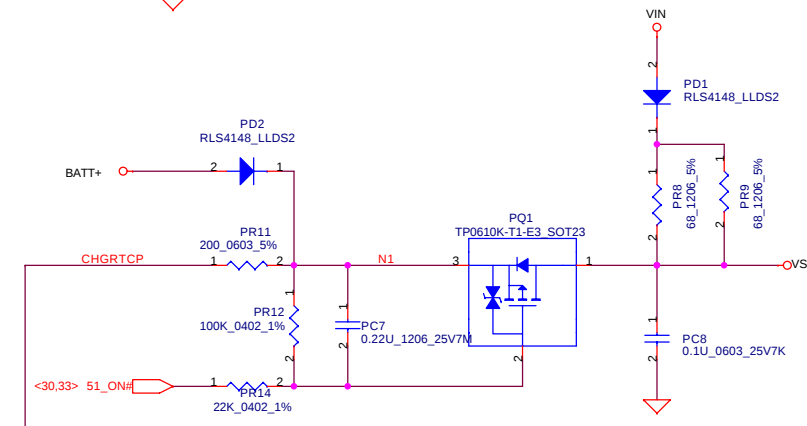


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                         |                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|-------------------------|----------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics Inc. |                            |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2005/11/01 | Deciphered Date    | 2006/11/30 | Title                   | DC-DC INTERFACE            |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date                    | Thursday, January 26, 2006 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                   | 33 of 43                   |

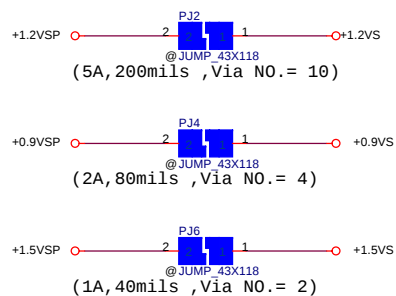
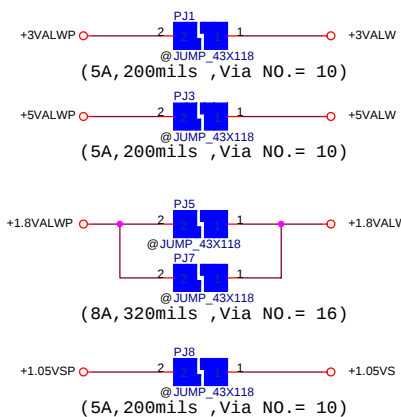
DC301000000



**Vin Detector**  
 High 18.384 17.901 17.430  
 Low 17.728 17.257 16.976

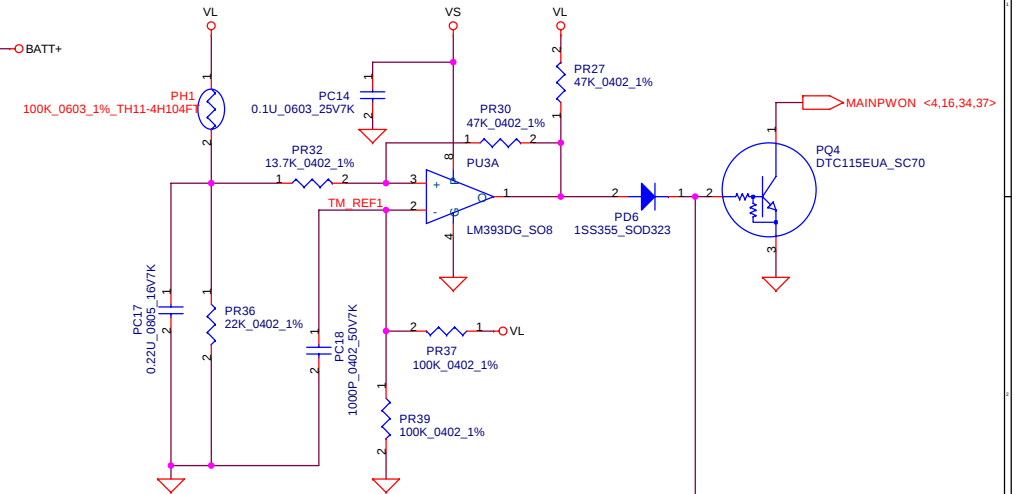
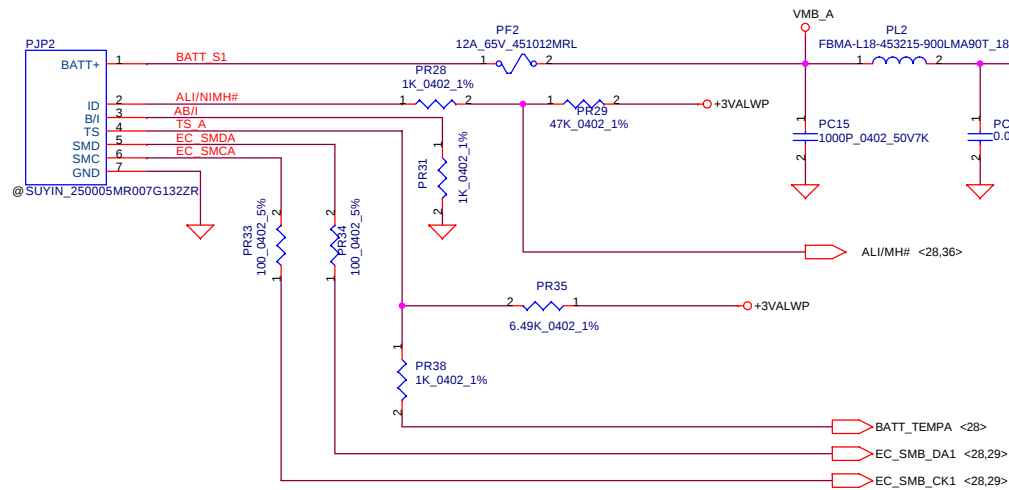


**Precharge detector**  
 15.97V/14.84V FOR  
 ADAPTOR

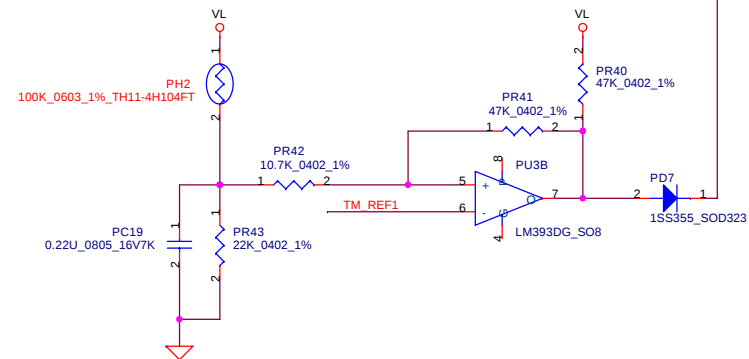
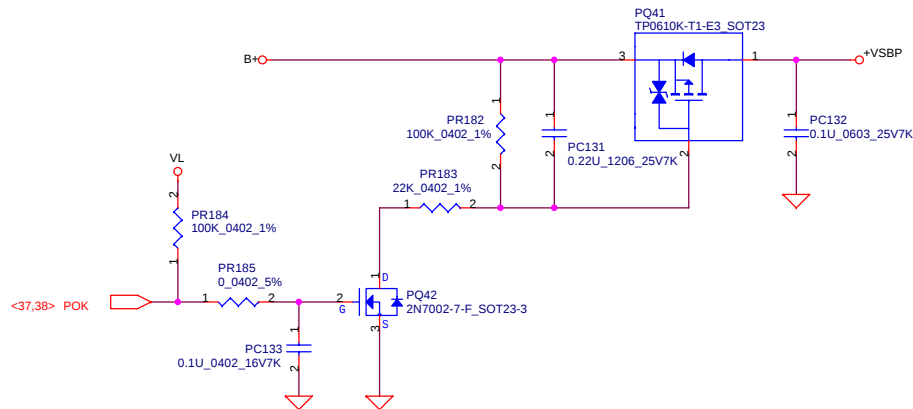


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|----------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                            |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2005/11/01 | Deciphered Date    | 2006/11/30 | Title                    |                            |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                    | Thursday, January 26, 2006 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 34 of 43                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev                      | 0.3                        |

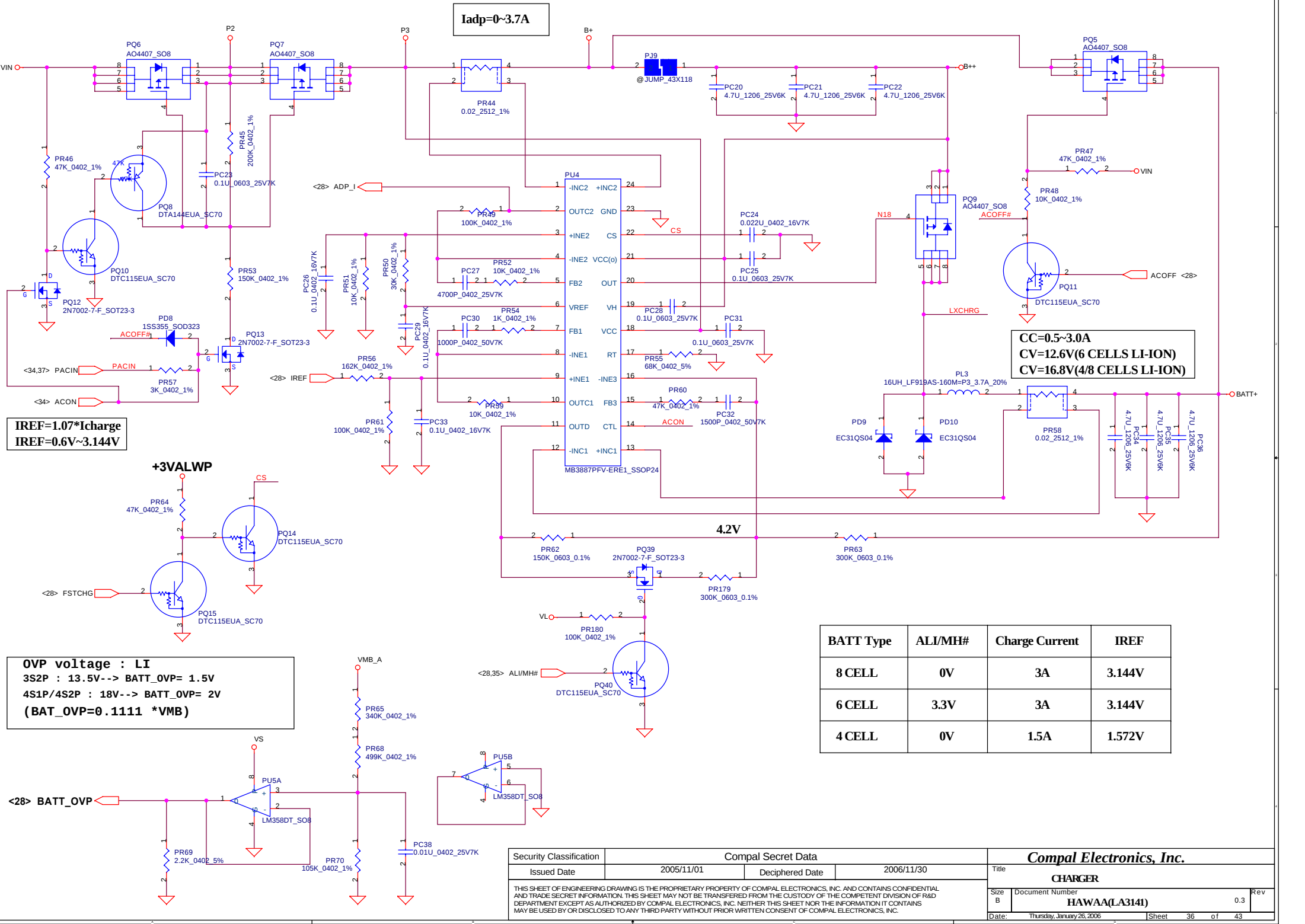
PH1 under CPU botten side :  
CPU thermal protection at 84 degree C  
Recovery at 45 degree C



PH2 near main Battery CONN :  
BAT. thermal protection at 79 degree C  
Recovery at 45 degree C



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|----------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                            |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2005/06/23 | Deciphered Date    | 2006/10/22 | Title                    |                            |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                    | Thursday, January 26, 2006 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 35 of 43                   |

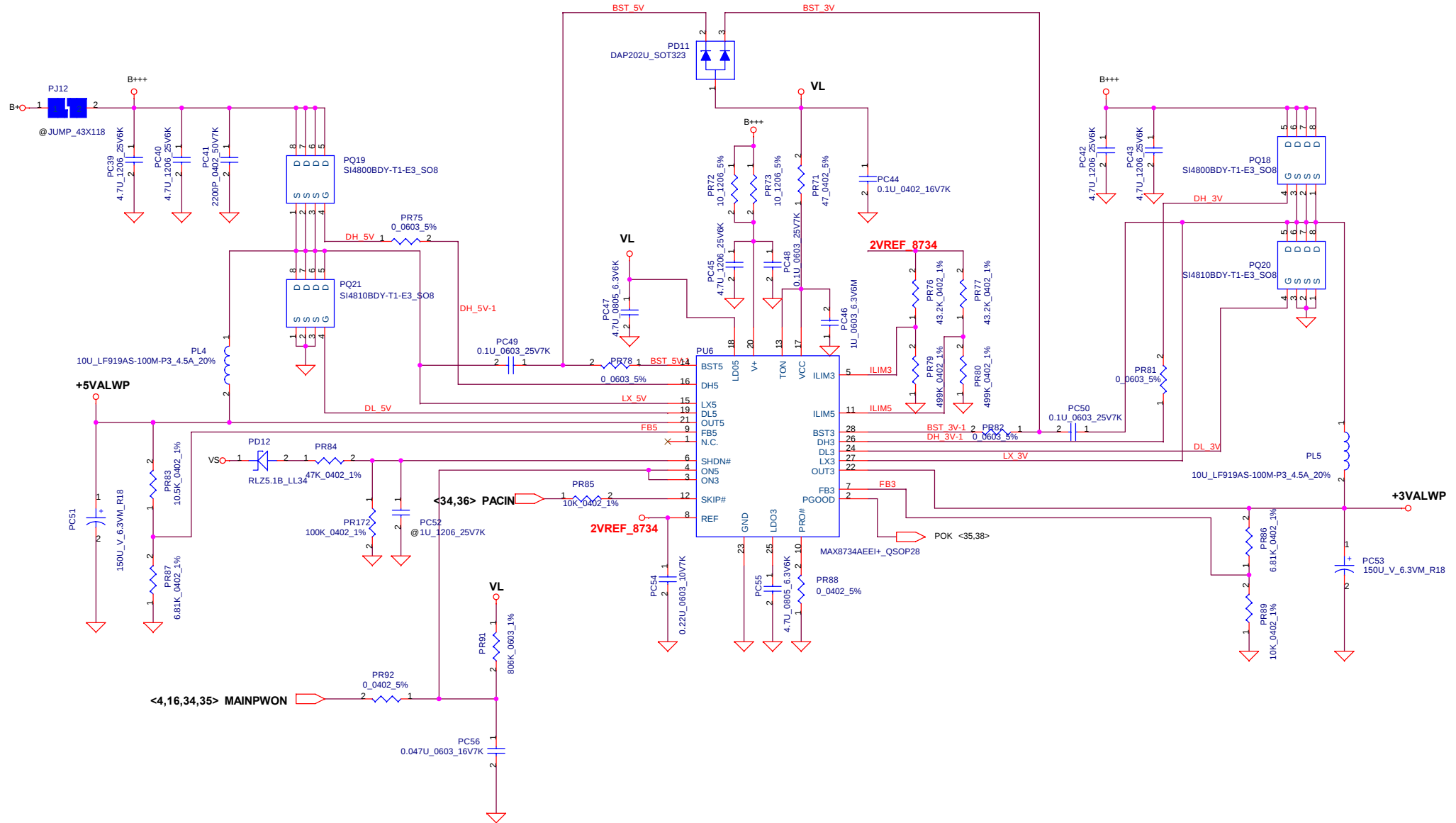


**IREF=1.07\*Icharge**  
**IREF=0.6V~3.144V**

**OVP voltage : LI**  
**3S2P : 13.5V--> BATT\_OVP= 1.5V**  
**4S1P/4S2P : 18V--> BATT\_OVP= 2V**  
**(BATT\_OVP=0.1111 \*VMB)**

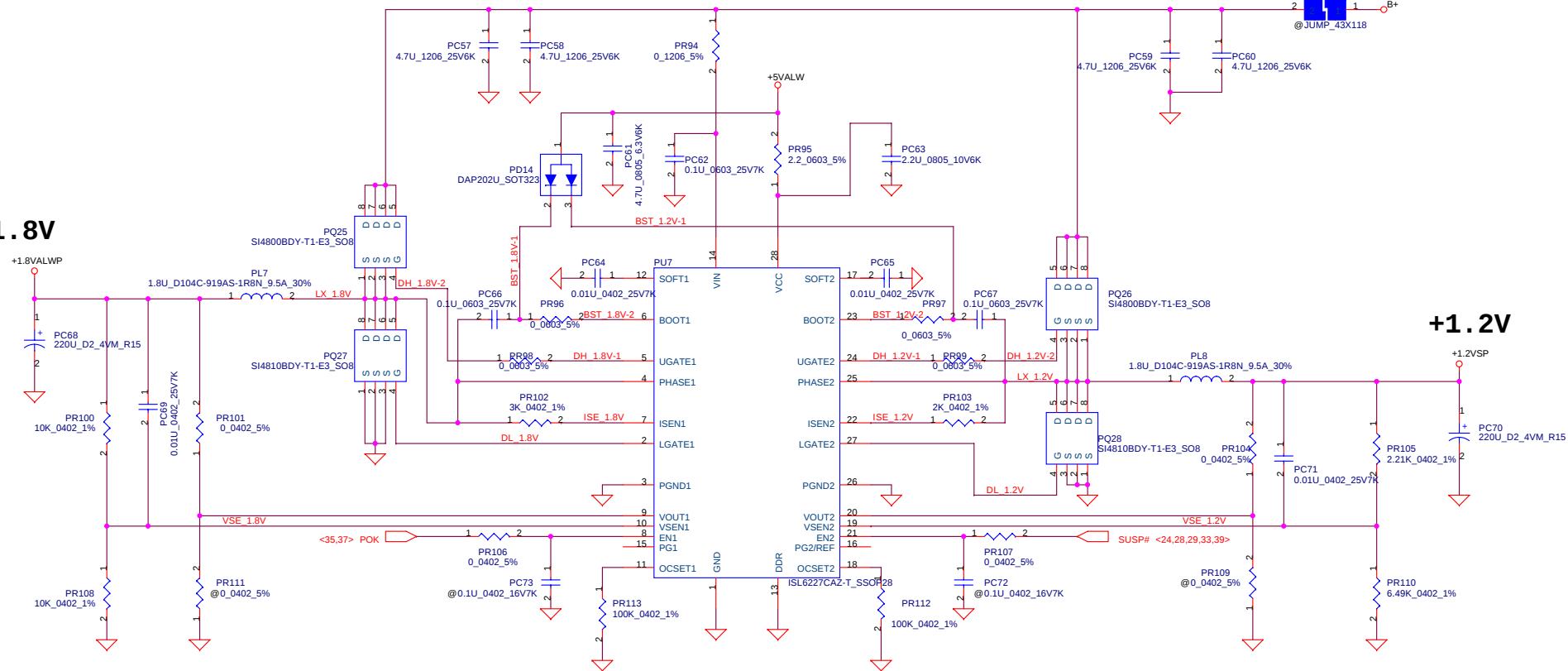
| BATT Type | ALI/MH# | Charge Current | IREF   |
|-----------|---------|----------------|--------|
| 8 CELL    | 0V      | 3A             | 3.144V |
| 6 CELL    | 3.3V    | 3A             | 3.144V |
| 4 CELL    | 0V      | 1.5A           | 1.572V |

# +3.3VALWP/+5VALWP



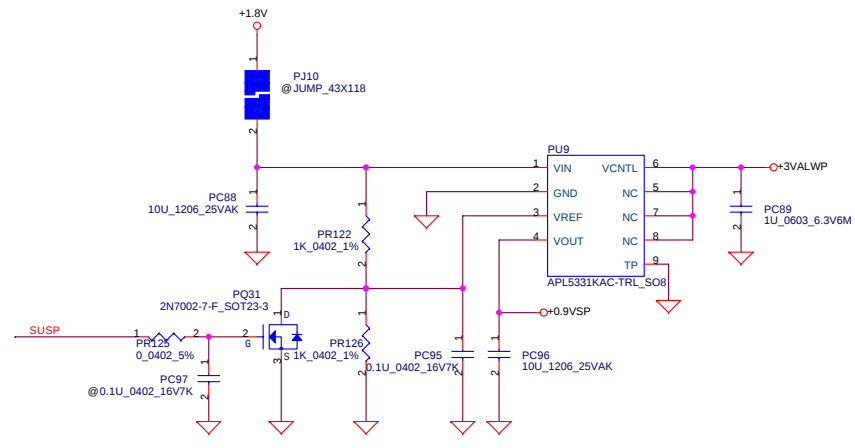
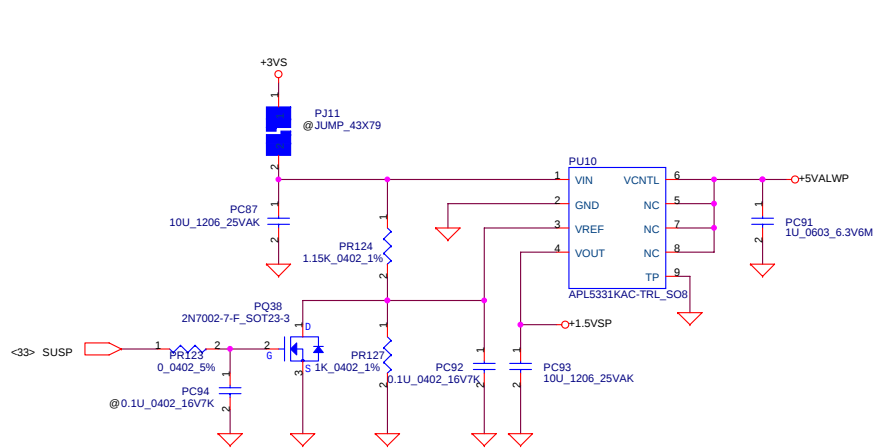
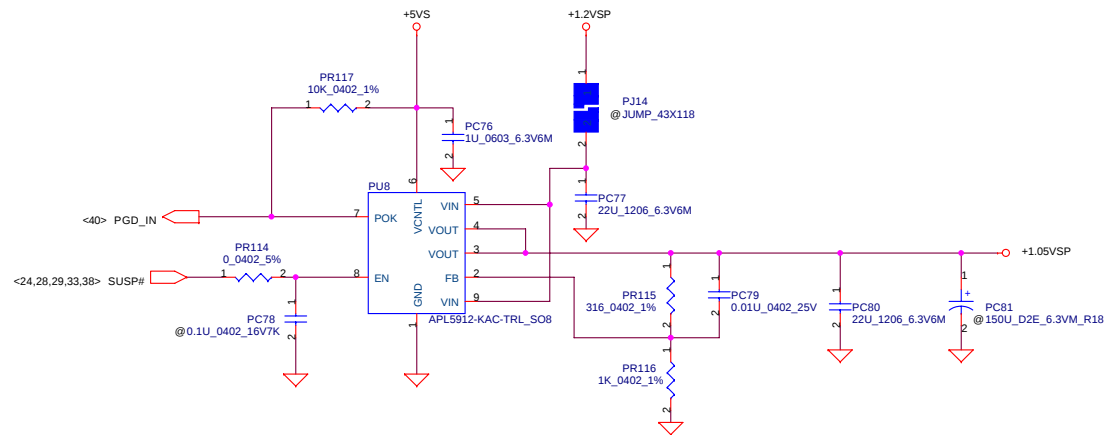
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|----------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                            |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2005/11/01 | Deciphered Date    | 2006/11/30 | Title                    |                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | +5V/+3V                  |                            |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Custom                   | 0.3                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Document Number          | HAWAA(LA3141)              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                    | Thursday, January 26, 2006 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 37 of 43                   |

**+1.8V**

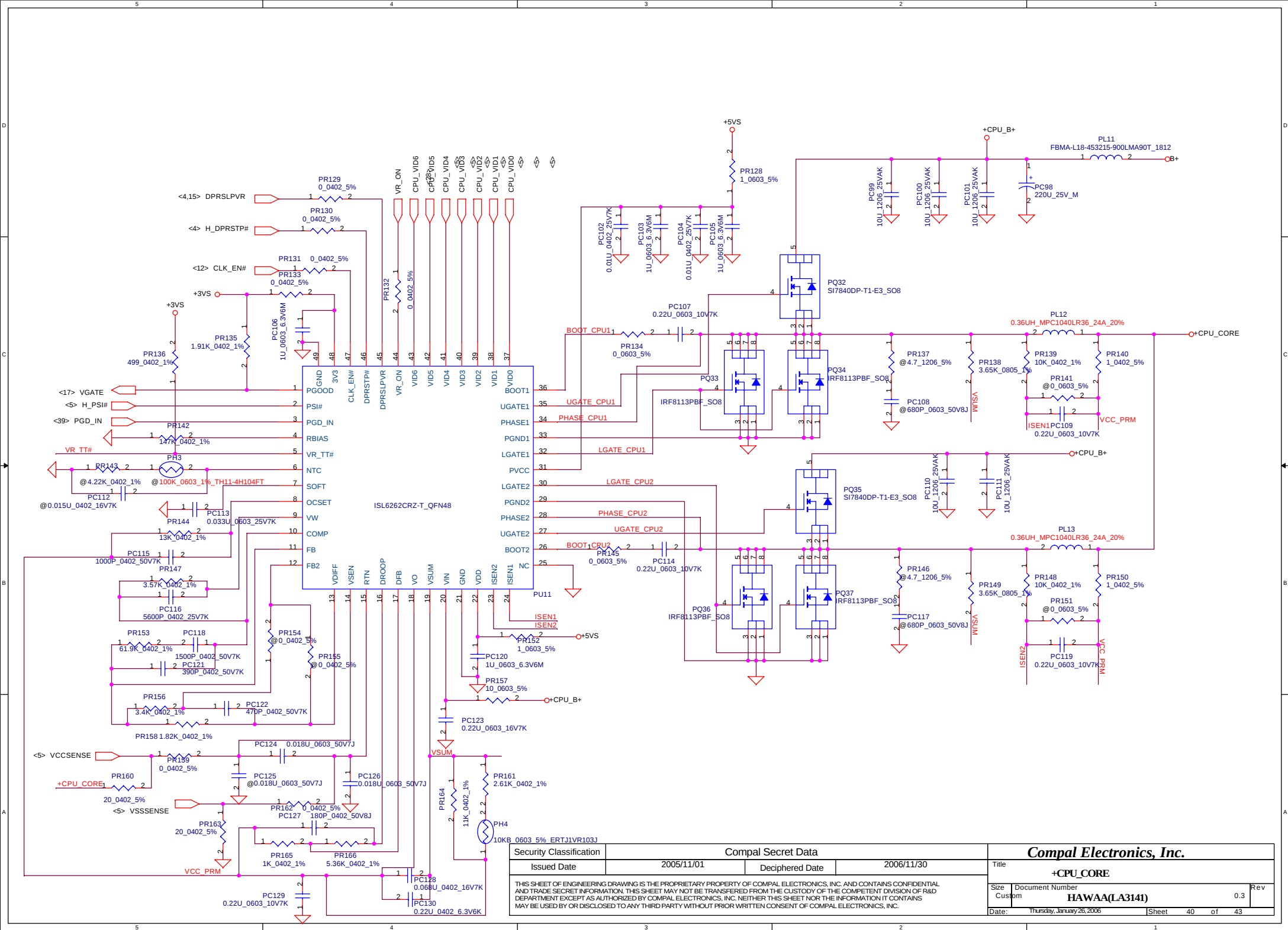


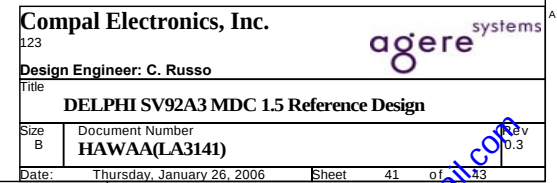
**+1.2V**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                                  |                 |            |               |  |     |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|--|----------------------------------|-----------------|------------|---------------|--|-----|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Compal Secret Data |  | <b>Compal Electronics, Inc.</b>  |                 |            |               |  |     |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | 2005/11/01         |  | Deciphered Date                  |                 | 2006/11/30 |               |  |     |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  | Size                             | Document Number |            | HAWAA(LA3141) |  | 0.3 | Rev            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  | Date: Thursday, January 26, 2006 |                 |            |               |  |     | Sheet 38 of 43 |

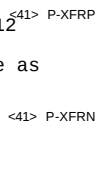


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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date: Thursday, January 26, 2006 | Sheet 39 of 43                           |



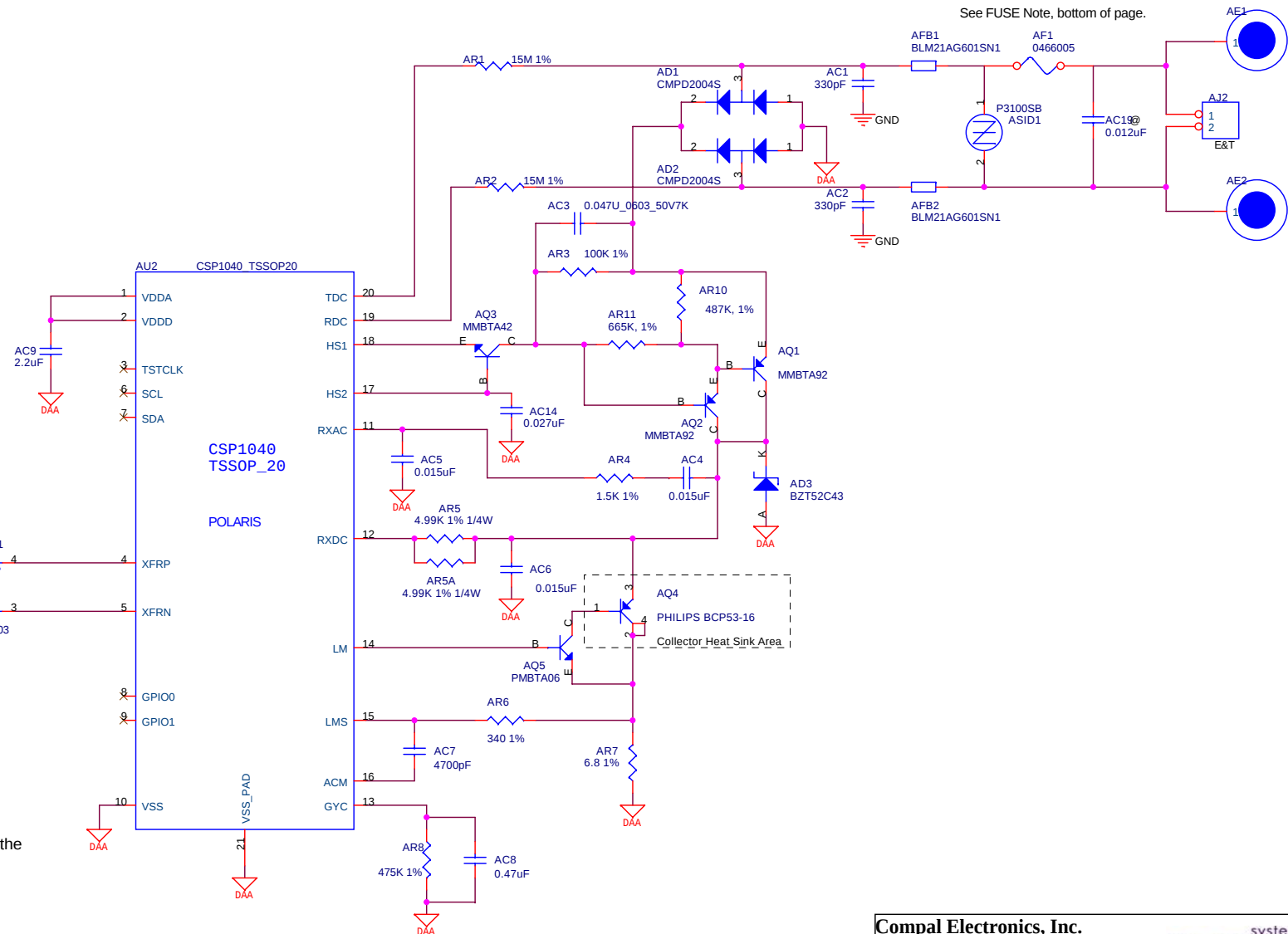


Locate C11, C12<sup><41></sup> as close to digital device as possible.



**FUSE Note:**  
The UL standard UL 1950 dictates the use of a fuse (needed to pass the M1, 600 V, 40A, 1.5 sec) to prevent component flaming during the overvoltage test. Unless one can insure that the modem is in a fire enclosure and provide 26 gauge line cord (acts as a fuse), a fusing element would be required.

Alternatively, if a TNV-1 flame resistant material is used, either as a wrap or cover over the DAA portion of the modem, this could satisfy both overvoltage protection and the separation requirement also contained in UL 1950. This latter requirement provides isolation such that unearthed parts of the DAA cannot be touched by a test finger or test probe.



|                                        |                            |                |
|----------------------------------------|----------------------------|----------------|
| Compal Electronics, Inc.               |                            |                |
| 123                                    |                            |                |
| Design Engineer: R. Trevino            |                            |                |
| Title                                  |                            |                |
| DELPHI SV92A3 MDC 1.5 Reference Design |                            |                |
| Size                                   | Document Number            | Rev            |
| B                                      | HAWAA(LA3141)              | 0.3            |
| Date:                                  | Thursday, January 26, 2006 | Sheet 42 of 43 |

