

# Compal Confidential

## NAV50/60 Schematics Document

### Intel Pineview Processor with Tigerpoint + DDRII

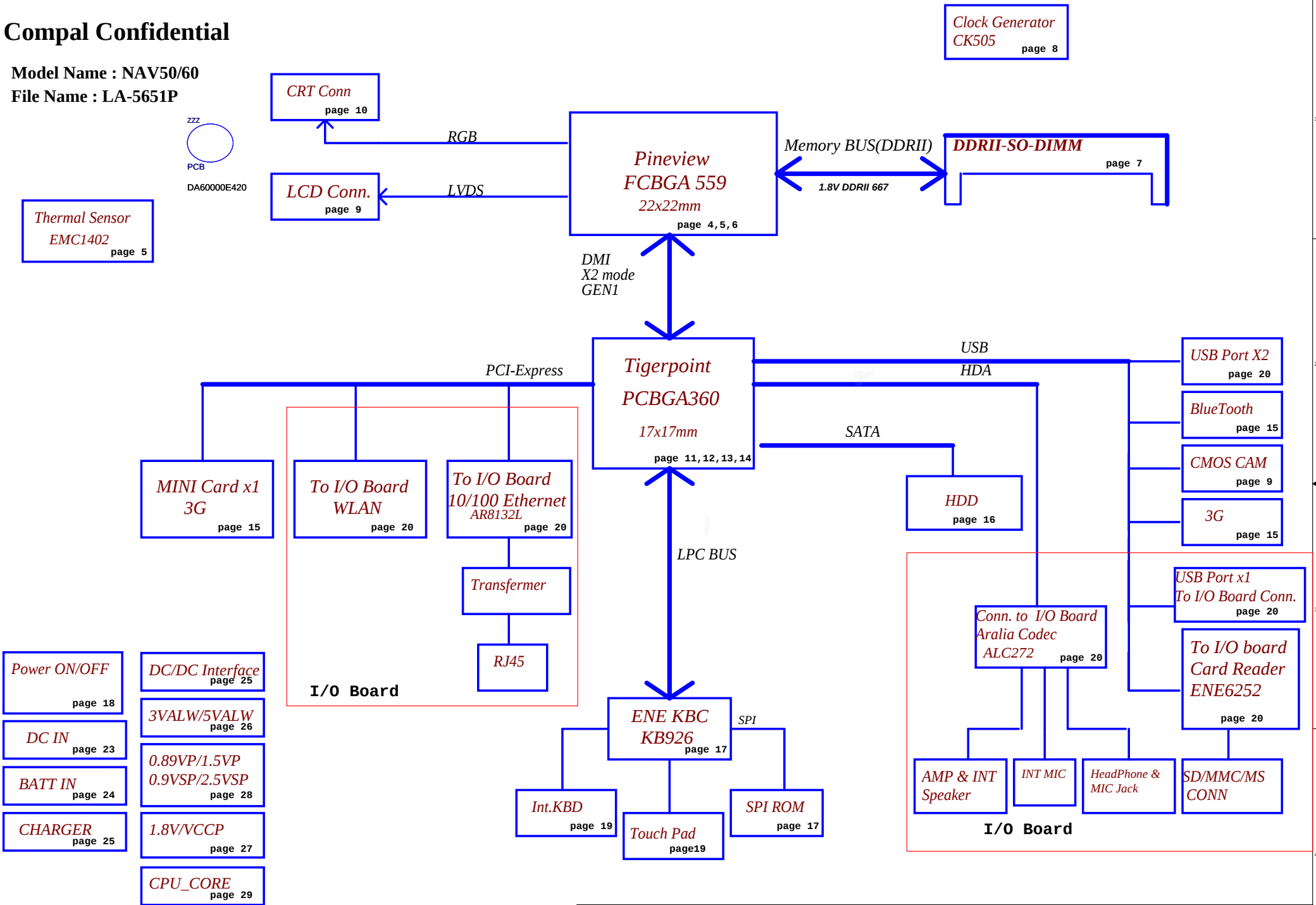
2010 - 05 - 11

REV: 3.0

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |           |                            |                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|-----------|----------------------------|-----------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |           | Compal Electronics, Inc.   |                       |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2006/08/18         | Deciphered Date | 2007/8/18 | Title                      | SCHEMATICS , MB A5651 |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |           | 401793                     | D                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |           | Date: Friday, May 21, 2010 | Sheet 1 of 32         |

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Model Name : NAV50/60  
File Name : LA-5651P



Voltage Rails

| Power Plane | Description                                 | S1  | S3  | S5  |
|-------------|---------------------------------------------|-----|-----|-----|
| VIN         | Adapter power supply (19V)                  | N/A | N/A | N/A |
| B+          | AC or battery power rail for power circuit. | N/A | N/A | N/A |
| +CPU_CORE   | Core voltage for CPU                        | ON  | OFF | OFF |
| +0.9VS      | 0.9V switched power rail for DDR terminator | ON  | OFF | OFF |
| +VCCP       | VCCP switched power rail                    | ON  | OFF | OFF |
| +1.5VS      | 1.5V switched power rail                    | ON  | OFF | OFF |
| +1.8V       | 1.8V power rail for DDR                     | ON  | ON  | OFF |
| +0.89V      | Graphic core power rail                     | ON  | OFF | OFF |
| +3VALW      | 3.3V always on power rail                   | ON  | ON  | ON* |
| +3VS        | 3.3V switched power rail                    | ON  | OFF | OFF |
| +5VALW      | 5V always on power rail                     | ON  | ON  | ON* |
| +5VS        | 5V switched power rail                      | ON  | OFF | OFF |
| +VSB        | VSB always on power rail                    | ON  | ON  | ON* |
| +RTCVCC     | RTC power                                   | ON  | ON  | ON  |

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

| STATE \ SIGNAL       | SLP_S3# | SLP_S4# | SLP_S5# | +VALW | +V  | +VS | ClOCK |
|----------------------|---------|---------|---------|-------|-----|-----|-------|
| Full ON              | HIGH    | HIGH    | HIGH    | ON    | ON  | ON  | ON    |
| S1(Power On Suspend) | HIGH    | HIGH    | HIGH    | ON    | ON  | ON  | LOW   |
| S3 (Suspend to RAM)  | LOW     | HIGH    | HIGH    | ON    | ON  | OFF | OFF   |
| S4 (Suspend to Disk) | LOW     | LOW     | HIGH    | ON    | OFF | OFF | OFF   |
| S5 (Soft OFF)        | LOW     | LOW     | LOW     | ON    | OFF | OFF | OFF   |

BOARD ID Table(Page 17)

|       |     |           |      |         |         |         |
|-------|-----|-----------|------|---------|---------|---------|
|       | VCC | 3.3V      |      |         |         |         |
|       | Ra  | 100K      |      |         |         |         |
|       | ID  | BRD ID    | Rb   | Vab-Min | Vab-Typ | Vab-Max |
| NAV50 | 0   | R01 (EVT) | 0    | 0V      | 0V      | 0V      |
|       | 1   | R02 (DVT) | 8.2K | 0.216V  | 0.250V  | 0.289V  |
|       | 2   | R03 (PVT) | 18K  | 0.436V  | 0.503V  | 0.538V  |
|       | 3   | R10A (MP) | 33K  | 0.712V  | 0.819V  | 0.875V  |
| NAV60 | 4   | R01 (EVT) | 56K  | 1.036V  | 1.185V  | 1.264V  |
|       | 5   | R02 (DVT) | 100K | 1.453V  | 1.650V  | 1.759V  |
|       | 6   | R03 (PVT) | 200K | 1.935V  | 2.200V  | 2.341V  |
|       | 7   | R10A (MP) | NC   | 2.500V  | 3.3V    | 3.3V    |

External PCI Devices

| DEVICE | IDSEL # | REQ/GNT # | PIRQ |
|--------|---------|-----------|------|
|--------|---------|-----------|------|

No PCI Device

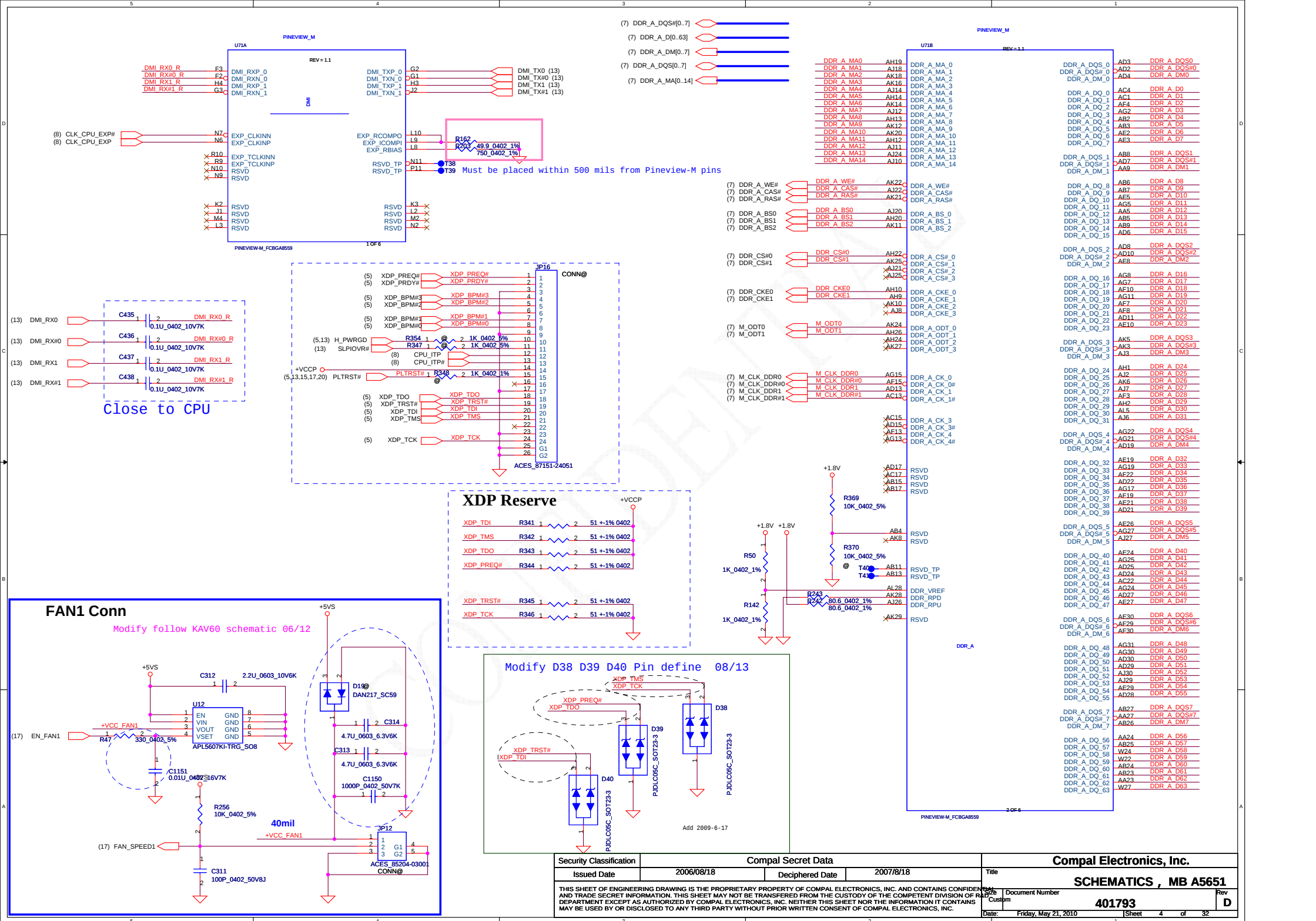
EC SM Bus1 address

EC SM Bus2 address

| Device        | Address     | Device  | Address  |
|---------------|-------------|---------|----------|
| Smart Battery | 0001 011X b | EMC1402 | 100_1100 |

ICH7M SM Bus address

| Device                         | Address    |
|--------------------------------|------------|
| Clock Generator (SLG8SP556VTR) | 1101 001Xb |
| DDR DIMMA                      | 1010 000Xb |





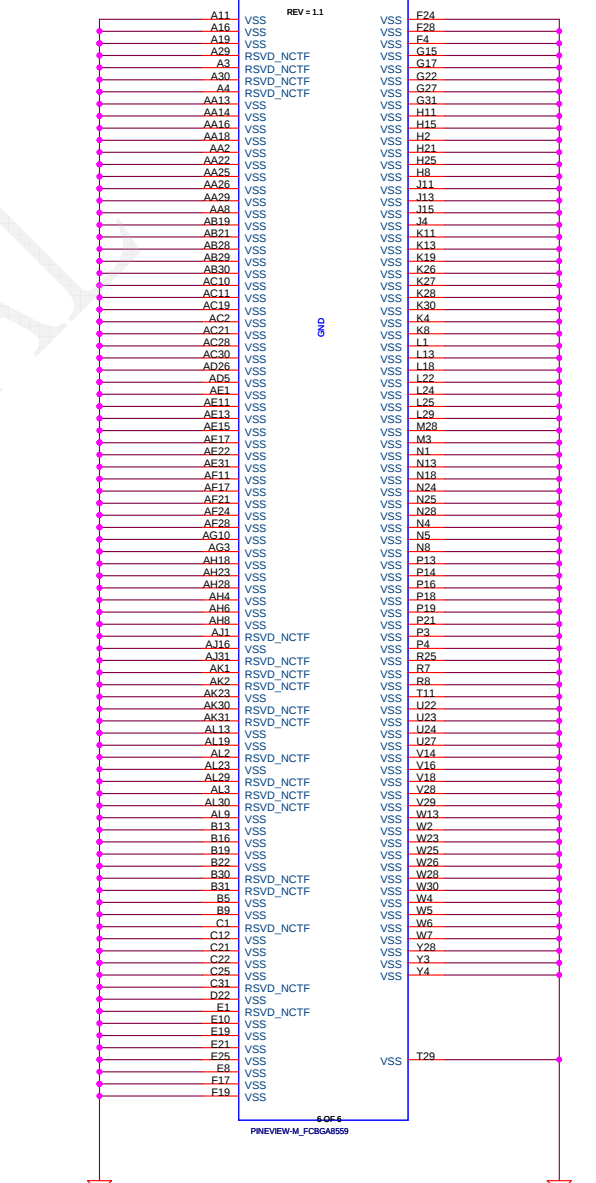
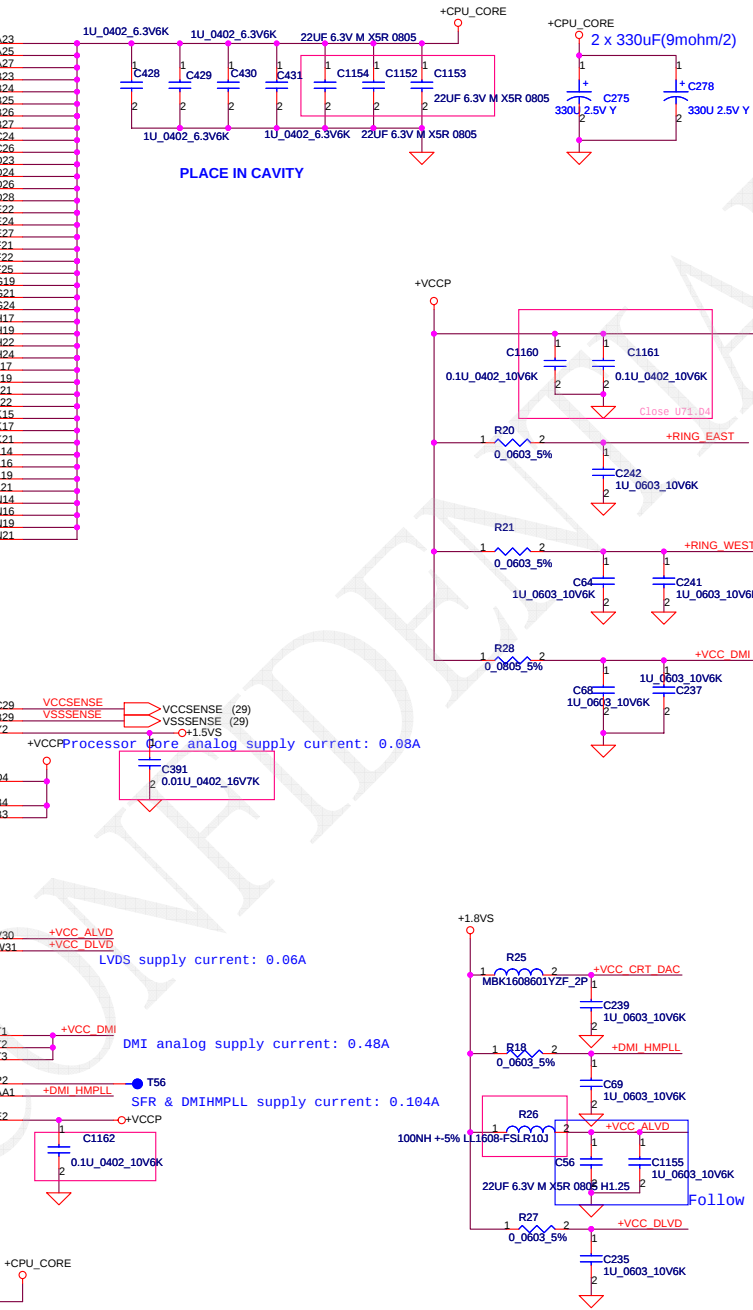
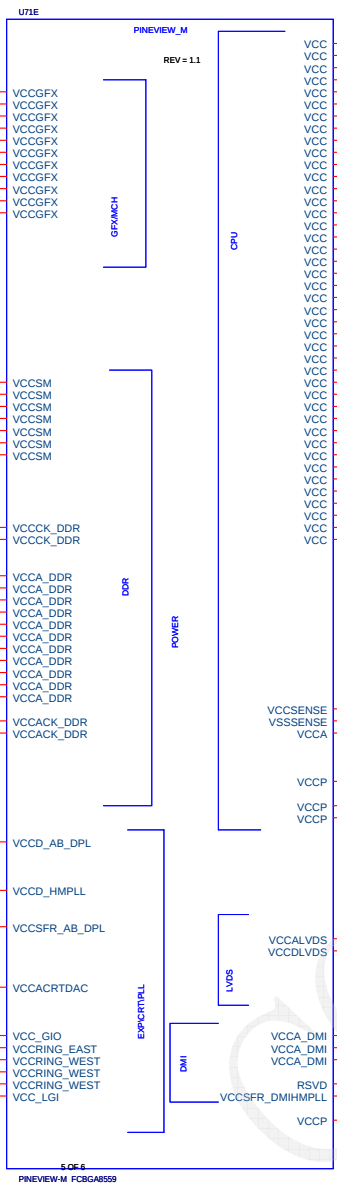
GFX supply current: 1.38A  
Sustained GFX supply current: 1.05A

DDR supply current 2.27A

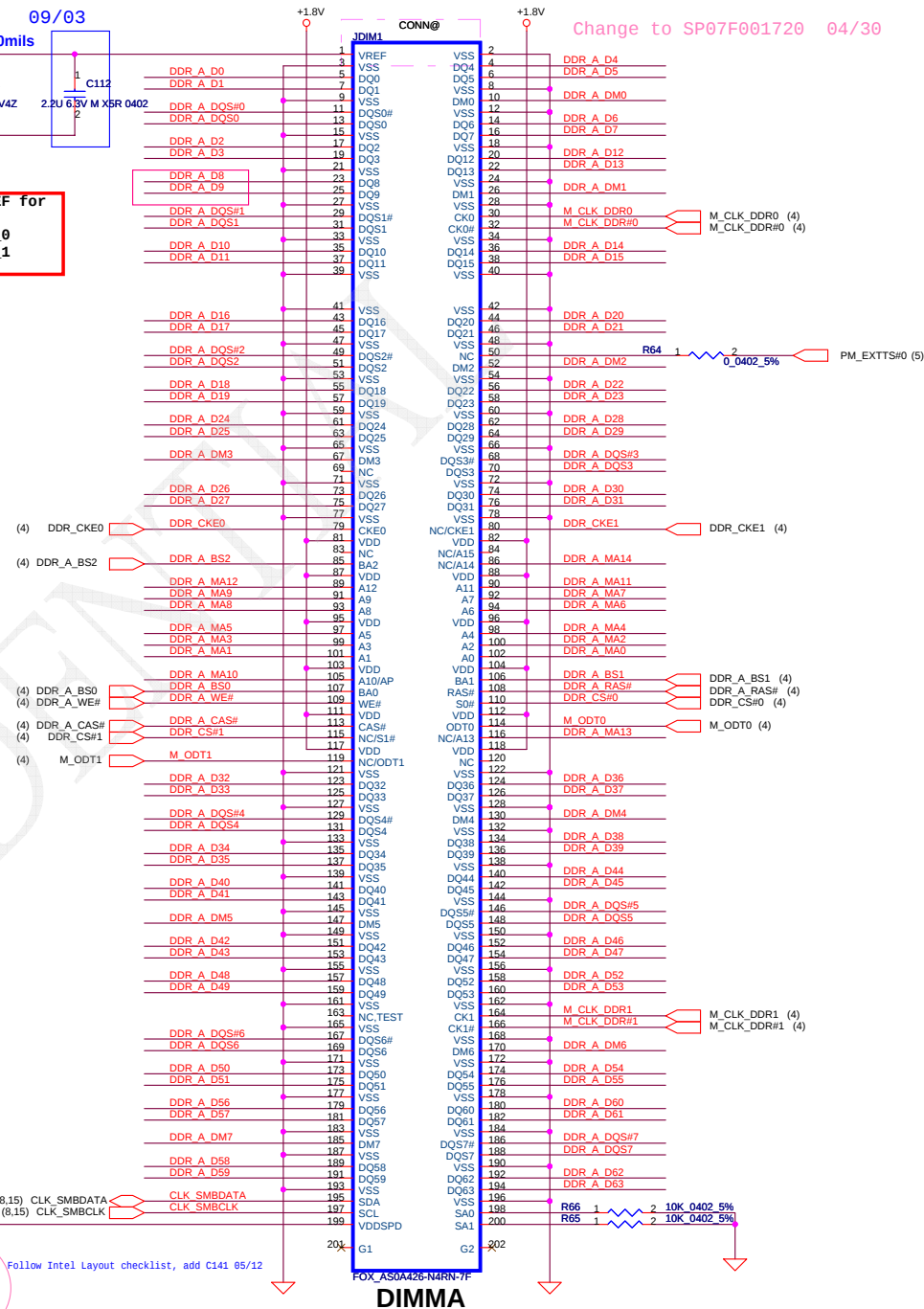
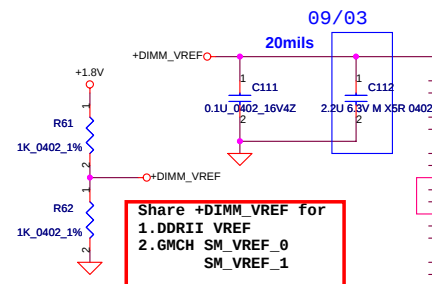
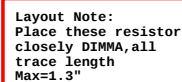
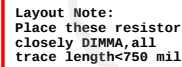
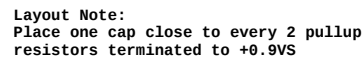
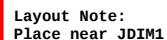
Display PLL SFR and CRT DAC supply current: 0.154A

DAC, GIO, LVDS, & LGIO, DPLL, HMPLL supply current: 0.33A

Modify to 2.2u 05/11

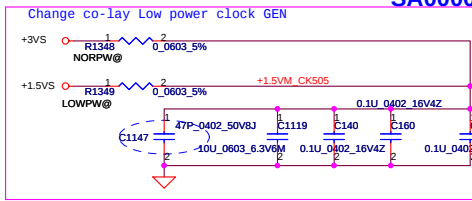
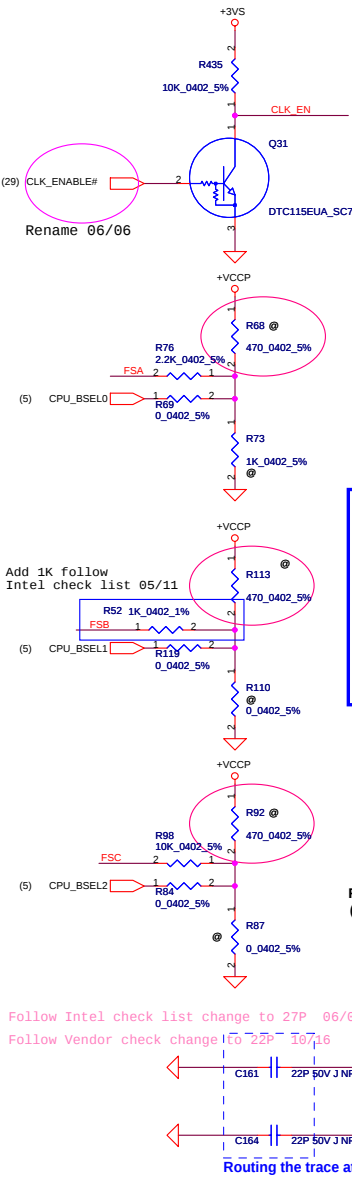


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |       |  |                            |  |               |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |       |  | Date: Friday, May 21, 2010 |  | Sheet 6 of 32 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |       |  |                            |  |               |  |

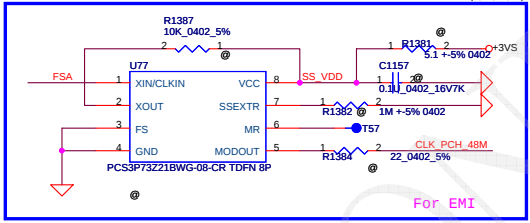


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |           |                          |                       |               |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |           | Date:                    | Friday, May 21, 2010  | Sheet 7 of 32 |

| FSC     | FSB     | FSA     | CPU      | SRC | PCI  | REF    | DOT_96 | USB  |
|---------|---------|---------|----------|-----|------|--------|--------|------|
| CLKSEL2 | CLKSEL1 | CLKSEL0 | MHz      | MHz | MHz  | MHz    | MHz    | MHz  |
| 0       | 0       | 0       | 266      | 100 | 33.3 | 14.318 | 96.0   | 48.0 |
| 0       | 0       | 1       | 133      | 100 | 33.3 | 14.318 | 96.0   | 48.0 |
| 0       | 0       | 0       | 200      | 100 | 33.3 | 14.318 | 96.0   | 48.0 |
| 0       | 1       | 1       | 166      | 100 | 33.3 | 14.318 | 96.0   | 48.0 |
| 1       | 0       | 0       | 333      | 100 | 33.3 | 14.318 | 96.0   | 48.0 |
| 1       | 0       | 1       | 100      | 100 | 33.3 | 14.318 | 96.0   | 48.0 |
| 1       | 1       | 0       | 400      | 100 | 33.3 | 14.318 | 96.0   | 48.0 |
| 1       | 1       | 1       | Reserved |     |      |        |        |      |

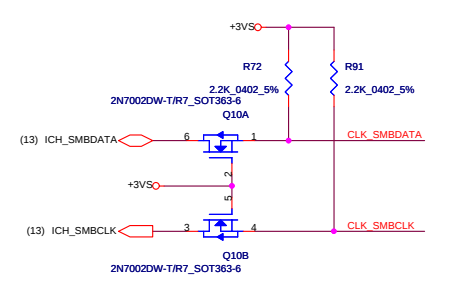
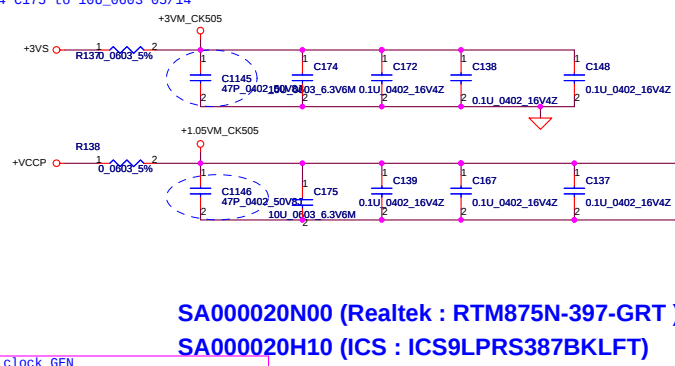
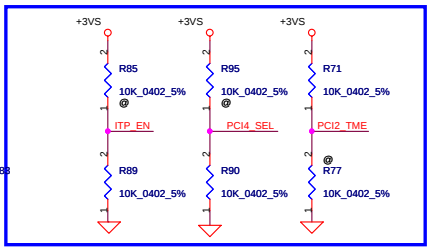


09/03 Modify



For ITP\_EN, 0 =SRC8/SRC8#; 1 = ITP/ITP#  
For PCI4\_SEL, 0 = Pin24/25 : DOT96 / DOT96#  
Pin28/29 : LCDCLK / LCDCLK#  
1 = Pin24/25 : SRC\_0 / SRC\_0#  
Pin28/29 : 27M/27M\_SS

For PCI2\_TME:0=Overclocking of CPU and SRC allowed (ICS only)  
1=Overclocking of CPU and SRC NOT allowed

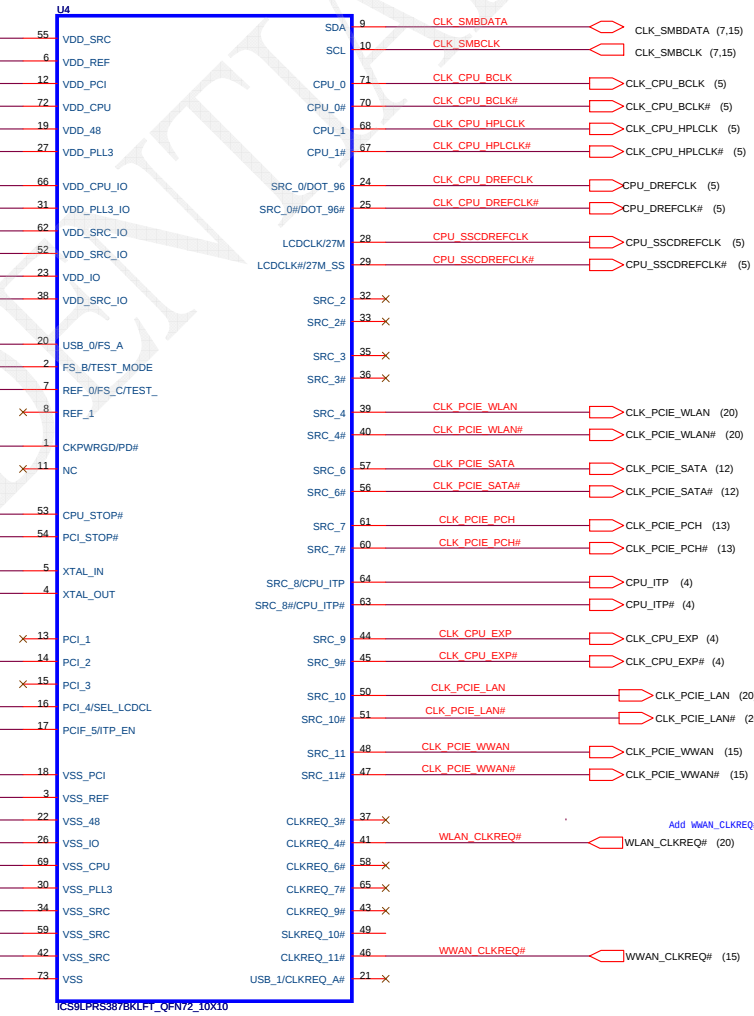


## SRC PORT LIST

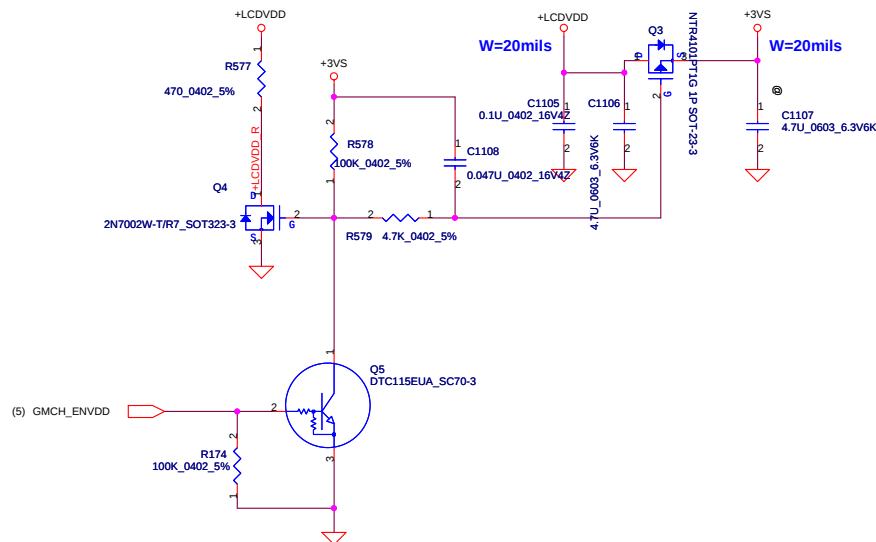
| PORT  | DEVICE         |
|-------|----------------|
| SRC1  | CPU_SSCDREFCLK |
| SRC2  |                |
| SRC3  |                |
| SRC4  | PCIE_WLAN      |
| SRC6  | PCIE_SATA      |
| SRC7  | PCIE_PCH       |
| SRC8  | CPU_ITP        |
| SRC9  | CLK_CPU_EXP    |
| SRC10 | PCIE_LAN       |
| SRC11 | PCIE_WWAN      |

## REQ PORT LIST

| PORT    | DEVICE    |
|---------|-----------|
| REQ_3#  |           |
| REQ_4#  | PCIE_WLAN |
| REQ_6#  |           |
| REQ_7#  |           |
| REQ_9#  |           |
| REQ_10# |           |
| REQ_11# | PCIE_WWAN |
| REQ_A#  |           |

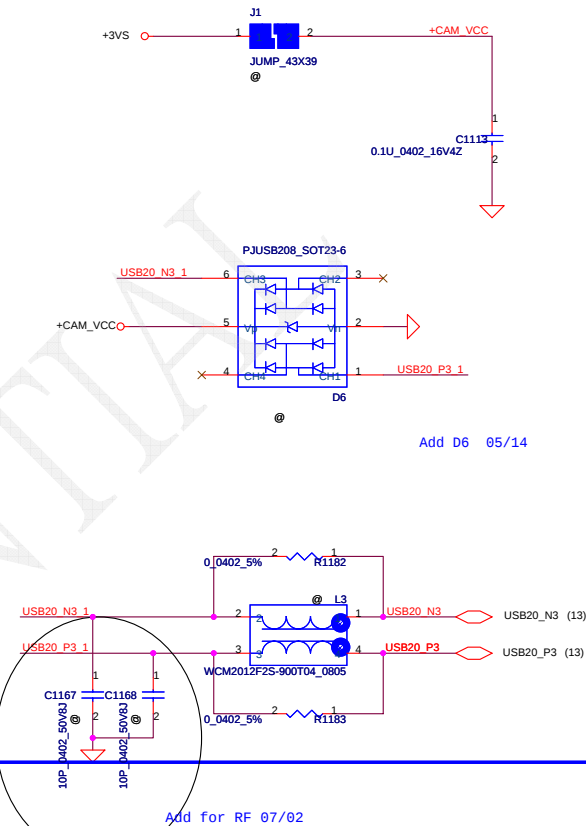
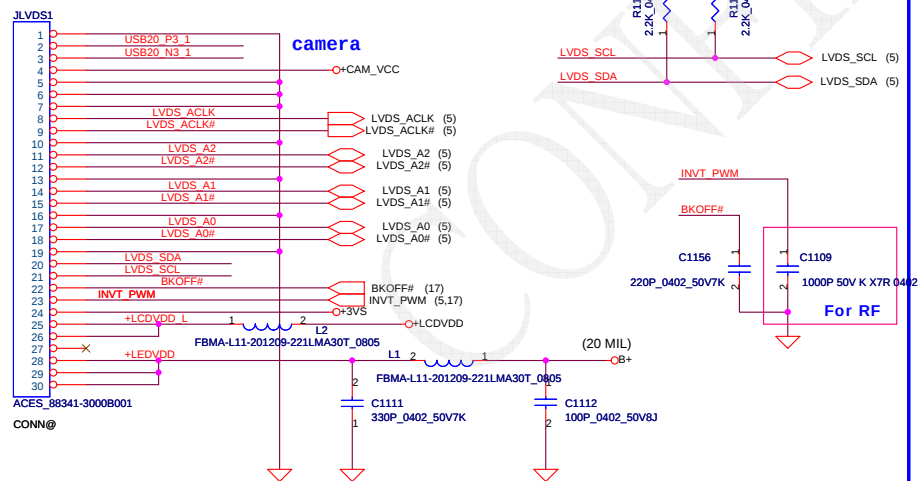


## LCD POWER CIRCUIT

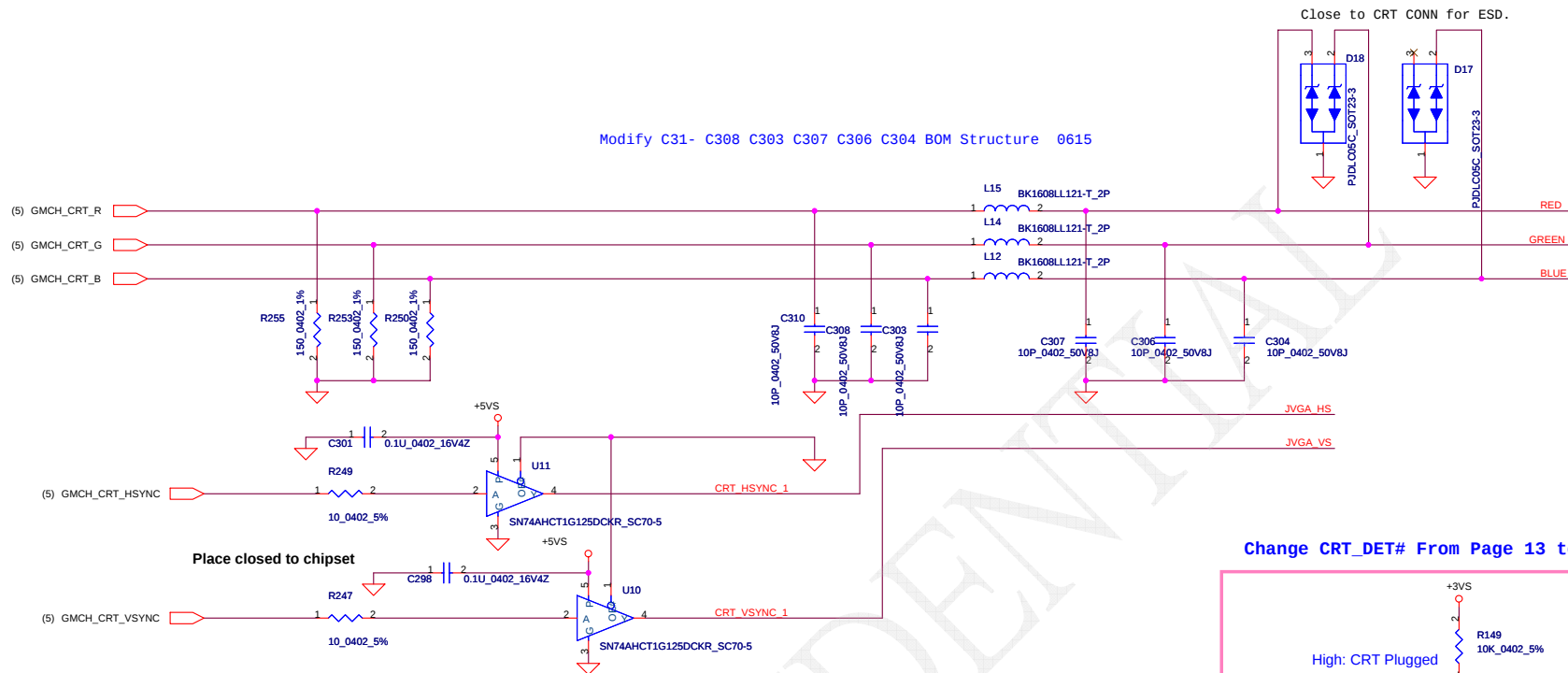


## CMOS & LCD/PANEL BD. Conn.

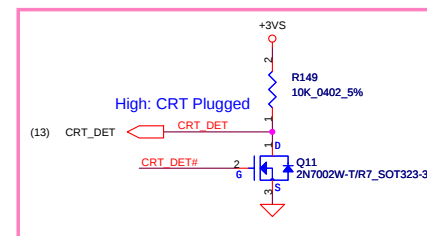
Modify JLVDS1 08/04



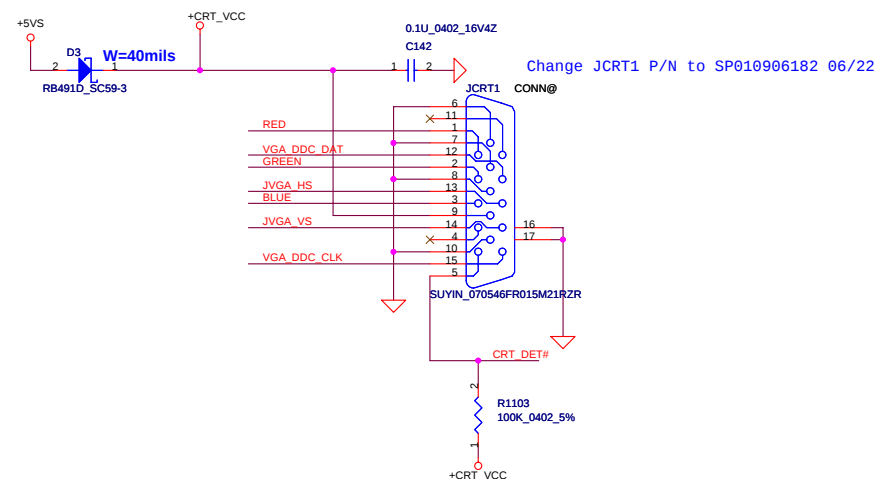
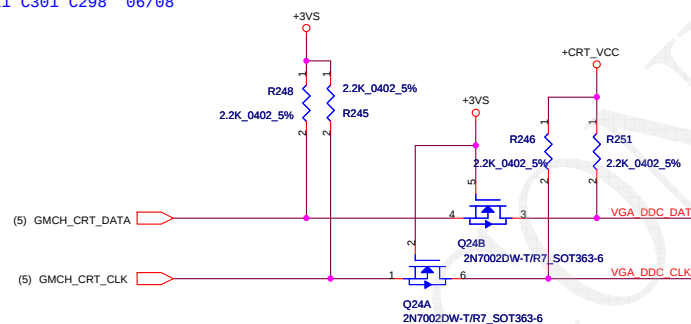
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| Date: Friday, May 21, 2010                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |  | Rev                |  |  |  | B                        |  |  |  |
| Sheet                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  | 9                  |  |  |  | of 32                    |  |  |  |



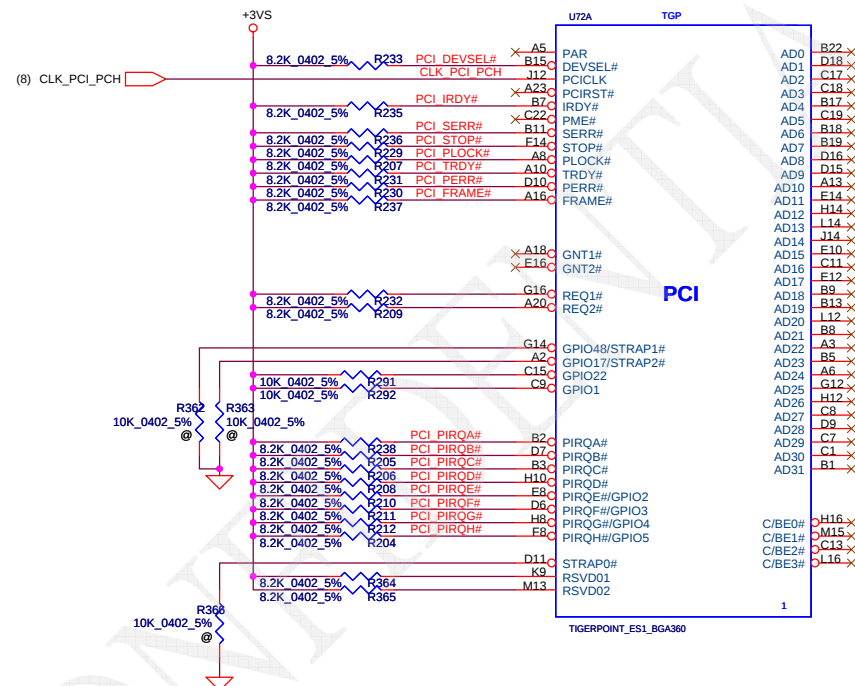
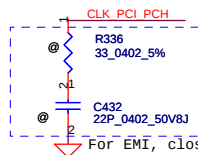
Change CRT\_DET# From Page 13 to Page 10 06/12



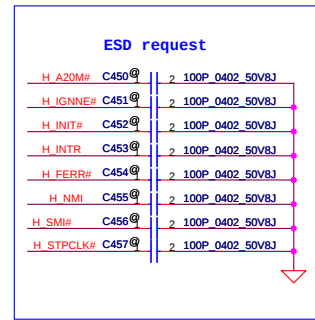
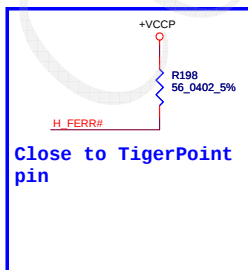
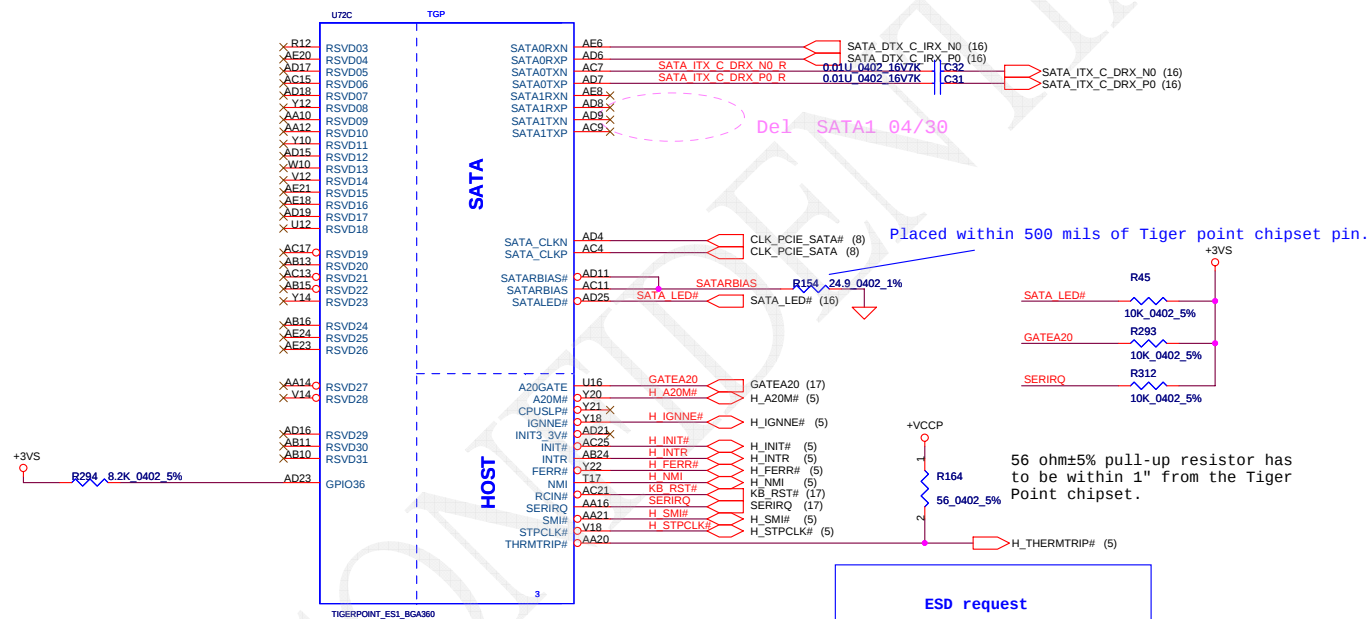
## CRT PORT



| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |           | Compal Electronics, Inc.   |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |           | Date: Friday, May 21, 2010 | Sheet 10 of 32 |



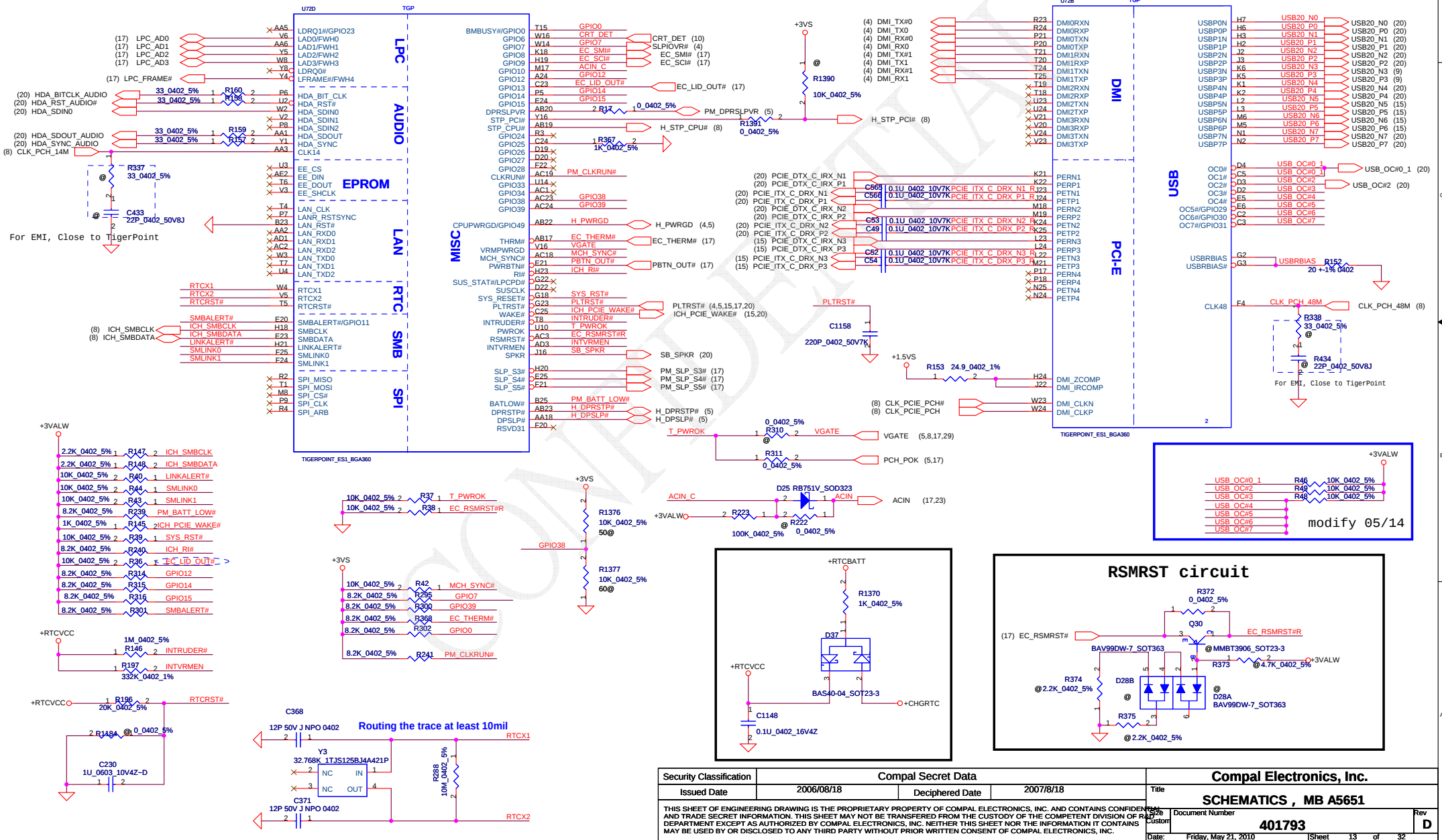
| STRAP2#<br>GPIO17 | STRAP1#<br>GPIO48 | Boot BIOS |
|-------------------|-------------------|-----------|
| 0                 | 1                 | SPI       |
| 1                 | 0                 | PCI       |
| 1                 | 1                 | LPC       |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |       |  |                            |  |                |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|--|-----------------|--|--------------------------|--|-------|--|----------------------------|--|----------------|--|
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |       |  | Date: Friday, May 21, 2010 |  | Sheet 12 of 32 |  |

| PCIE Port List |      |
|----------------|------|
| 1              | LAN  |
| 2              | WLAN |
| 3              | WWAN |
| 4              |      |

| USB Port List |            |
|---------------|------------|
| 0             | USB Left1  |
| 1             | USB Left2  |
| 2             | USB Right2 |
| 3             | CMOS       |
| 4             | CardReader |
| 5             | WWAN       |
| 6             | BT         |
| 7             | WIMAX      |



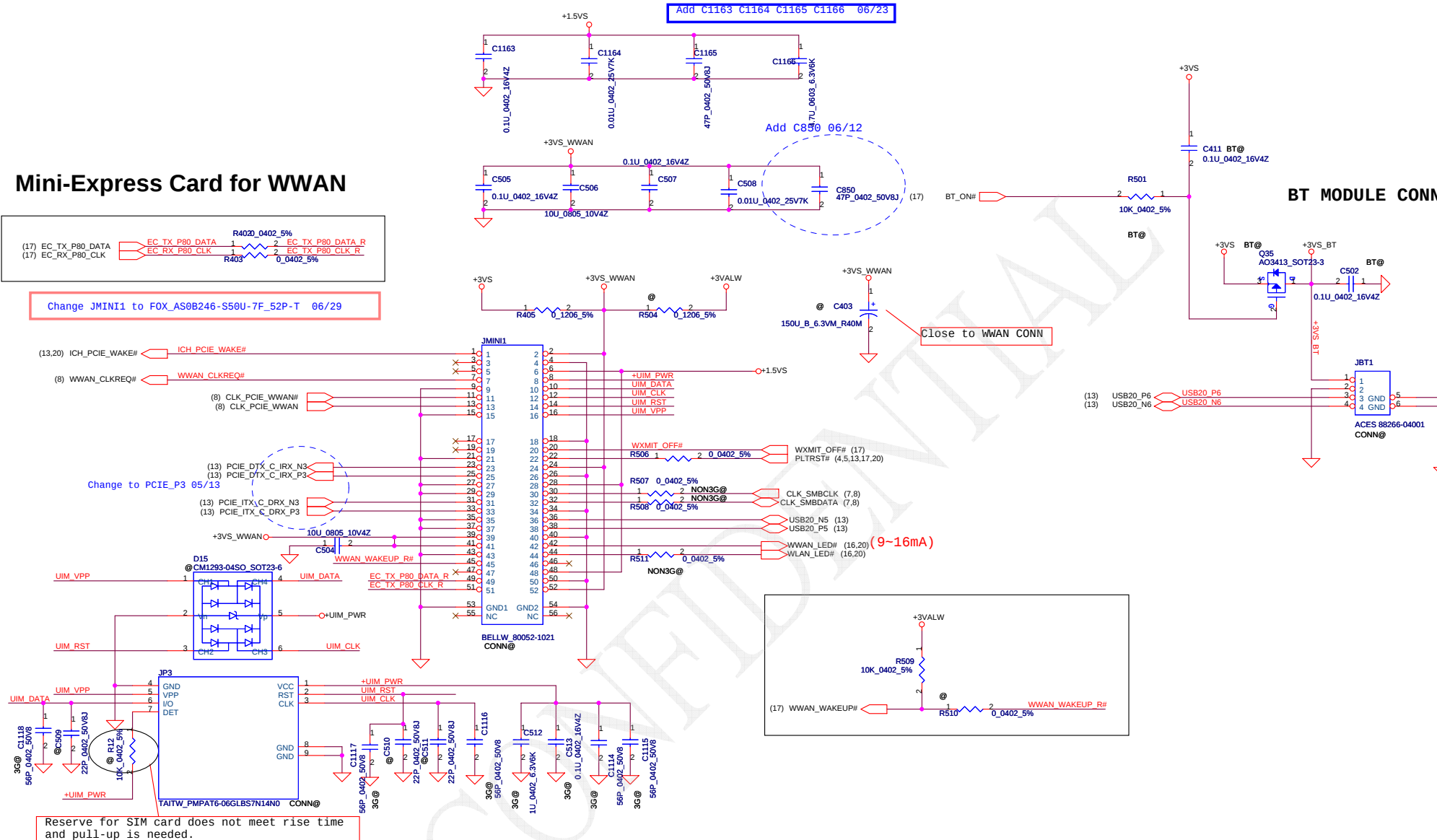


(17) EC\_TX\_P80\_DATA      EC TX P80 DATA      1      2      EC TX P80 DATA\_R  
(17) EC\_RX\_P80\_CLK      EC RX P80\_CLK      1      2      EC TX P80\_CLK\_R  
R402      R403      0\_0402\_5%

(13,20) ICH\_PCIE\_WAKE#  ICH\_PCIE\_WAKE#

(8) WWAN\_CLKREQ#  WWAN\_CLKREQ#

(13)  
Change to PCIE\_P3 05/13



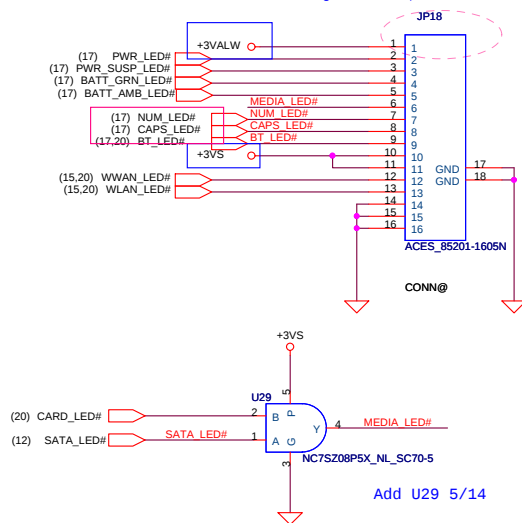
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |           |                          |                       |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-----------|--------------------------|-----------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |           | Compal Electronics, Inc. |                       |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2006/08/05 | Deciphered Date    | 2007/8/18 | Title                    | SCHEMATICS , MB A5651 |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |           | Date:                    | Friday, May 21, 2010  | Sheet 15 of 32 |

# ADD LED PCB CONN 06/12

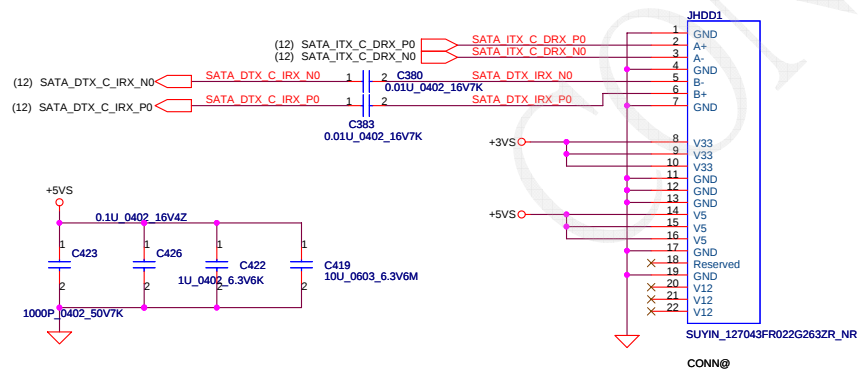
## LED PCB CONN

Change JP18 to NEW P/N 06/23

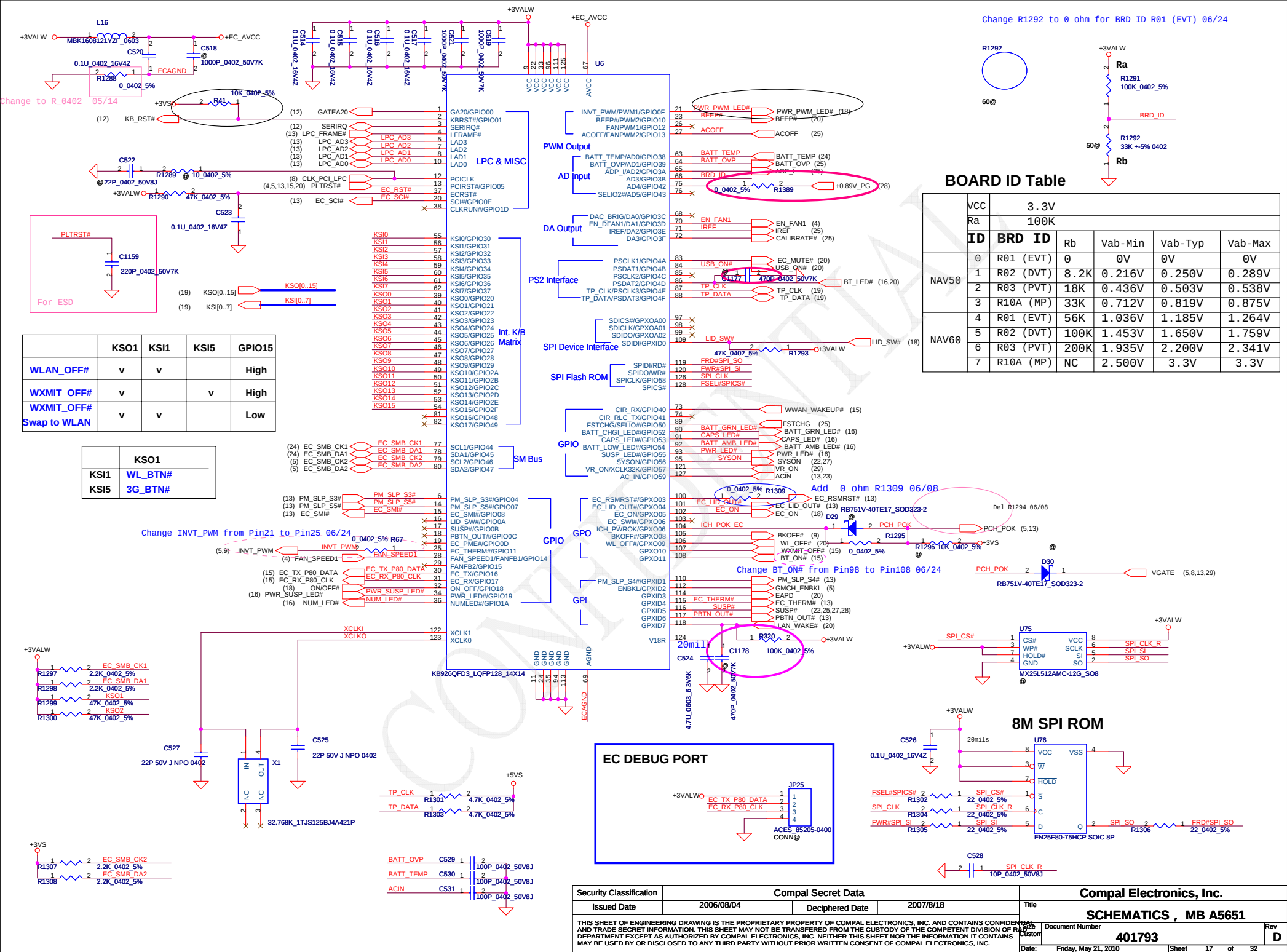
09/03 Change +5VALW , +5VS to +3VALW +3VS



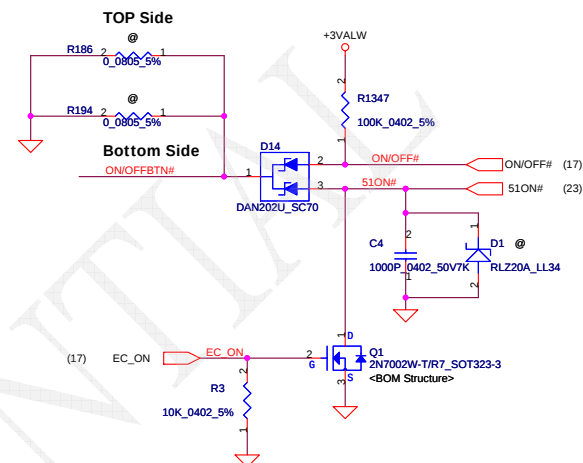
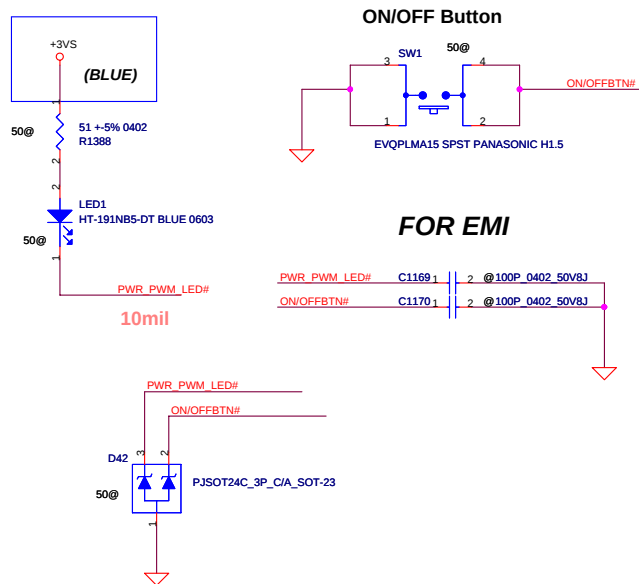
## SATA HDD Conn.



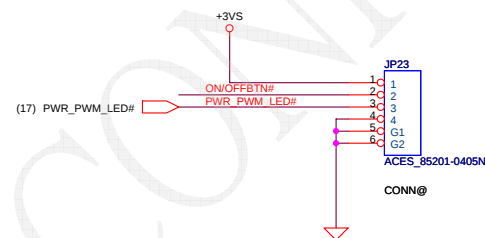
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|-----------|--------------------------|-----------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |           | Compal Electronics, Inc. |                       |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2006/08/18         | Deciphered Date | 2007/8/18 | Title                    | SCHEMATICS , MB A5651 |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |           | Date                     | Friday, May 21, 2010  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |           | Sheet                    | 16 of 32              |



Add For NAV50 07/06  
09/03 Change +5VS to +3VS

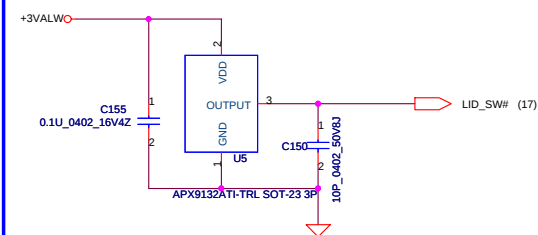


### PWR/B Conn

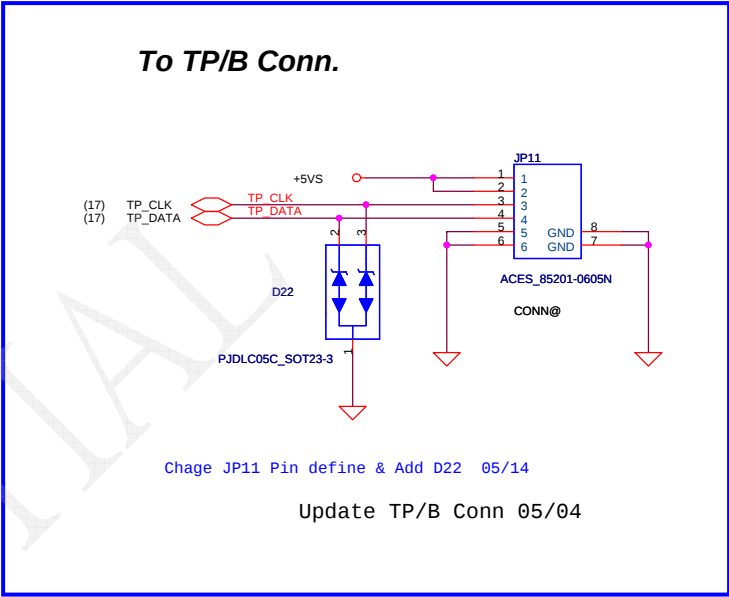
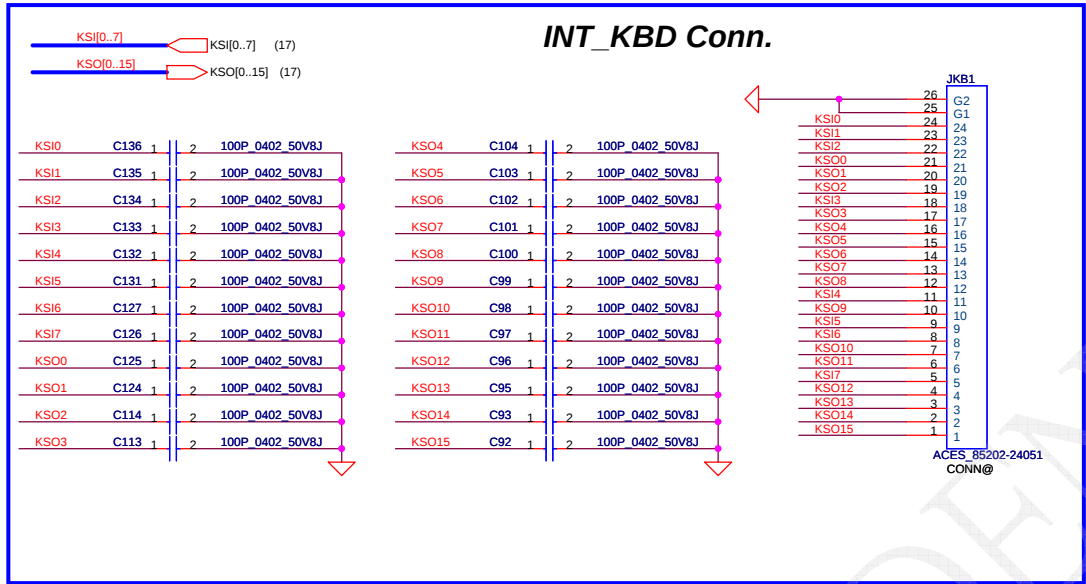


Update PW/B Conn 0623

### LID Switch

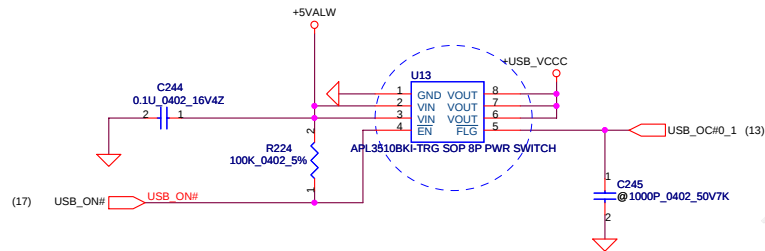
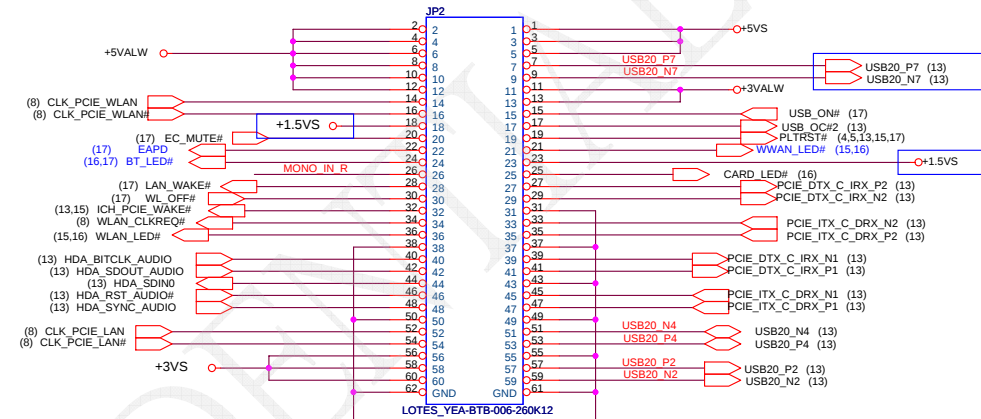
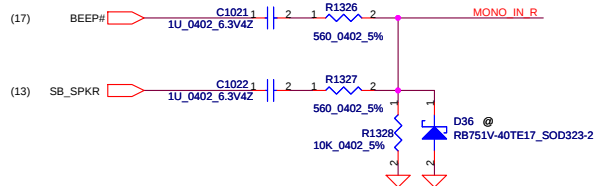


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |           |                          |                       |                |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |           | Compal Electronics, Inc. |                       |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2006/08/18         | Deciphered Date | 2007/8/18 | Title                    | SCHEMATICS , MB A5651 |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |           | Date:                    | Friday, May 21, 2010  | Sheet 18 of 32 |



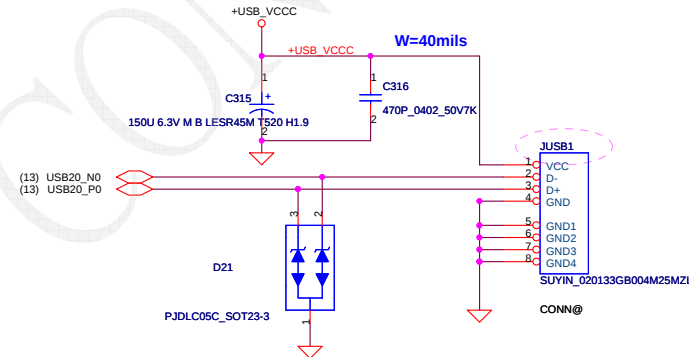
09/03 Change Pin 18, 23 to +1.5VS change Pin7 , 9 to USB20\_P7 N7

## I/O Board Conn.

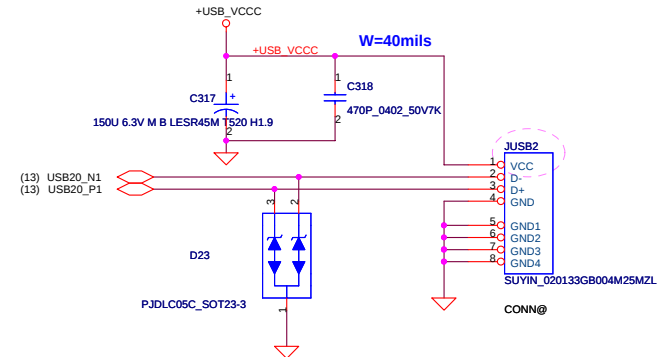


Change JUSB1 JUSB2 to NEW P/N SP010906181 06/21

### USB CONN.1

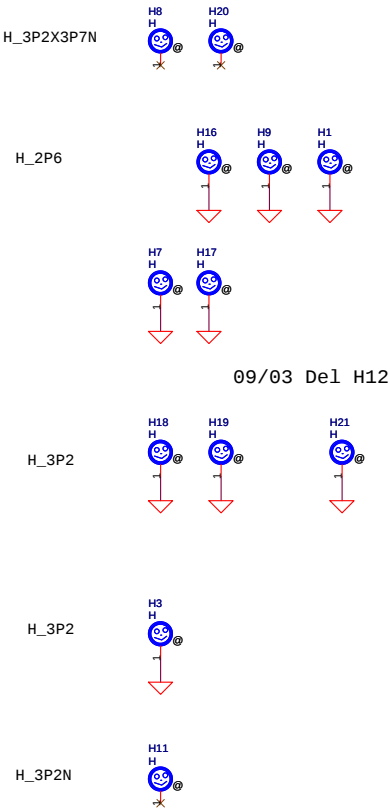


### USB CONN.2



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |                      |  |                      |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|--|-----------------|--|--------------------------|--|----------------------|--|----------------------|--|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Compal Secret Data |  |                 |  | Compal Electronics, Inc. |  |                      |  |                      |  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | 2006/08/18         |  | Deciphered Date |  | 2007/8/18                |  | Title                |  |                      |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  | Sheet                |  | 20 of 32             |  |

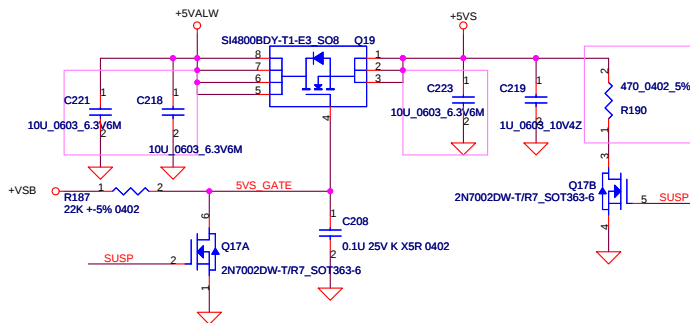
Modify Hole location by (ME Drawing 06/12) 0615



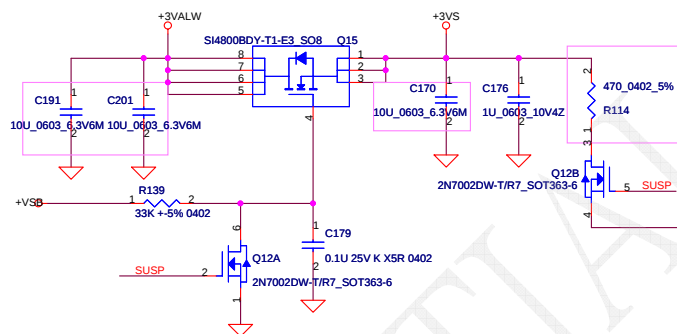
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                 |           |                          |                      |       |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Compal Secret Data |                 |           | Compal Electronics, Inc. |                      |       |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                 |           | Sheet                    | 21                   | of 32 |

Change R51 R57 R70 R63 R317 R114 R190 to 0402 SIZE 04/30  
 Change C221 C218 C223 C 191 C170 C392 C393 C394 to 0603 SIZE 04/30

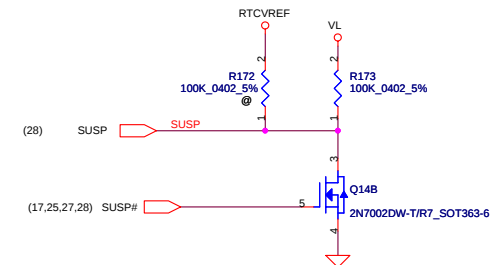
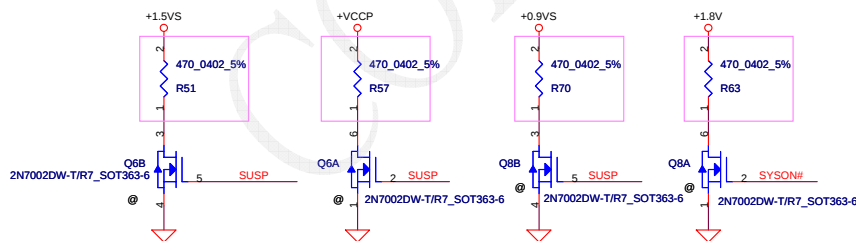
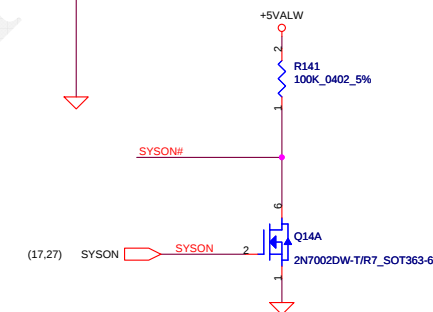
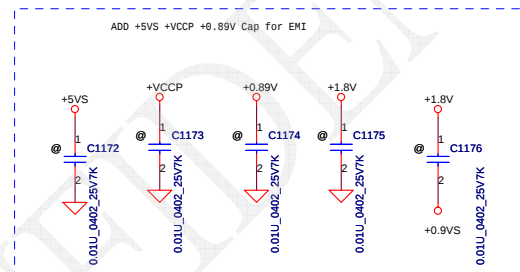
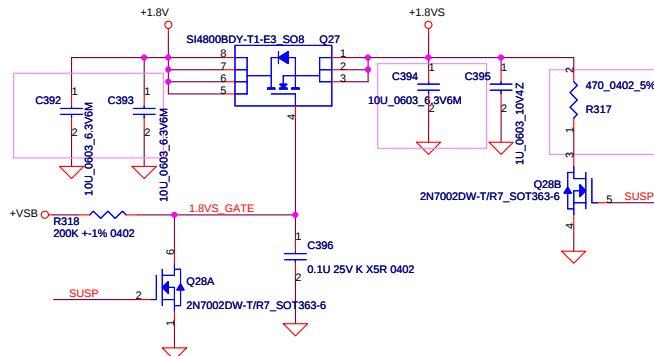
### +5VALW TO +5VS



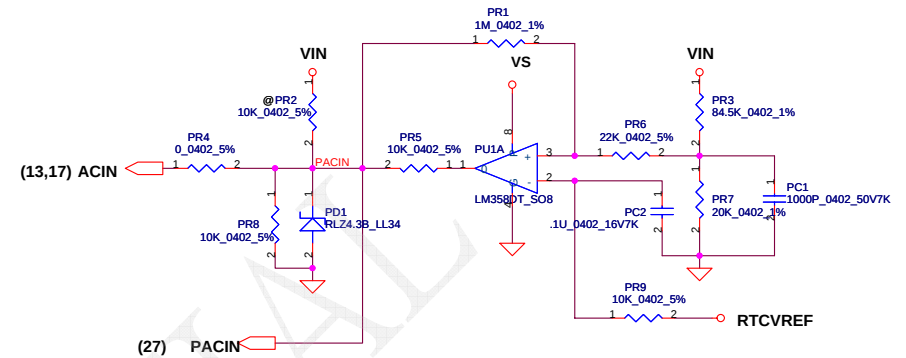
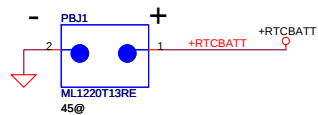
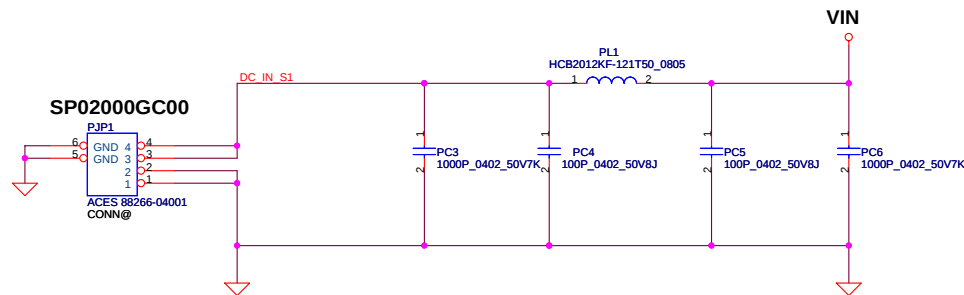
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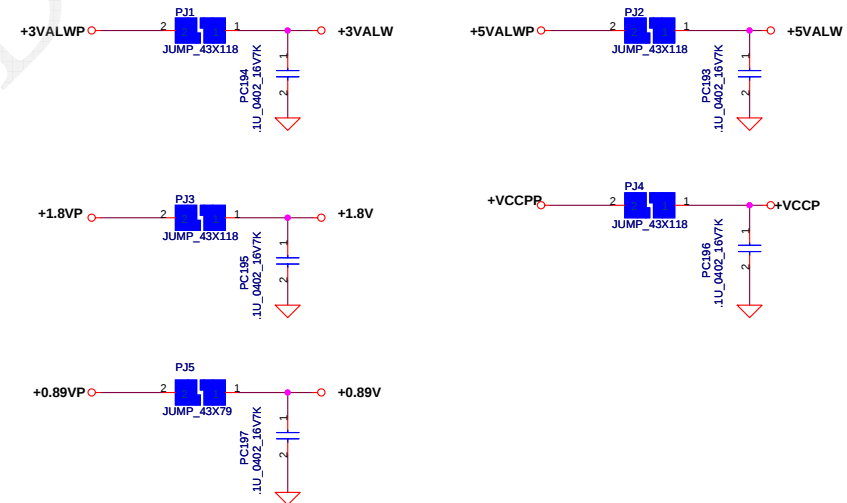
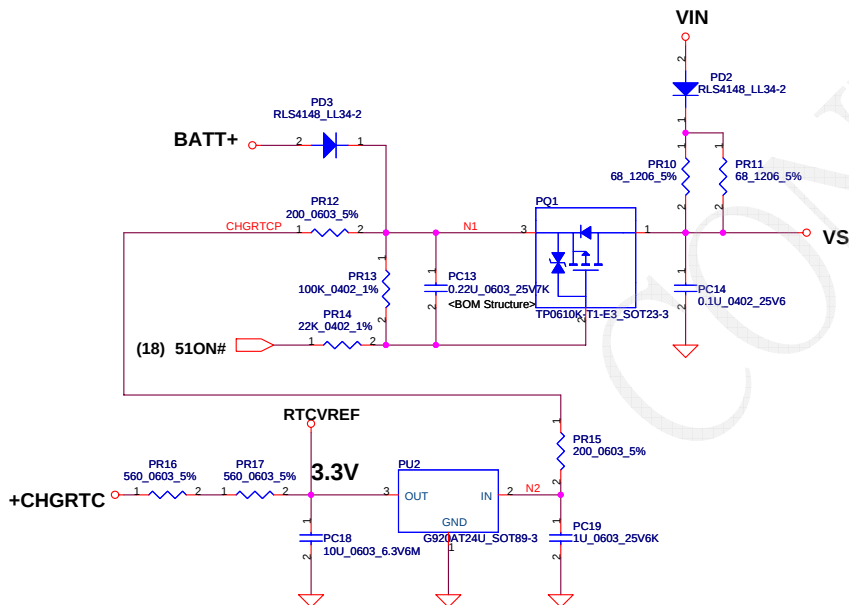
### +1.8V to +1.8VS



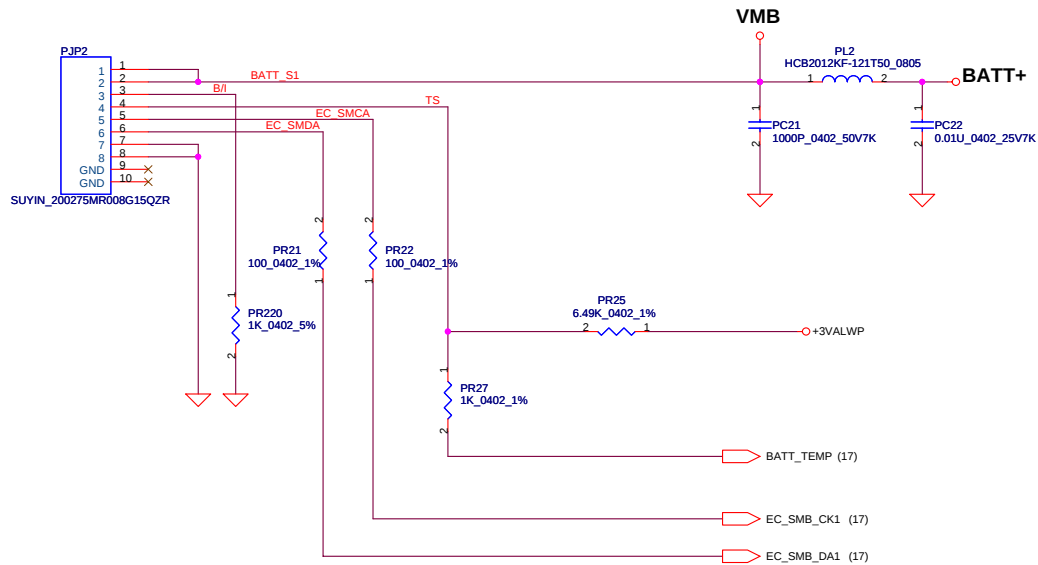
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |           | Compal Electronics, Inc. |                       |
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| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2006/08/18 | Deciphered Date    | 2007/8/18 | Title                    | SCHEMATICS , MB A5651 |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |           | Date                     | Friday, May 21, 2010  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |           | Sheet                    | 22 of 32              |



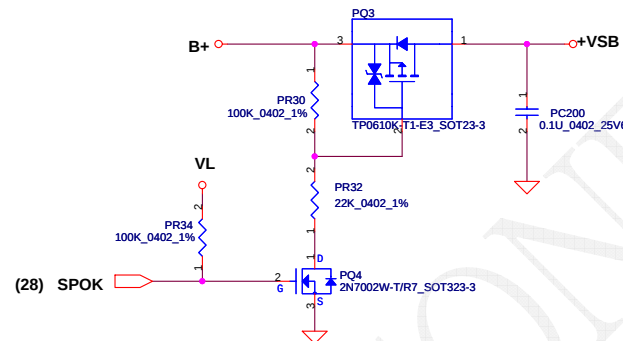
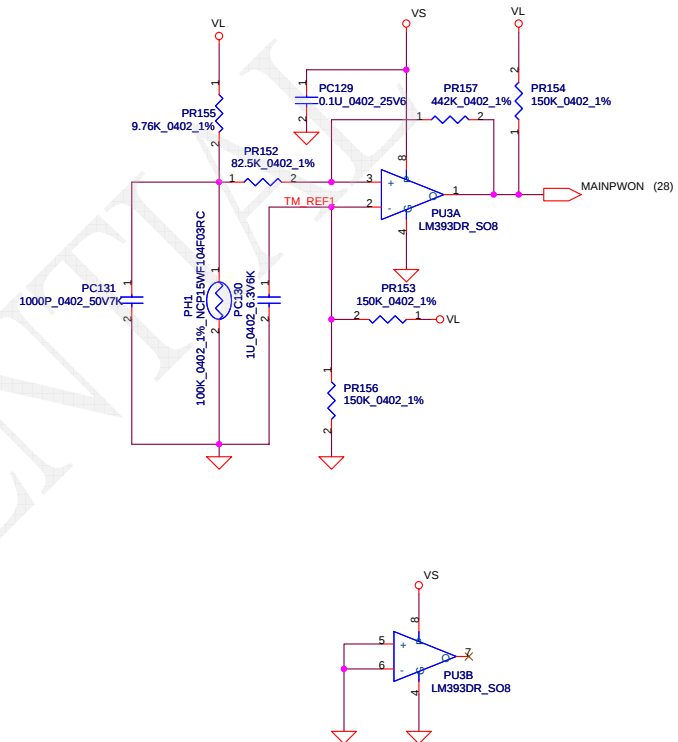
| Vin Detector |         |         |         |
|--------------|---------|---------|---------|
|              | Min.    | Typ     | Max.    |
| H-->L        | 16.976V | 17.525V | 17.728V |
| L-->H        | 17.430V | 17.901V | 18.384V |



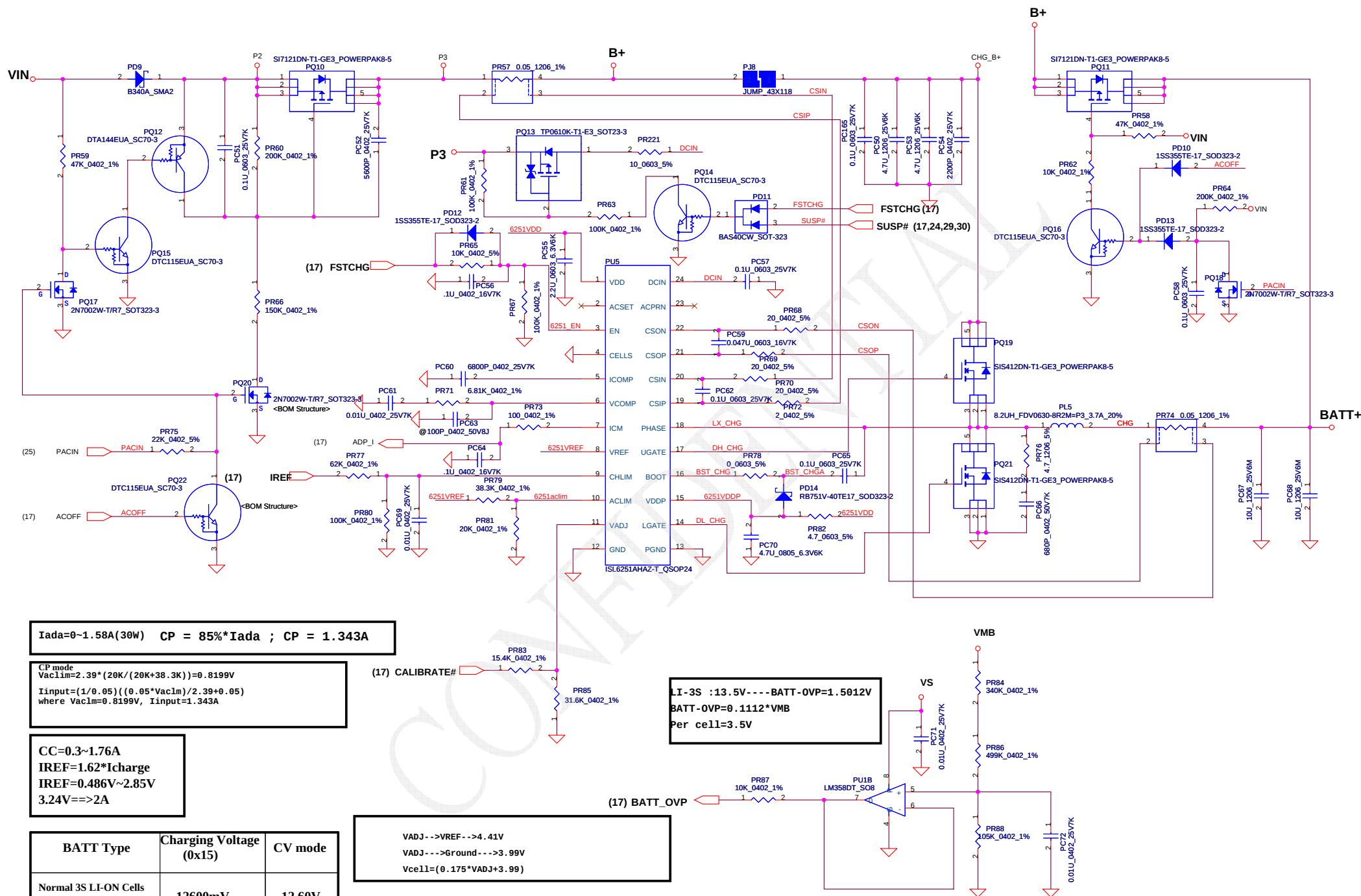
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|-----------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                       |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2007/09/20 | Deciphered Date    | 2008/09/20 | Title                    | SCHEMATICS , MB A5651 |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 23 of 32              |

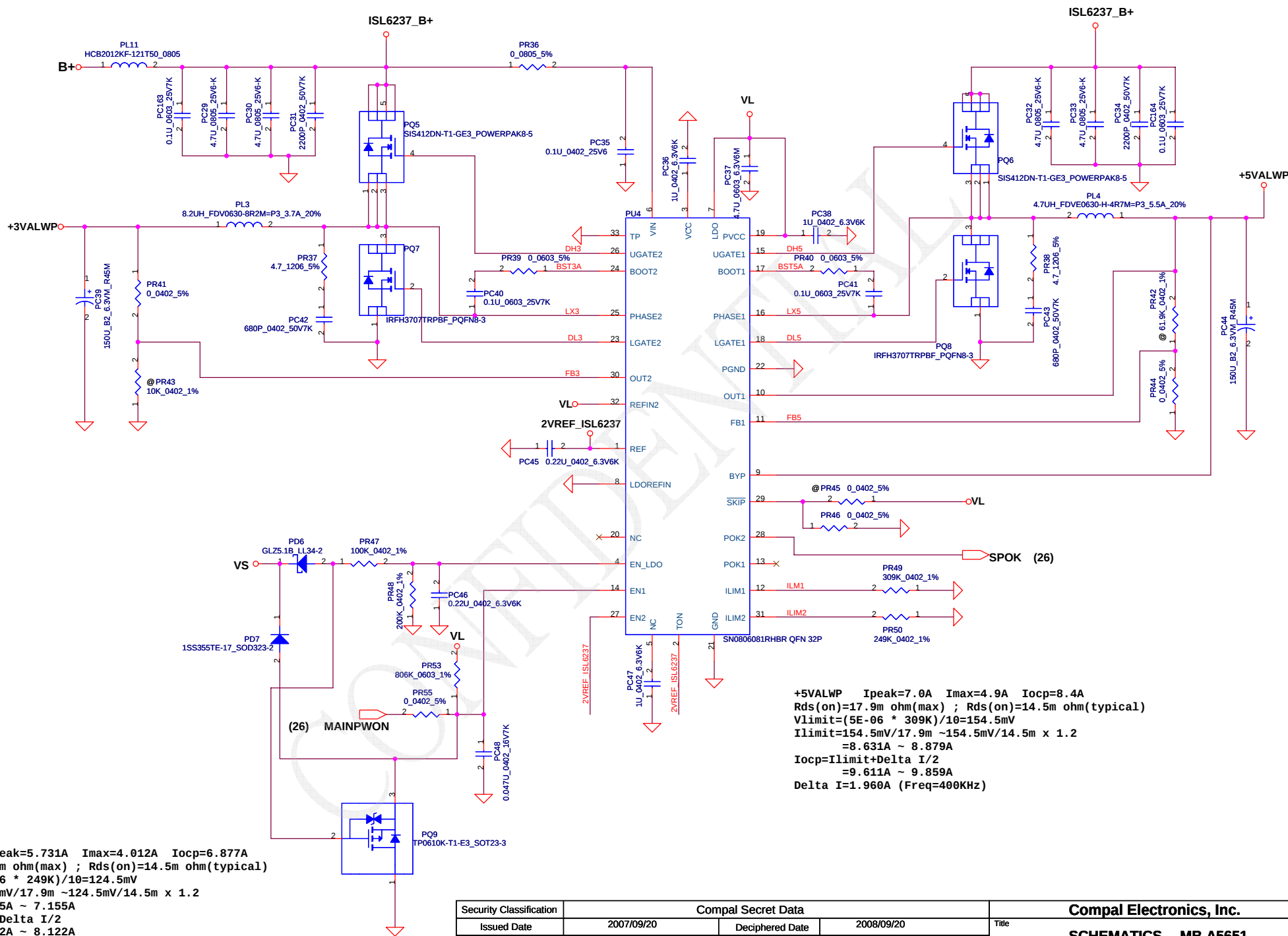


PH1 under CPU bottom side :  
CPU thermal protection at 90 degree C  
Recovery at 70 degree C

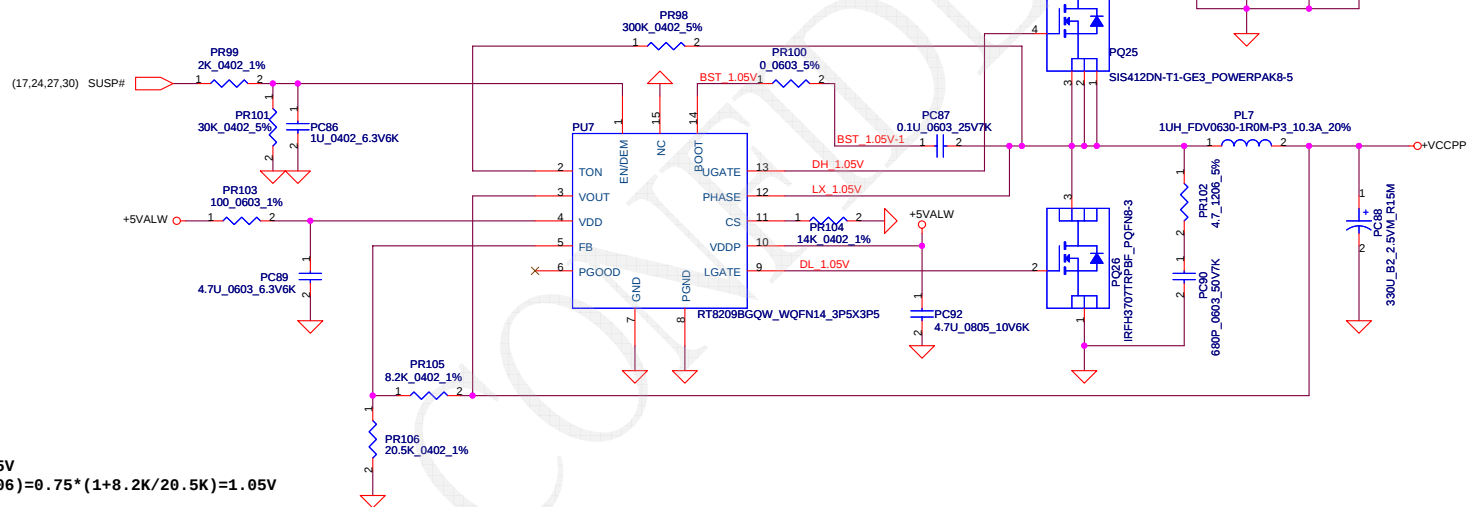
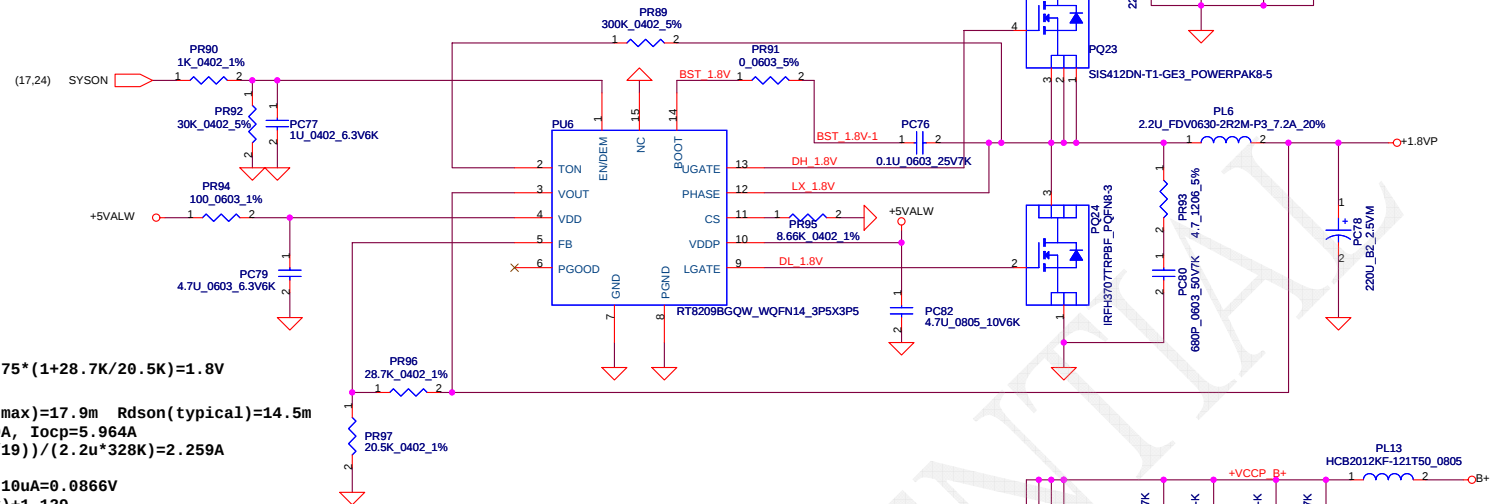


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                       |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                       |
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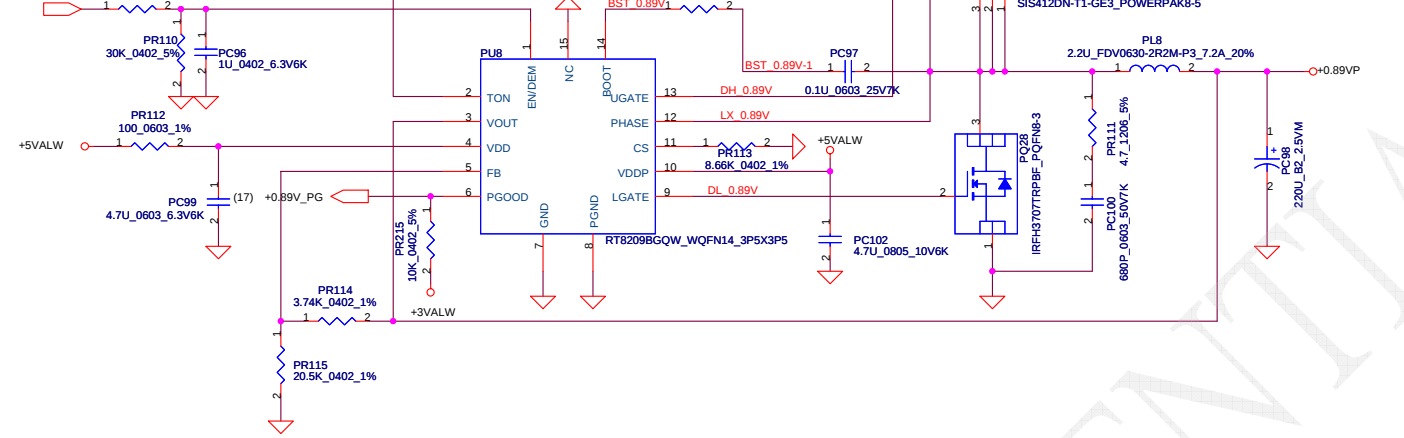
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| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | 2007/09/20         |  | Deciphered Date |  | 2008/09/20               |  | Title  |                      | SCHEMATICS , MB A5651 |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |        |                      |                       |                |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 | Compal Electronics, Inc. |                            |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2007/09/20         | Deciphered Date | 2008/09/20               | Title                      |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          | Document Number            |
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(17,24,27,29)

SUSP#

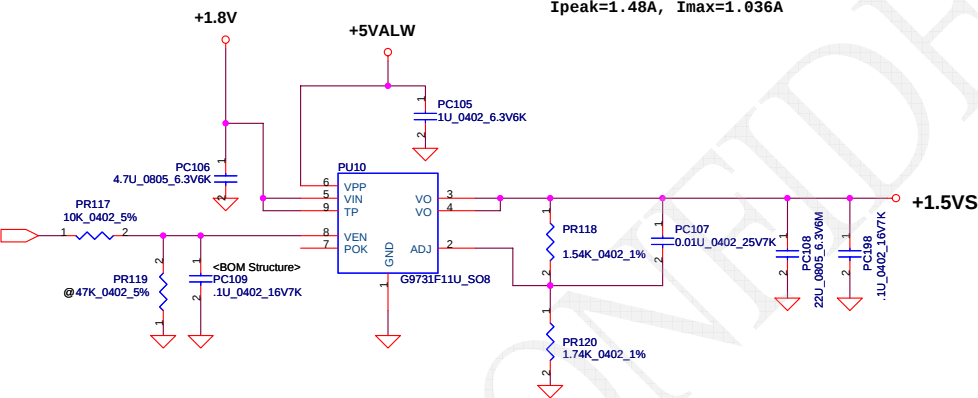


<Vo=0.89V> VFB=0.75V  
Vo=VFB\*(1+PR114/PR115)=0.75\*(1+28.7K/20.5K)=0.89V  
Fsw=263KHz

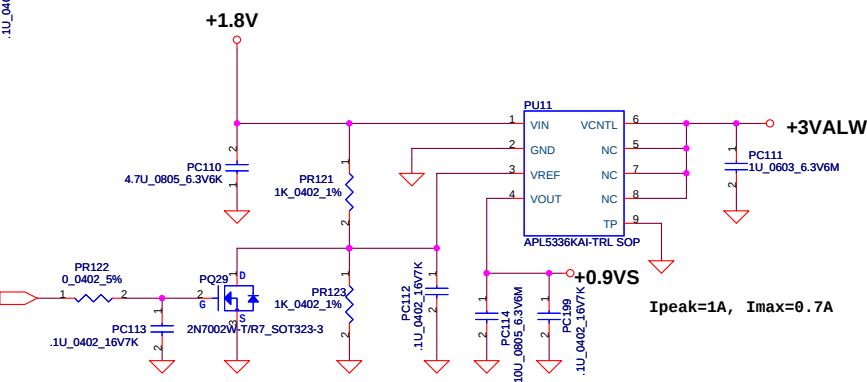
Cout ESR=15m ohm Rds(on)=17.9m Rds(on)(typical)=14.5m  
Ipeak=1.38A, Imax=0.966A, Iocp=1.656A  
Delta I=((19-1.8)\*(1.8/19))/(2.2u\*263K)=1.467A  
=>1/2DeltaI=0.7335A  
Vtrip=Rtrip\*10uA=8.66K\*10uA=0.0866V  
Iocpmin=Vtrip/(Rds(on)(max))+0.7335  
=0.0866/(0.0179)+0.7335=5.572A  
Iocpmax=(0.0866/(0.0145\*1.2))+0.7335=5.711A  
Iocp=5.572A-5.711A

Ipeak=1.48A, Imax=1.036A

(17,24,27,29) SUSP#



(24) SUSP



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          |                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|--------------------------|----------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 | Compal Electronics, Inc. |                            |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          | 401793                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          | Rev D                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          | Date: Friday, May 21, 2010 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          | Sheet 28 of 32             |



## Version change list (P.I.R. List)

Page 1 of 1 for PWR

| Item | Fixed Issue                     | Reason for change            | Rev. | PG # | Modify List                            | Date      | Phase |
|------|---------------------------------|------------------------------|------|------|----------------------------------------|-----------|-------|
| 1    | add PC200                       | For design change            | 0.1  | 24   |                                        | 2009.5.15 | EVT   |
| 2    | add PC193,PC194                 | For design change            | 0.1  | 26   |                                        | 2009.5.15 | EVT   |
| 3    | add PC195,PC196                 | For design change            | 0.1  | 27   |                                        | 2009.5.15 | EVT   |
| 4    | add PC197,PC198,PC199           | For design change            | 0.1  | 28   |                                        | 2009.5.15 | EVT   |
| 5    | change PL3,PL4                  | For design change            | 0.1  | 26   | change PL3,PL4 to 4.7uH                | 2009.5.15 | EVT   |
| 6    | change PQ10,PQ11                | For design change            | 0.1  | 25   | change PQ10,PQ11 to P-Chanel           | 2009.6.5  | EVT   |
| 7    | add PC165                       | Solution for 3G noise reduce | 0.1  | 25   |                                        | 2009.6.5  | EVT   |
| 8    | add PC163,PC164                 | Solution for 3G noise reduce | 0.1  | 26   |                                        | 2009.6.5  | EVT   |
| 9    | add PC166,PC167                 | Solution for 3G noise reduce | 0.1  | 27   |                                        | 2009.6.5  | EVT   |
| 10   | add PC168                       | Solution for 3G noise reduce | 0.1  | 28   |                                        | 2009.6.5  | EVT   |
| 11   | delete PC103,PC1120             | For design change            | 0.1  | 29   |                                        | 2009.6.5  |       |
| 12   | change PR94,PR102               | For design change            | 0.1  | 27   | change PR94,PR102 to 100ohm            | 2009.6.5  |       |
| 13   | change PC79,PC89                | For design change            | 0.1  | 27   | change PC79,PC89 to 4.7uF              | 2009.6.5  |       |
| 14   | change PR112                    | For design change            | 0.1  | 28   | change PR112 to 100ohm                 | 2009.6.5  |       |
| 15   | change PC99                     | For design change            | 0.1  | 28   | change PC99 to 4.7uF                   | 2009.6.5  |       |
| 16   | change +5VALW/+3VALW OCP        | For design change            | 0.1  | 26   | change PR49 to 309ohm & PR50 to 249ohm | 2009.6.5  |       |
| 17   | add PJ1,PJ2,PJ3,PJ4,PJ5,PJ6,PJ7 | For design change            | 0.1  | 25   |                                        | 2009.6.15 |       |
| 18   | add PJ9,PJ10                    | For design change            | 0.1  | 28   |                                        | 2009.6.15 |       |
| 19   | Change net name                 | For design change            | 0.1  | 25   | Change net name +1.05V to +VCCP        | 2009.6.15 |       |
| 20   | Change PJP2                     | For design change            | 0.1  | 24   | Change PJP2 to DC040903020             | 2009.6.15 |       |
| 21   | Change PBJ1                     | For design change            | 0.1  | 23   | Change PBJ1 to SP020008Y00             | 2009.6.15 |       |
| 22   | delete PJ6,PJ7,PJ9,PJ10         | For design change            | 0.1  | 28   |                                        | 2009.6.18 |       |
| 23   | Change net name                 | For design change            | 0.1  | 29   | Change net name GND_SIGNAL to GND      | 2009.6.18 |       |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |            |                          |          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |            | 401793                   | D        |
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| Item | Fixed Issue               | Reason for change             | Rev. | PG # | Modify List                                                                        | Date      | Phase |
|------|---------------------------|-------------------------------|------|------|------------------------------------------------------------------------------------|-----------|-------|
| 1    | Change PR194              | For design change             | 0.1  | 29   | change PR194 to 4.7K ohm                                                           | 2009.6.30 | EVT   |
| 2    | add PR221                 | For design change             | 0.1  | 25   |                                                                                    | 2009.6.30 | EVT   |
| 3    | Change PR4                | For design change             | 0.1  | 23   | change PR4 to 0 ohm                                                                | 2009.7.2  | EVT   |
| 4    | Change PJP3 to PBJ1       | For design change             | 0.1  | 23   | change SP020008Y00 to SP093MX000                                                   | 2009.8.4  | EVT   |
| 5    | Change PH1 & PH4          | For design change             | 0.1  | 24   | change SL210031F00 to SL200000V00                                                  | 2009.8.12 | EVT   |
| 6    | Change PL10               | For design change             | 0.1  | 29   | change SH000006I80 to SH000000700                                                  | 2009.8.12 | EVT   |
| 7    | Change PR99 & PR108       | Modify power sequence         | 0.1  | 27   | change SD028000080(0 ohm) to SD034200280(20K ohm)                                  | 2009.8.12 | EVT   |
| 8    | Change PR90               | Modify power sequence         | 0.1  | 27   | change SD028000080(0 ohm) to SD034100280(10K ohm)                                  | 2009.8.12 | EVT   |
| 9    | Change PR83               | Modify ISL6251 Charger KV     | 0.1  | 25   | change SD034182280(18.2 ohm) to SD034154280(15.4K ohm)                             | 2009.8.24 | EVT   |
| 10   | Change PR117              | Modify power sequence         | 0.1  | 28   | change SD028000080(0 ohm) to SD034100280(10K ohm)                                  | 2009.8.24 | EVT   |
| 11   | Change PR99 & PR108       | Modify power sequence         | 0.1  | 27   | change SD034200280(20K ohm) to SD034200180(2K ohm)                                 | 2009.8.24 | EVT   |
| 12   | Change PR90               | Modify power sequence         | 0.1  | 27   | change SD034100280(10K ohm) to SD034100180 (1K ohm)                                | 2009.8.24 | EVT   |
| 13   | Change PC77 & PC86 & PC96 | Modify power sequence         | 0.1  | 27   | Change PC77 & PC86 & PC96 to pop<br>change SE076104KM8(0.1uf) to SE000000K80 (1uf) | 2009.8.24 | EVT   |
| 14   | Change PC109              | Change part number            | 0.1  | 27   | change SE076104KM8(0.1uf) to SE076104K80(0.1uf)                                    | 2009.8.24 | EVT   |
| 15   | Change PL3.PL4            | To slove high frequency noise | 0.1  | 26   | change SH00000BU00(4.7uH) to SH00000BS00(8.2uH)                                    | 2009.8.27 | EVT   |
| 16   | Change PL9                | For design change             | 0.1  | 29   | change SM01000BY00 to SM01000C000                                                  | 2009.9.4  | DVT   |
| 17   | Change PL4                | To improve +5VALWP efficiency | 0.1  | 26   | change SH00000BS00(8.2uH) to SH00000F900(4.7uH)                                    | 2009.9.10 | DVT   |
| 18   | Change PR209              | Modify CPU CORE OCP           | 0.1  | 29   | change SD028180180(1.8K ohm) to SD034237180 (2.37K ohm)                            | 2009.9.30 | PVT   |
| 19   |                           |                               |      |      |                                                                                    |           |       |
| 20   |                           |                               |      |      |                                                                                    |           |       |
| 21   |                           |                               |      |      |                                                                                    |           |       |
| 22   |                           |                               |      |      |                                                                                    |           |       |
| 23   |                           |                               |      |      |                                                                                    |           |       |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |                    |            |                          |                      |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |                    |            | Sheet                    | 31 of 32             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |                    |            | Rev                      | D                    |

<2009/4/28>  
Update new power schematic,  
release first version NAV50 schematic

<2009/04/29>  
Add R1182 R1183 L3 on page 9  
Change J3 to R1184 on page 13

<2009/04/30>  
Change JDIM1 to SP07F001720 on page 7  
Del SATA1 Port on page 12  
Change R51 R57 R70 R63 R317 R314 R190 to 0402 Size on page 21

<2009/05/04>  
Add WWAN\_CLKREQ# and R107 pull-high to +3VS on page 8  
Add CRT\_DET# on page 10  
Add CRT\_DET# circuit on page 13  
Add 3 LEDS on page 16  
Add BT/BTN Board CONN. on page 16  
Update TP/B CONN. to SP01000LB00 on page 19

<2009/05/11>  
Add INVT\_PWM on Page 5  
Del R323 on page 5  
C74 change to 2.2U\_0603 on page 6  
C267 change to 22U on page 6  
C391 change to 0.1U on page 6  
Del C67 C35 C33 C36 on page 6  
Del +LGI\_VID and U71.A21 direct connect to +VCCP on page 6  
Follow Intel checklist, add R52 on FSB on page 8  
Add D5 D7 D8 on page 4  
Add R174 on page 9  
Add PCI\_RST# on page 11  
Add C1115 C1114 C1116 C1117 C1118 on page 15

<2009/05/12>  
Follow Intel Layout Checklist, Add C141 on VDDSPD on page 7  
Modify SRC CLK PORT LIST on page 8  
Del CLKREQ\_LAN# on page 8  
Change PCIE Port list on page 13  
Change USB Port list on page 13  
Add W/L 3G SW on page 16  
Del R103 on page 18

<2009/05/13>  
Change JMINI1 to PCIE Port 3 on page 15

<2009/05/14>  
Page8 Change C174 C175 to 10U\_0603

<2009/05/14>  
Update New Power schematic  
Del R376 R377 on page 8  
Del D5 D7 D8 on page 4  
Change JLVDS1 to SP010006810 on page 9  
Add D6 for EMI on page 9  
Change C1106 to C\_0603 type on page 9  
Change USB\_OC# on page 13  
Add USB Port2 on page 20  
Change JP11 Pin define & Add D22 on page 19  
Change C512 to 1u\_0402 on page 15  
Add U29 (MEDIA\_LED#) on page 16

<2009/05/19>  
Update new clock GEN co-lay schematic on page 8

<2009/06/05>  
Update new clock GEN co-lay schematic on page 8  
Follow Intel check list change C161 C165 to 27P on page 8  
Follow Intel check list change C56 to 22uF on page 6

<2009/06/08>  
Update New Power schematic 06/06 version  
Page 13- a. Del R203 (pull-up GPIO6 Resister)  
b. Change R1184 NU  
Page 17- a. Add VGATE  
b. Del R1294  
c. Change D30 NU  
d. Change R1295 to 0 ohm  
e. Add R1309 0 ohm on EC\_RSMRST#  
f. Pull-up LAN\_WAKE# +3VALW  
g. ICH\_POK change to PCH\_POK  
h. Pull-up KB\_RST# to +3VS  
Page 10- a. Add R1283 R1284 , Change R247 R249 to 10 ohm  
b. Add @ on U10 U11 C301 C298  
c. Del C302 C300 R1281 R1287

<2009/06/10>  
Page 7- Add C116 @  
Page 22- Modify USB\_OC#1\_2 to USB\_OC#2  
Page 17- Modify PLTRST# to PCI\_RST#  
Page 17- Add @ on R1311

<2009/06/12>  
Page4 Add C314 C313 C1150 D19 on +VCC\_FAN1  
Page8 Add C1145 C1146 C1147  
Page10 Move CRT\_DET# from Page13 to Page10  
Page13 Add +RTCVCC circuit

<2009/06/15>  
Update New Power schematic (change PBJ1 to PJP3)  
Page 10 modify C310 C308 C303 C307 C306 C304 Bom Structure  
Page 22 Modify Hole location by (ME drawing 06/12)

<2009/06/16>  
Page7 Modify DDR Command Control Pin pull-high Resister location  
Page9 Change R577 to 0402 type

<2009/06/17>  
Update New Power schematic 06/17  
Page9 modify LVDS Conn. Pin define  
Page9 Del C1110  
Page4 Add EMI solution D38 D39 D40

<2009/06/18>  
Update New Power schematic 06/18  
Page8 modify U4 Pin define and Q31  
Page13 Add R1376, R1377  
Page15 Modify C403  
Page23 Modify H11

<2009/06/19>  
Page4 Add new signal CPU\_ITP , CPU\_ITP#  
Page5 ADD R1378  
Page6 ADD C1152, C1153, C1154 C1160, C1161, C1162  
Page7 DDR\_A\_D8與DDR\_A\_D9互換  
Page8 ADD R1379, R1380, U77, R1381, C1157, R1382, R1383, R1384, C1157  
Page8 DEL C390  
Page9 ADD C1156  
Page11 DEL R1322, R1154  
Page13 DEL U77, ADD C1158  
Page17 ADD C1159

<2009/06/22>  
Page22 change IO Conn. pin34 from 48M to USB\_ON#  
Page10 change JCRT1 P/N to SP010906182

<2009/06/23>  
Page15 Add C1163 C1164 C1165 C1166  
Page18 change PWR/B Conn. P/N to SP01000H300  
Page22 change JUSB1 JUSB2 P/N

<2009/06/24>  
Page8 Change C1350 C1351 to 0402 type  
Page10 Add R1385 R1386 on JVG\_A\_HS JVG\_A\_VS

<2009/06/25>  
Page22 move some parts to I/O Board , Add the MONO\_IN\_R on M/B

<2009/06/29>  
Page16 Change JP24 to ACES\_88266\_05001  
Page15 Change JMINI1 to FOX\_AS0B246-S50U-7F\_52P-T

<2009/06/30>  
Page18 Change PWR\_LED# to PWR\_PWM\_LED#  
Page17 Add PWR LED DETECT PIN on Pin97

<2009/07/02>  
Update New Power schematic 07/02  
Page9 Add C1167 C1168 for RF request.  
Page13 Change R223 to 100K  
Page16 change JP24 to ACES\_85201-0505N  
Page17 Del R1387 R1388 on EC Pin97  
Page17 Add New Board ID to separate NAV50 NAV60  
Page17 Change 展頻IC to SA00003J400 (New)  
Page18 Add D41 for ESD

<2009/07/03>  
Page18 Add D41.2 to PWR\_PWM\_LED#  
Page8 Change co-lay net name to +1.5VM\_CK505  
Page20 Change JP2 Pin42 to +5VS

<2009/07/06>  
Page18 Add pwr switch for NAV50

<2009/07/08>  
Page5 Add 470pf on H\_SMI# for known issue.

<DVT START>

<2009/08/04>  
Page5 CLK\_CPU\_HPLCLK CLK\_CPU\_HPLCLK# exchange  
Page9 Change JLVDS1 to P/N ACES\_88341-3001 30P  
Page17 del PM\_1.8V(U6.82) , Del R1310 R1311  
Page18 Del D41

<2009/09/03>  
Page7 Change C112 to 0402 type  
Page8 Add T6 on CLK\_48M\_CR  
Page16 Modify JP18 Pin define change +5VALW +5VS to +3VALW +3VS  
Page20 Change Pin 18, 23 to +1.5VS change Pin7 , 9 to USB20\_P7 N7  
Page21 Del H12

<2009/09/08>  
Update Power schematic 0904  
Page18 Change R1388 to 100 ohm 0402  
Page18 Change LED1 to SC591NB5A00

<2009/09/10>  
Update Power schematic 0910  
Page22 unmount Q6 Q8

<2009/10/07>  
Page4 U71 Change to SA00003M800  
Page6 R26 Change to SHI00009C00  
Page13 R152 Change to SD034200A80  
Page18 R1388 Change to SD028510A80

<2010/04/29>  
update new bom

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| Size                     | Document Number      | Rev   |          |
| Custom                   | 401793               | D     |          |
| Date:                    | Friday, May 21, 2010 | Sheet | 32 of 32 |