

# Compal Confidential

## NEW70 / 80 / 90 / 50 <LA-5892P> M/B Schematics Document PEW51 <LA-5892P> M/B Schematics Document

Intel Arrandale Processor with DDRIII + Ibex Peak-M

2010-06-09  
REV:1.0

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                    |            |                          |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------|------------|--------------------------|---------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | Compal Secret Data |            | Compal Electronics, Inc. |                     |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/5/12 | Deciphered Date    | 2010/04/15 | Title                    | SCHEMATICS,MB A5892 |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                    |            | Document Number          | 401826              |
| Date: Tuesday, June 22, 2010                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |                    |            | Sheet                    | 1 of 49             |

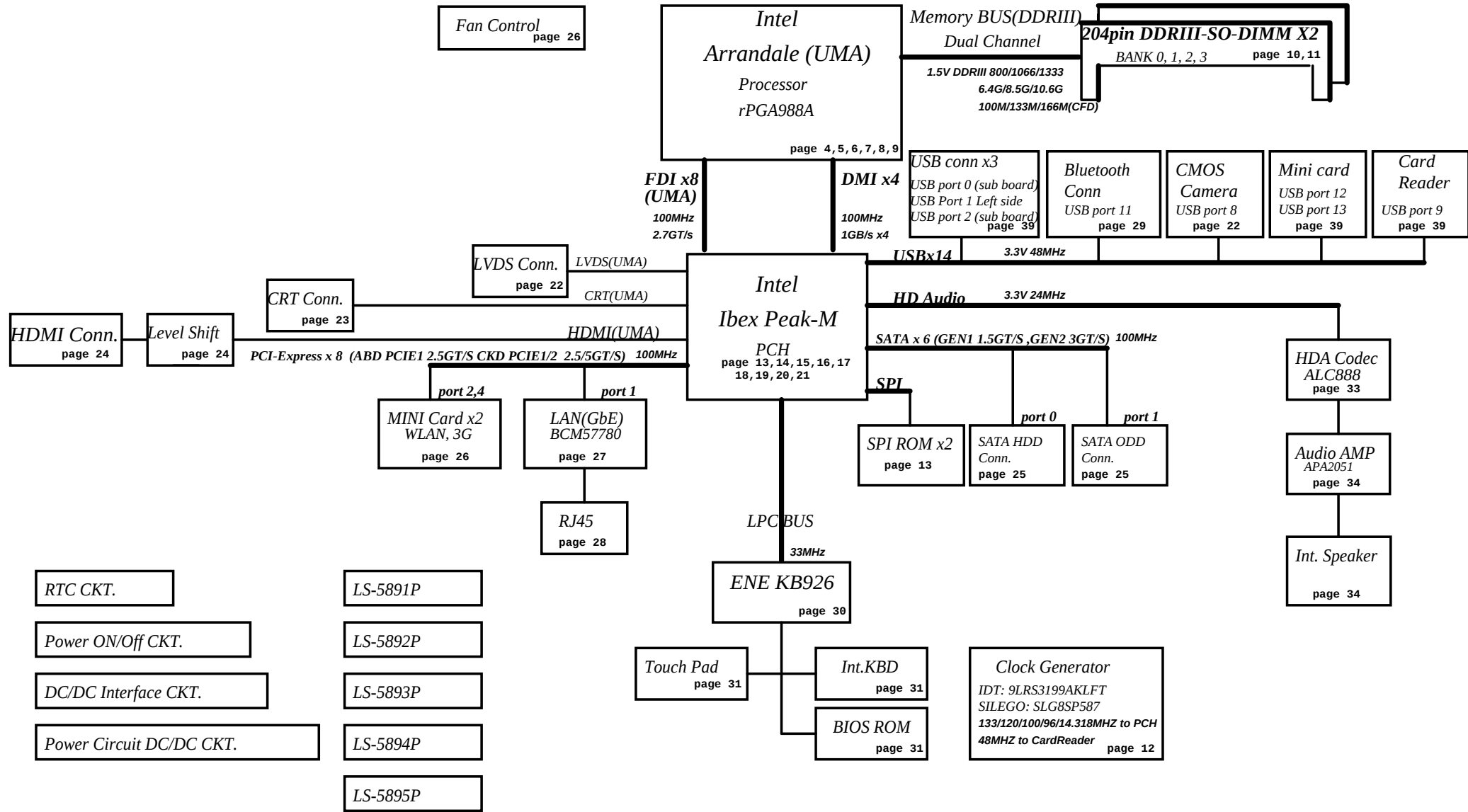
Compal Confidential

Model Name NEW70 / 80 / 90 / 50

File Name : LA-5892P

ZZZ  
DA20C900200  
PCB NEW70 LA-5892P

ZZZ1  
R00000003HM  
HDMI+HDCP LOGO



| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | Compal Secret Data |            | Compal Electronics, Inc. |                        |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                    |            | Date                     | Tuesday, June 22, 2010 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                    |            | Sheet                    | 2 of 49                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                    |            | Rev                      | C                      |

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  | ON  | OFF |
| +0.75VS     | 0.75V switched power rail for DDR terminator | ON  | OFF | OFF |
| +1.05VS     | 1.05V switched power rail for PCH            | ON  | OFF | OFF |
| +1.05VS_VTT | 1.05V switched power rail (1.05 for AUB CPU) | ON  | OFF | OFF |
| +1.5V       | 1.5V power rail for DDRIII                   | ON  | ON  | OFF |
| +1.5VS      | 1.5V switched power rail                     | ON  | OFF | OFF |
| +1.8VS      | 1.8V switched power rail                     | ON  | OFF | OFF |
| +3VALW      | 3.3V always on power rail                    | ON  | ON  | ON* |
|             |                                              |     |     |     |
| +3V_LAN     | 3.3V power rail for LAN                      | 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 |
| +5V         | 5V power rail for PCH                        | ON  | ON  | ON  |
| +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.

External PCI Devices

| Device | IDSEL# | REQ#/GNT# | Interrupts |
|--------|--------|-----------|------------|
|--------|--------|-----------|------------|

EC SM Bus1 address

| Device        | Address     | Device | Address |
|---------------|-------------|--------|---------|
| Smart Battery | 0001 011X b |        |         |

EC SM Bus2 address

Ibex SM Bus address

| Device                                        | Address    |
|-----------------------------------------------|------------|
| Clock Generator<br>(9LRS3199AKLFT, SLG8SP587) | 1101 0010b |
| DDR DIMM0                                     | 1001 000Xb |
| DDR DIMM2                                     | 1001 010Xb |

| STATE                | SIGNAL | SLP_S1# | SLP_S3# | SLP_S4# | SLP_S5# | +VALW | +V  | +VS | Clock |
|----------------------|--------|---------|---------|---------|---------|-------|-----|-----|-------|
| Full ON              |        | HIGH    | HIGH    | HIGH    | HIGH    | ON    | ON  | ON  | ON    |
| S1(Power On Suspend) |        | LOW     | HIGH    | HIGH    | HIGH    | ON    | ON  | ON  | LOW   |
| S3 (Suspend to RAM)  |        | LOW     | LOW     | HIGH    | HIGH    | ON    | ON  | OFF | OFF   |
| S4 (Suspend to Disk) |        | LOW     | LOW     | LOW     | HIGH    | ON    | OFF | OFF | OFF   |
| S5 (Soft OFF)        |        | LOW     | LOW     | LOW     | LOW     | ON    | OFF | OFF | OFF   |

Project ID / Board ID Table for EC-AD channel

| Vcc   | 3.3V +/- 5% |                         |                         |                         |          |            |
|-------|-------------|-------------------------|-------------------------|-------------------------|----------|------------|
| Ra/Rc | 100K +/- 5% |                         |                         |                         |          |            |
|       | Rb / Rd     | V <sub>AD_BID</sub> min | V <sub>AD_BID</sub> typ | V <sub>AD_BID</sub> max | Board ID | Project ID |
| 0     | 0           | 0 V                     | 0 V                     | 0 V                     | 0.1      | NEWX0      |
| 1     | 8.2K +/- 5% | 0.216 V                 | 0.250 V                 | 0.289 V                 | 0.2      | PEW51      |
| 2     | 18K +/- 5%  | 0.436 V                 | 0.503 V                 | 0.538 V                 | 0.3      |            |
| 3     | 33K +/- 5%  | 0.712 V                 | 0.819 V                 | 0.875 V                 | 1.0      |            |
| 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                 |          |            |

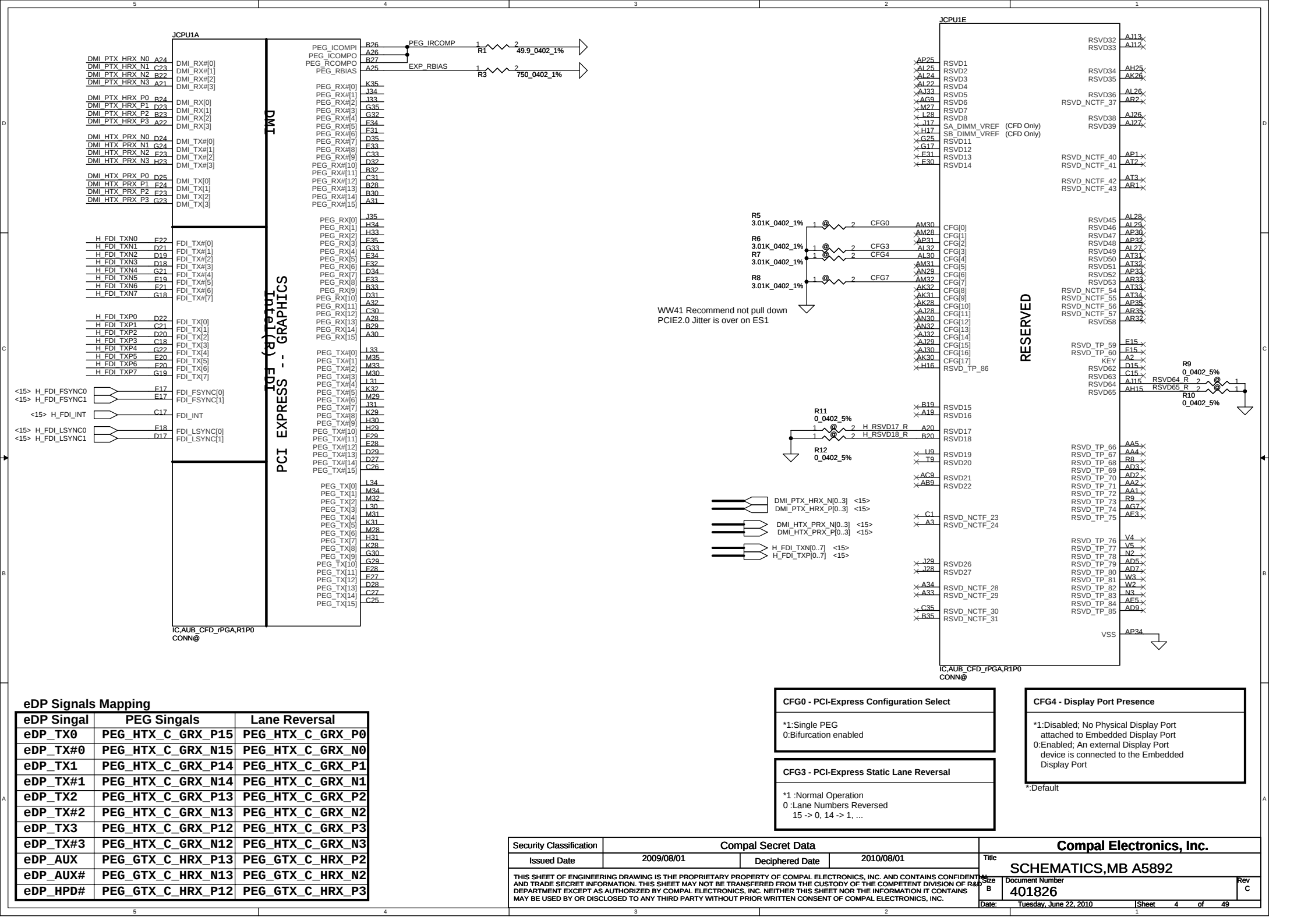
| BTO Option Table |               |
|------------------|---------------|
| BTO Item         | BOM Structure |
| HDMI             | HDMI@         |
| 3G               | 3G@           |
| 9050@            | NEW90 / NEW50 |
| 7080@            | NEW70 / NEW80 |
| For NEWX0 ID     | NEWX0@        |
| For PEW51 ID     | PEW51@        |
|                  |               |
|                  |               |
|                  |               |
|                  |               |

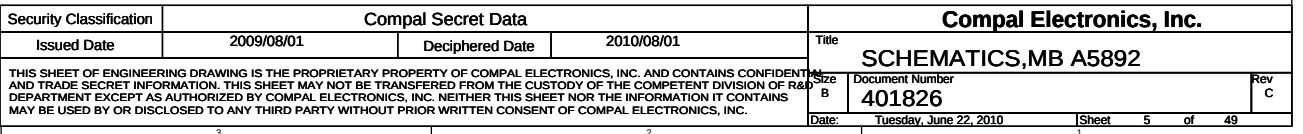
BOM Config

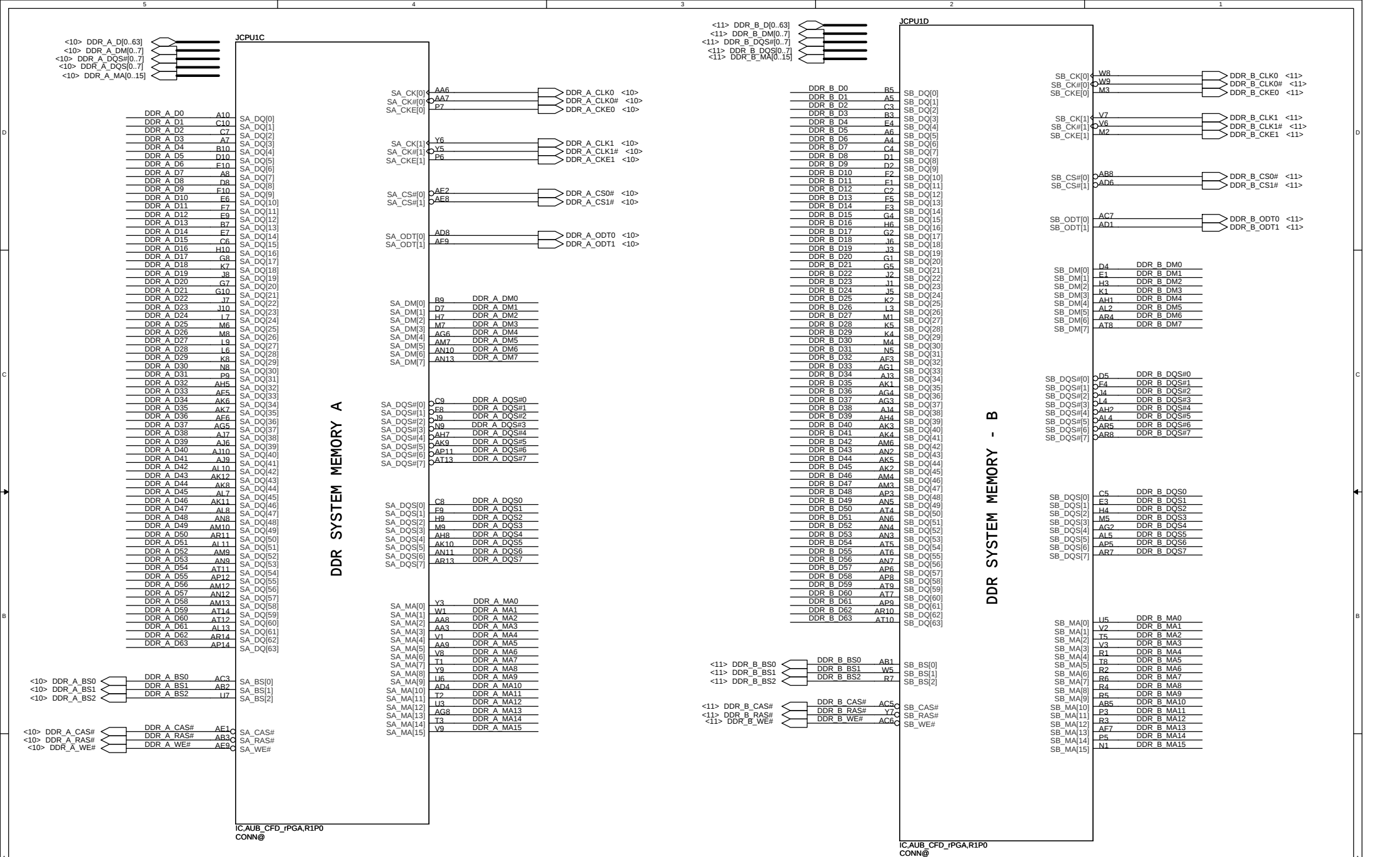
USB Port Table

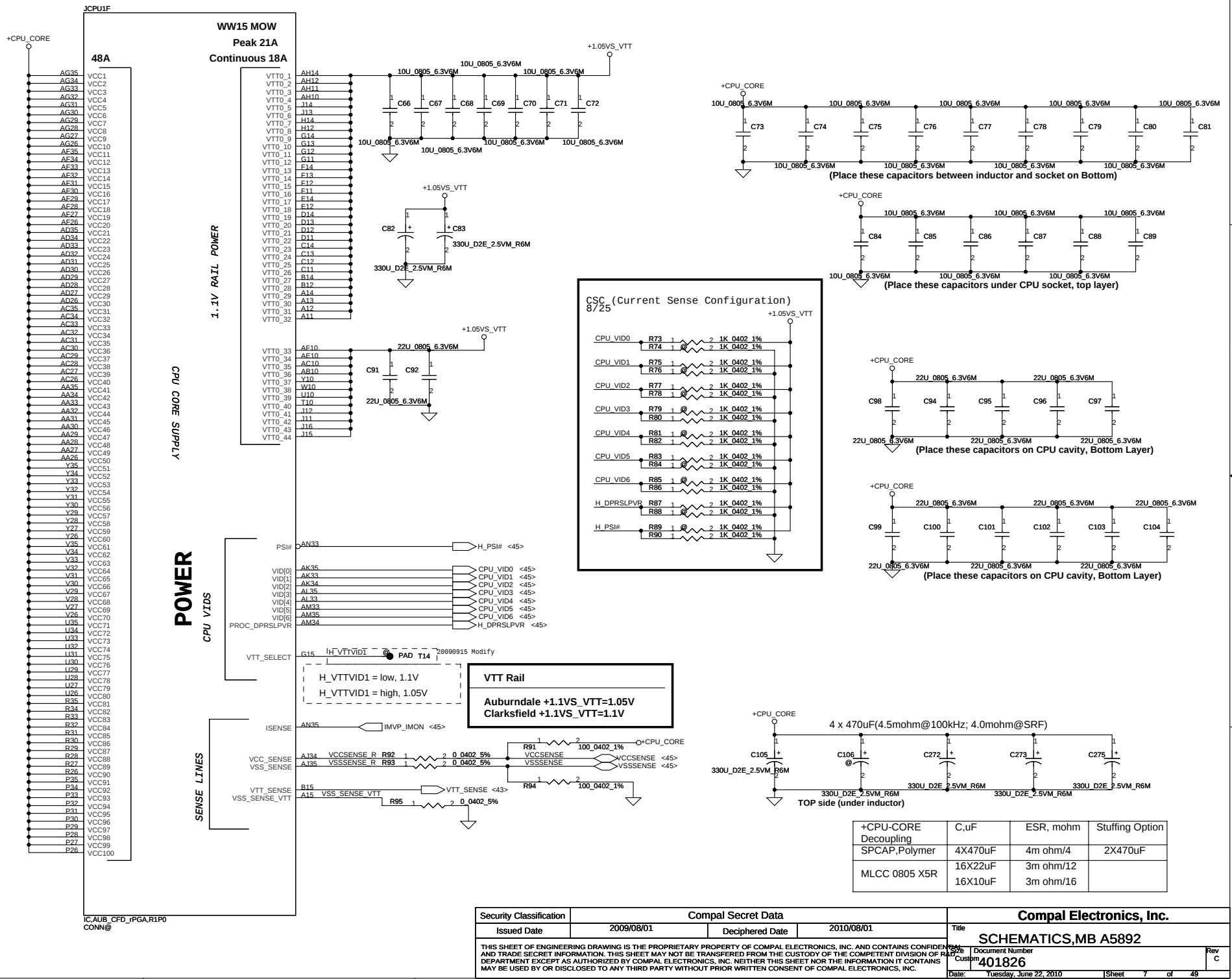
| USB 2.0 | USB 1.1 | Port | 4 External USB Port | 3 External USB Port |
|---------|---------|------|---------------------|---------------------|
| EHCI1   | UHCI0   | 0    | Ext1 USB            | Ext1 USB            |
|         |         | 1    | Ext3 HS USB         | Ext3 HS USB         |
|         |         | 2    | Ext2 USB            | Ext2 USB            |
|         | UHCI1   | 3    |                     |                     |
|         |         | 4    |                     |                     |
|         | UHCI2   | 5    |                     |                     |
|         |         | 6    |                     |                     |
|         | UHCI3   | 7    |                     |                     |
| EHCI2   | UHCI4   | 8    | Camera              | Camera              |
|         |         | 9    | Card Reader         | Card Reader         |
|         | UHCI5   | 10   | SIM CARD            | SIM CARD            |
|         |         | 11   | Blue Tooth          | Blue Tooth          |
|         | UHCI6   | 12   | 1st Min-Card        | 1st Min-Card        |
|         |         | 13   | 2st Min-Card        | 2st Min-Card        |

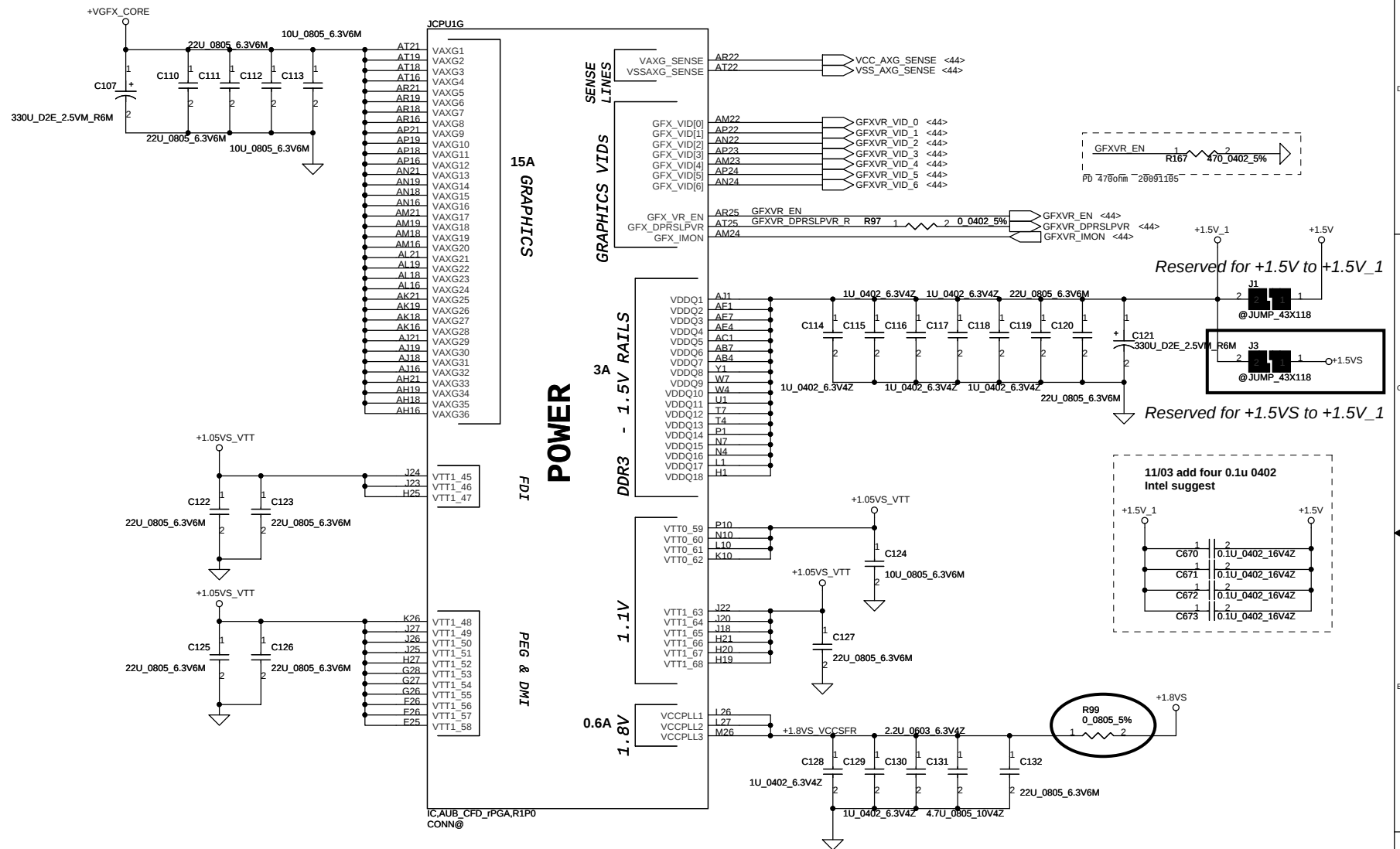
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Sheet                    | 3 of 49                |



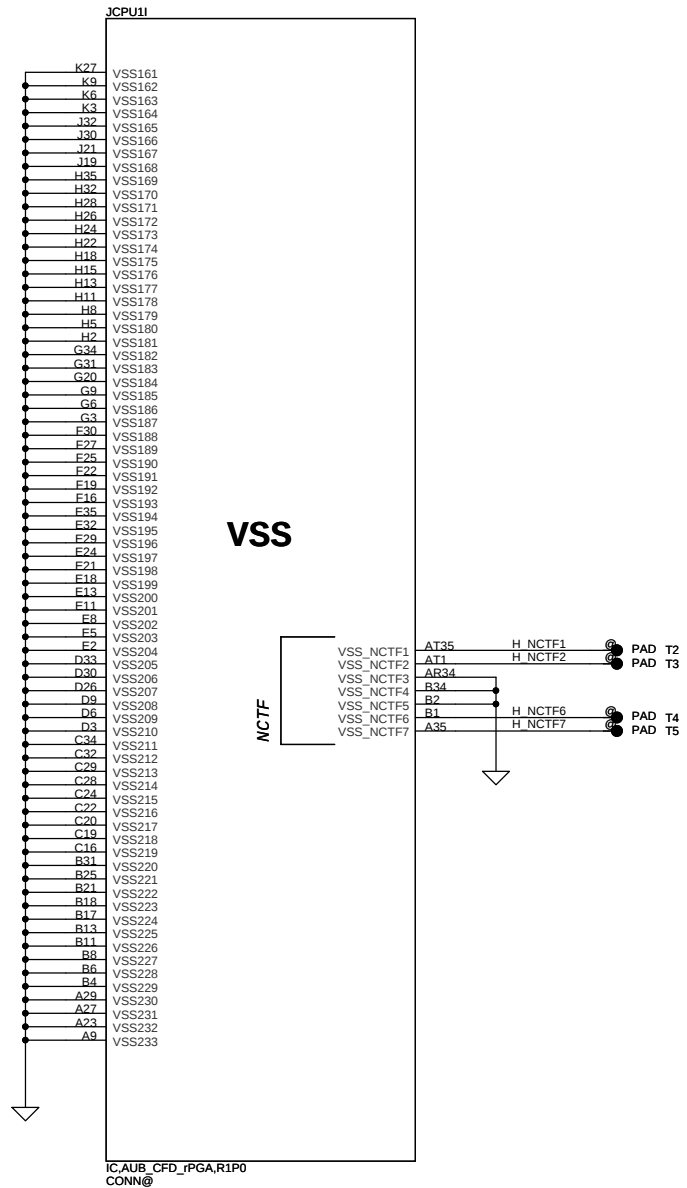
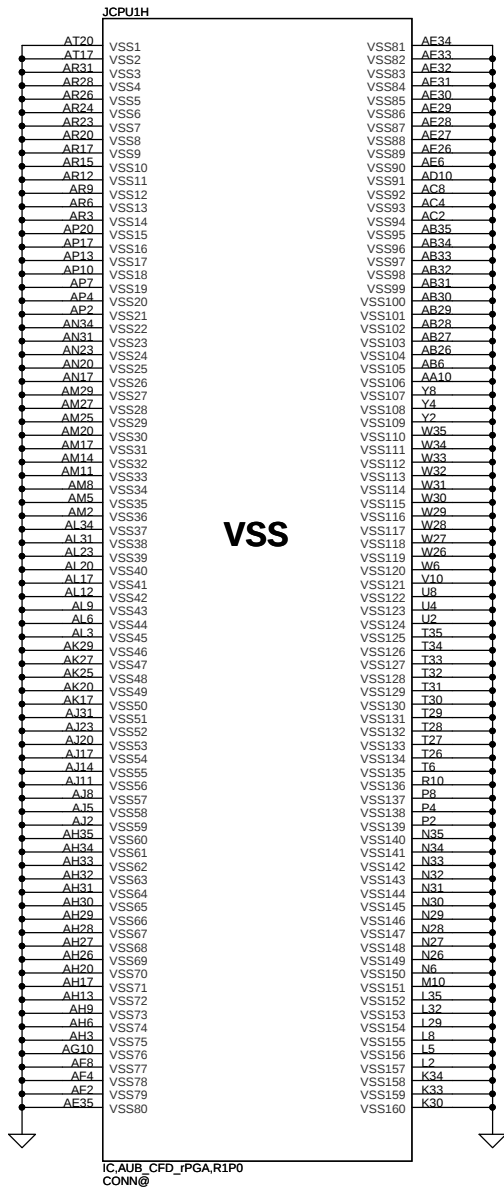




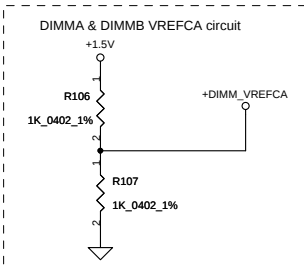
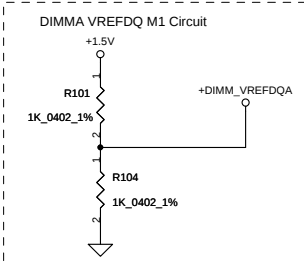




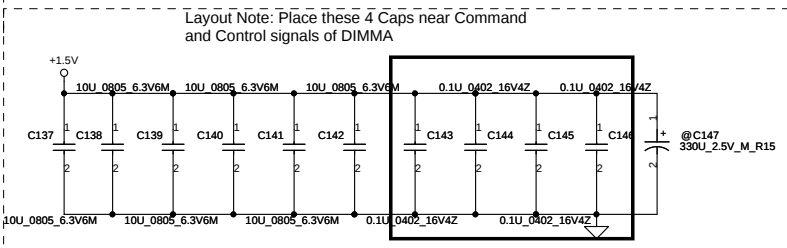
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 8 of 49                |
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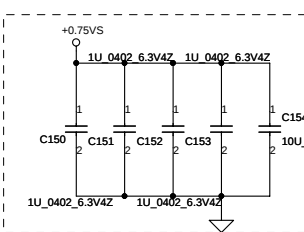
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 9 of 49                |



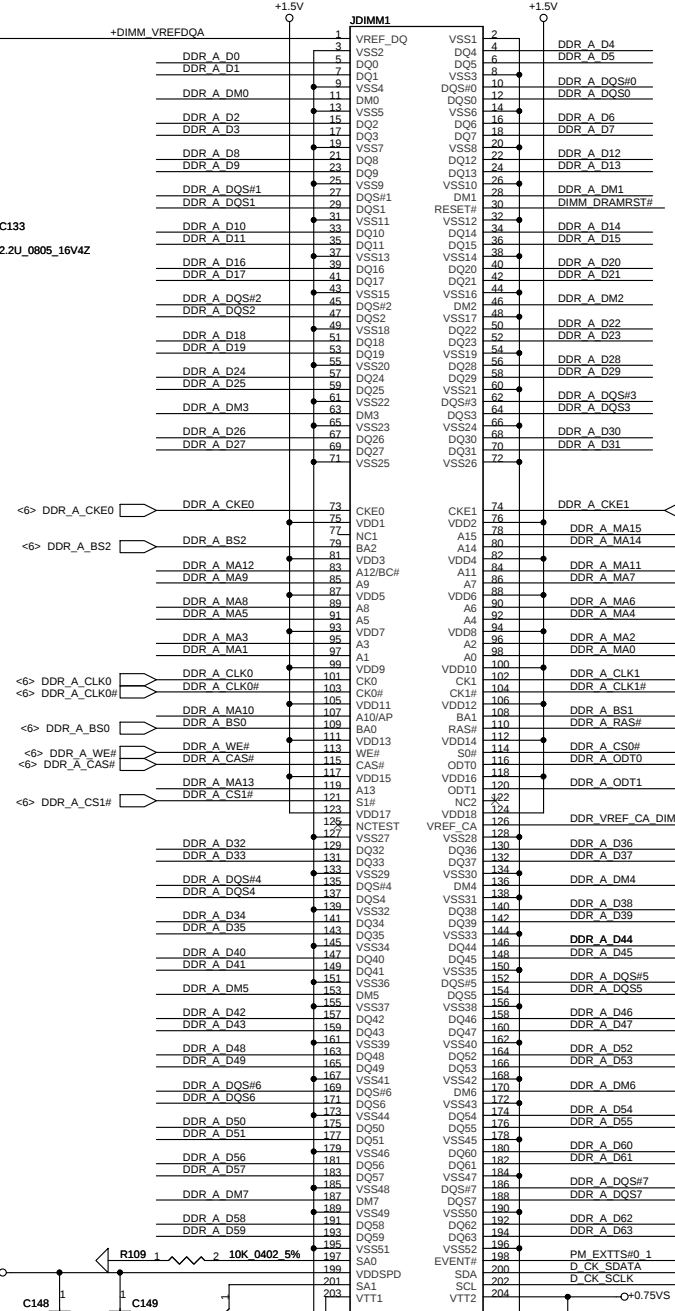
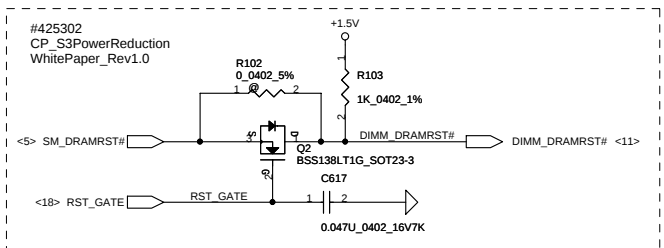
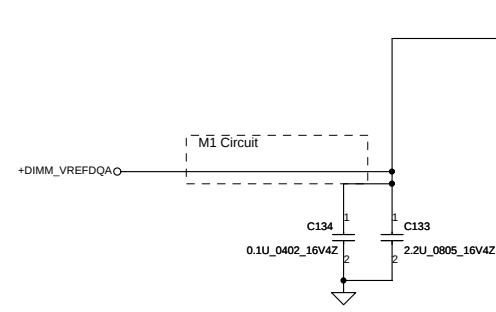
Layout Note:  
Place near JDIMM1



Layout Note:  
Place near JDIMM1.203 & JDIMM1.204



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<6> DDR\_A\_DM[0..7]  
<6> DDR\_A\_DQS[0..7]  
<6> DDR\_A\_MA[0..15]

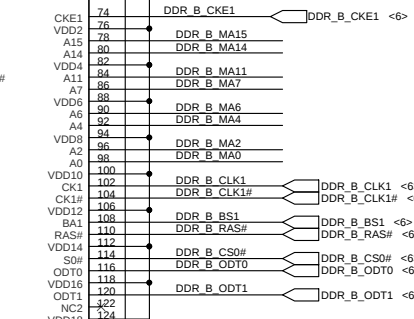
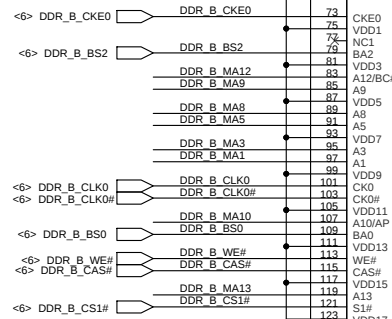
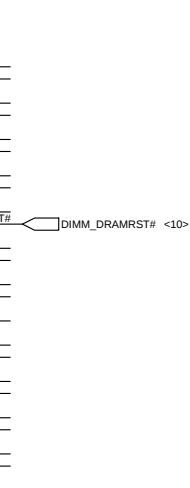
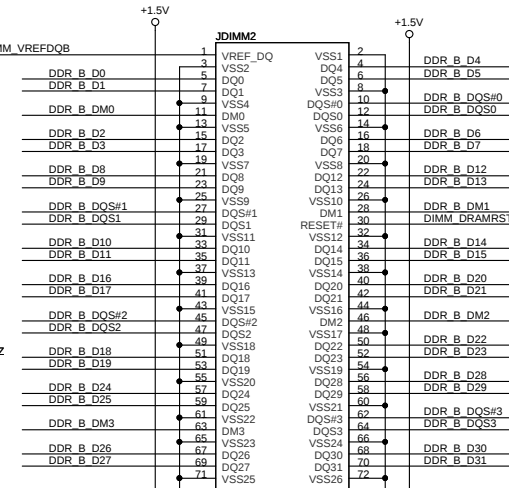
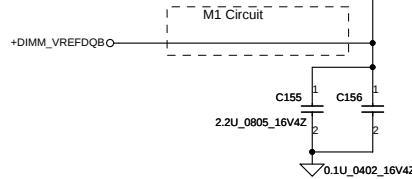
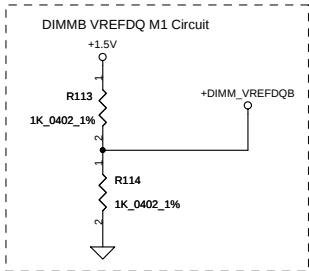


DDR3 SO-DIMM A  
Change to Reverse Type  
8mm High

|                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                    |  |                 |  |                          |  |                        |  |                |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|--|-----------------|--|--------------------------|--|------------------------|--|----------------|--|
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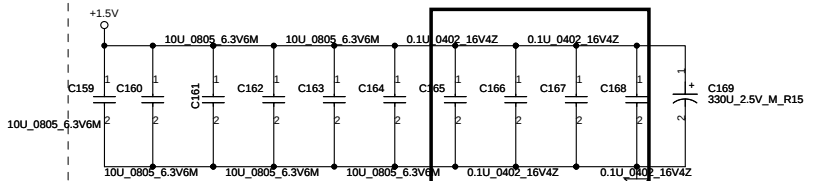
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2008/9/8 #400755  
Calpella Clarksfield  
DDR3 SO-DIMM  
VREFDQ Platform  
Design Guide Change Details

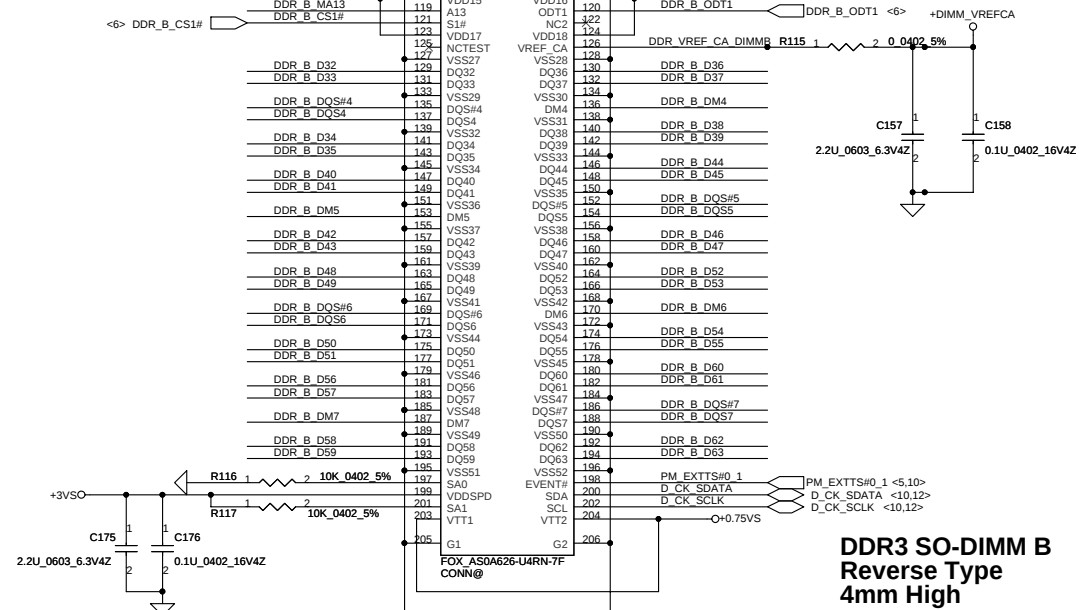
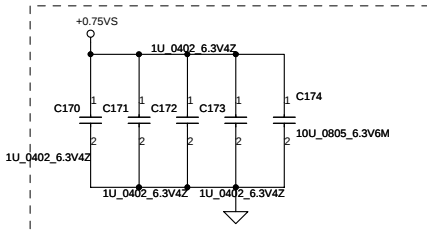


Layout Note:  
Place near JDIMM2

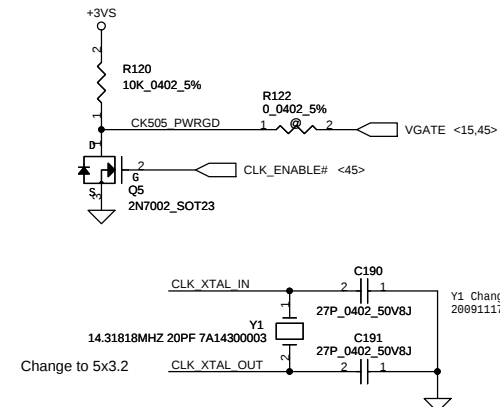
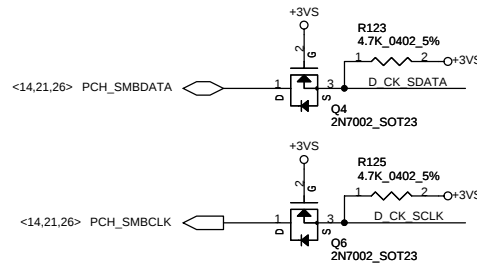
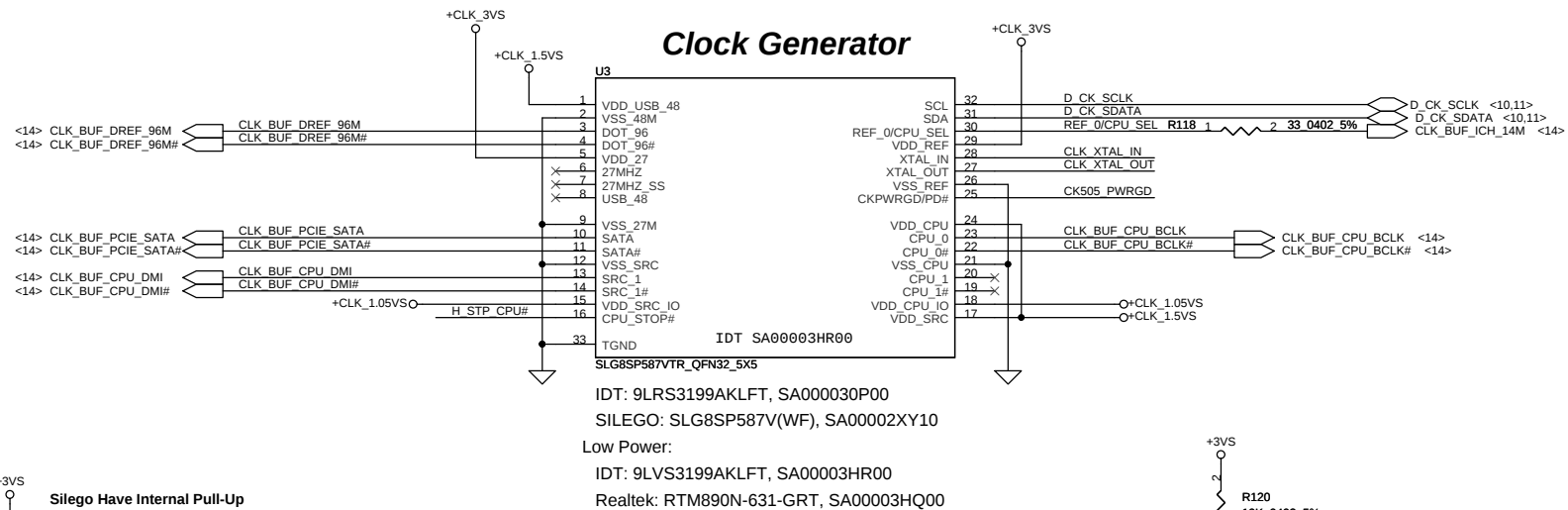
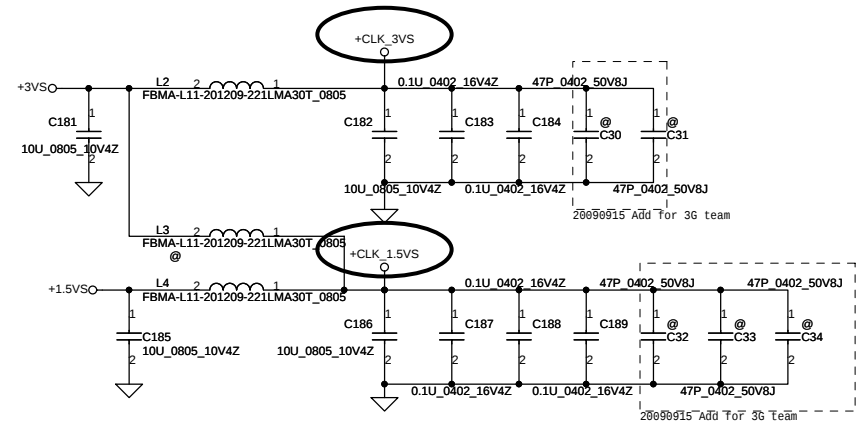
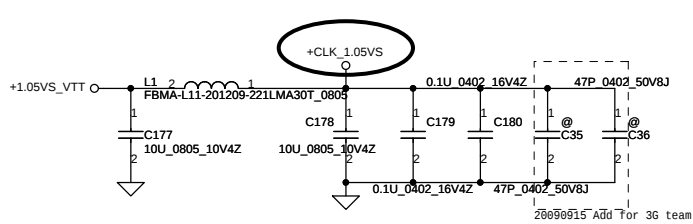
Layout Note: Place these 4 Caps near Command  
and Control signals of DIMMB



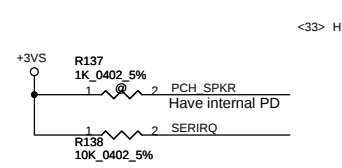
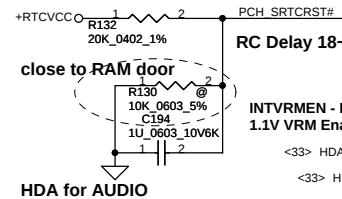
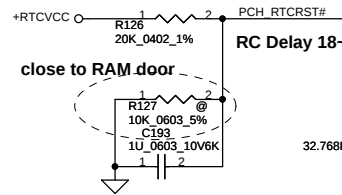
Layout Note:  
Place near JDIMM2.203 & JDIMM2.204



| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |                 | Compal Secret Data |     |   | Title                    |  |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                 | Sheet              |     |   | 11 of 49                 |  |  |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                        |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date                     | Tuesday, June 22, 2010 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 12 of 49               |



If GPIO33 pull down, ME will not working.  
For factory update ME, pull down resistor pull under door.

PCH\_GPIO33#

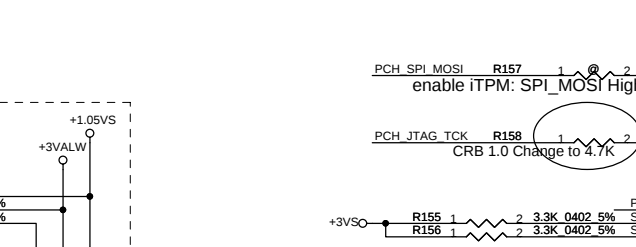
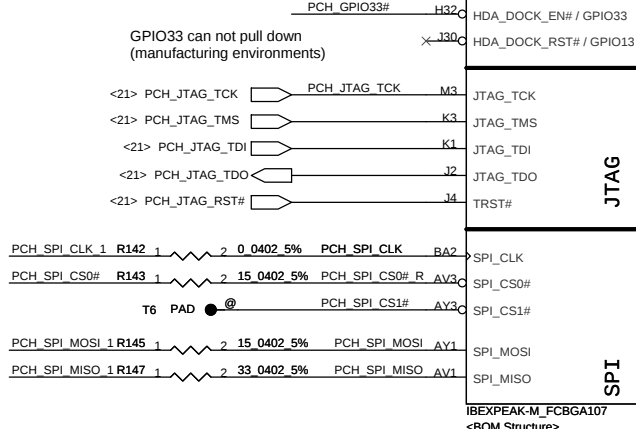
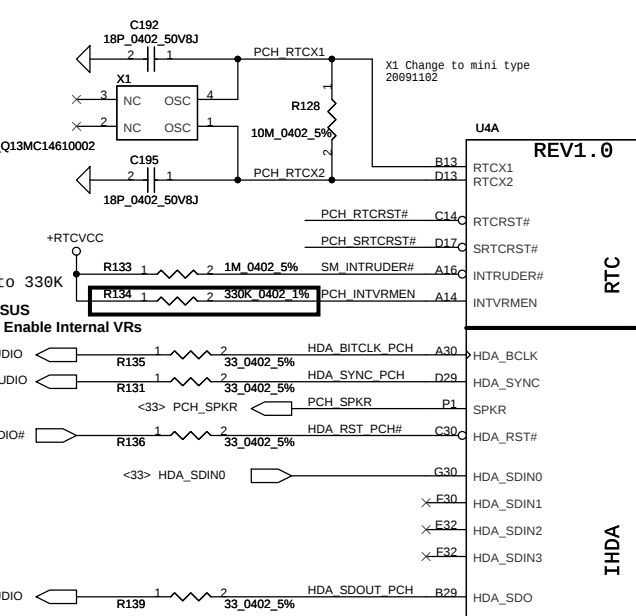
Q7

2N7002\_SOT23

R140 100K\_0402\_5%

<30> ME\_OVERRIDE

GPIO33 has a weak internal pull-up  
NOTE: Asserting the GPIO33 low on the rising edge of PWROK will also halt Intel Management Engine after chipset bringup and disable runtime Intel Management Engine features. This is a debug mode and must not be asserted after manufacturing/ debug.



20090923 Update

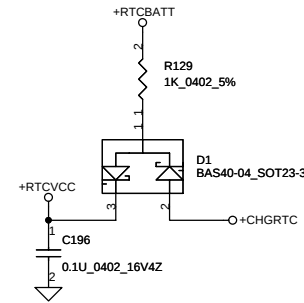
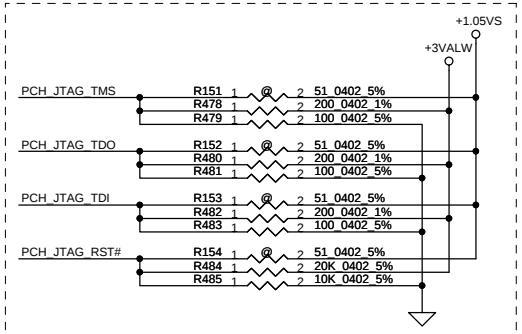
2008 Intel MOW36/MOW50

TDO:

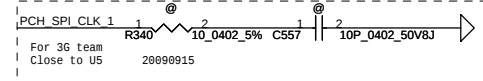
Reserved on ES1 Sample

Mount R516, R517 on ES2 Sample

MP mount R689, R690, R691, R692 and remove others



| GPIO21 | Project  |
|--------|----------|
| 0      | NEW70/90 |
| 1      | NEW71/91 |

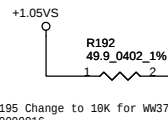
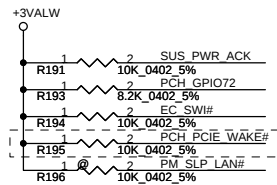
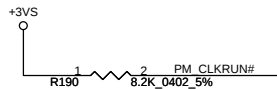


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |                     |  |                        |  |       |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|--|-----------------|--|--------------------------|--|---------------------|--|------------------------|--|-------|--|
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  | Size                |  | Document Number        |  | Rev C |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  | Custom              |  | 401826                 |  |       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  | Date:               |  | Tuesday, June 22, 2010 |  | Sheet |  |



<4> DMI\_HTX\_PRX\_N[0..3] DMI\_HTX\_PRX\_N[0..3]  
<4> DMI\_HTX\_PRX\_P[0..3] DMI\_HTX\_PRX\_P[0..3]  
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<4> DMI\_PTX\_HRX\_P[0..3] DMI\_PTX\_HRX\_P[0..3]

<4> H\_FDI\_TXN[0..7] H\_FDI\_TXN[0..7]  
<4> H\_FDI\_TXP[0..7] H\_FDI\_TXP[0..7]



DMI\_HTX\_PRX\_N0 BC24  
DMI\_HTX\_PRX\_N1 BJ22  
DMI\_HTX\_PRX\_N2 AW20  
DMI\_HTX\_PRX\_N3 BJ20  
DMI\_HTX\_PRX\_P0 BD24  
DMI\_HTX\_PRX\_P1 BC22  
DMI\_HTX\_PRX\_P2 BA20  
DMI\_HTX\_PRX\_P3 BG20  
DMI\_PTX\_HRX\_N0 BE22  
DMI\_PTX\_HRX\_N1 BE21  
DMI\_PTX\_HRX\_N2 BD20  
DMI\_PTX\_HRX\_N3 BE18  
DMI\_PTX\_HRX\_P0 BD22  
DMI\_PTX\_HRX\_P1 BH21  
DMI\_PTX\_HRX\_P2 BC20  
DMI\_PTX\_HRX\_P3 BD18

DMIORXN  
DMI1RXN  
DMI2RXN  
DMI3RXN  
DMIORXP  
DMI1RXP  
DMI2RXP  
DMI3RXP  
DMIOTXN  
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DMI3TXP

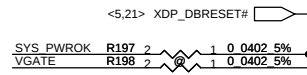
REV1.0

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FDI\_RXN5 BE14  
FDI\_RXN6 BA14  
FDI\_RXN7 BC12  
FDI\_RXP0 BB18  
FDI\_RXP1 BE17  
FDI\_RXP2 BC16  
FDI\_RXP3 BG16  
FDI\_RXP4 AW16  
FDI\_RXP5 BD14  
FDI\_RXP6 BB14  
FDI\_RXP7 BD12

H\_FDI\_TXN0  
H\_FDI\_TXN1  
H\_FDI\_TXN2  
H\_FDI\_TXN3  
H\_FDI\_TXN4  
H\_FDI\_TXN5  
H\_FDI\_TXN6  
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H\_FDI\_TXP2  
H\_FDI\_TXP3  
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FDI\_FSYNC1 BH13 H\_FDI\_FSYNC1 <4>  
FDI\_LSYNC0 BJ12 H\_FDI\_LSYNC0 <4>  
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### System Power Management



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VGATE R198 2 1 0 0402 5%

SYS\_RESET#  
WAKE#  
PCH\_PCIE\_WAKE# <26,27>  
PM\_CLKRUN# <30>  
PCH\_GPIO61 @ PAD T7  
PCH\_SUSCLK <30>  
PM\_SLP\_S5# <30>  
PM\_SLP\_S4# <30>  
PM\_SLP\_S3# <30>  
PM\_SLP\_M# @ PAD T9  
PM\_SLP\_DSW# @ PAD T10  
H\_PM\_SYNC <5>  
PM\_SLP\_LAN#

CLKRUN# / GPIO32  
SUS\_STAT# / GPIO61  
SUSCLK / GPIO62  
SLP\_S5# / GPIO63  
SLP\_S4#  
SLP\_S3#  
SLP\_M#  
TP23  
PMSYNCH  
SLP\_LAN# / GPIO29

SYS\_PWROK  
PWROK  
MEPWROK  
LAN\_RST#  
DRAMPWROK  
RSMRST#  
SUS\_PWR\_DN\_ACK / GPIO30  
PWRBTN#  
ACPRESENT / GPIO31  
BATLOW# / GPIO72  
RI#

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SYS\_PWROK  
VGATE  
SYS\_PWROK  
LAN\_RST#  
DRAMPWROK  
RSMRST#  
SUS\_PWR\_DN\_ACK / GPIO30  
PWRBTN#  
ACPRESENT / GPIO31  
BATLOW# / GPIO72  
RI#

<5,21> XDP\_DBRESET#  
SYS\_PWROK  
VGATE  
SYS\_PWROK  
LAN\_RST#  
DRAMPWROK  
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SUS\_PWR\_DN\_ACK / GPIO30  
PWRBTN#  
ACPRESENT / GPIO31  
BATLOW# / GPIO72  
RI#

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SYS\_PWROK  
VGATE  
SYS\_PWROK  
LAN\_RST#  
DRAMPWROK  
RSMRST#  
SUS\_PWR\_DN\_ACK / GPIO30  
PWRBTN#  
ACPRESENT / GPIO31  
BATLOW# / GPIO72  
RI#

<5,21> XDP\_DBRESET#  
SYS\_PWROK  
VGATE  
SYS\_PWROK  
LAN\_RST#  
DRAMPWROK  
RSMRST#  
SUS\_PWR\_DN\_ACK / GPIO30  
PWRBTN#  
ACPRESENT / GPIO31  
BATLOW# / GPIO72  
RI#

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SYS\_PWROK  
VGATE  
SYS\_PWROK  
LAN\_RST#  
DRAMPWROK  
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SUS\_PWR\_DN\_ACK / GPIO30  
PWRBTN#  
ACPRESENT / GPIO31  
BATLOW# / GPIO72  
RI#

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SYS\_PWROK  
VGATE  
SYS\_PWROK  
LAN\_RST#  
DRAMPWROK  
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SUS\_PWR\_DN\_ACK / GPIO30  
PWRBTN#  
ACPRESENT / GPIO31  
BATLOW# / GPIO72  
RI#

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VGATE  
SYS\_PWROK  
LAN\_RST#  
DRAMPWROK  
RSMRST#  
SUS\_PWR\_DN\_ACK / GPIO30  
PWRBTN#  
ACPRESENT / GPIO31  
BATLOW# / GPIO72  
RI#

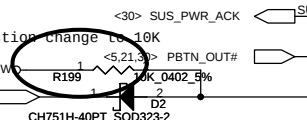
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RSMRST#  
SUS\_PWR\_DN\_ACK / GPIO30  
PWRBTN#  
ACPRESENT / GPIO31  
BATLOW# / GPIO72  
RI#

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SYS\_PWROK  
VGATE  
SYS\_PWROK  
LAN\_RST#  
DRAMPWROK  
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SUS\_PWR\_DN\_ACK / GPIO30  
PWRBTN#  
ACPRESENT / GPIO31  
BATLOW# / GPIO72  
RI#

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SYS\_PWROK  
LAN\_RST#  
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SUS\_PWR\_DN\_ACK / GPIO30  
PWRBTN#  
ACPRESENT / GPIO31  
BATLOW# / GPIO72  
RI#

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VGATE  
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LAN\_RST#  
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SUS\_PWR\_DN\_ACK / GPIO30  
PWRBTN#  
ACPRESENT / GPIO31  
BATLOW# / GPIO72  
RI#

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VGATE  
SYS\_PWROK  
LAN\_RST#  
DRAMPWROK  
RSMRST#  
SUS\_PWR\_DN\_ACK / GPIO30  
PWRBTN#  
ACPRESENT / GPIO31  
BATLOW# / GPIO72  
RI#



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EC\_SWI# F14

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EC\_SWI#

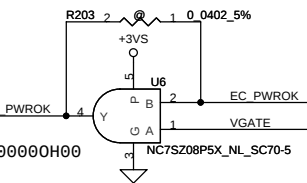
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PCH\_GPIO72  
EC\_SWI#

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EC\_SWI#

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PCH\_GPIO72  
EC\_SWI#



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EC\_PWROK <30>  
VGATE <12,45>

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VGATE

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VGATE

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VGATE

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VGATE

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VGATE

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EC\_PWROK  
VGATE

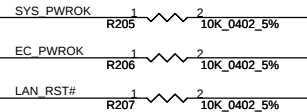
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EC\_PWROK  
VGATE

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EC\_PWROK  
VGATE

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EC\_PWROK  
VGATE

<21> SYS\_PWROK  
EC\_PWROK  
VGATE

<21> SYS\_PWROK  
EC\_PWROK  
VGATE



SYS\_PWROK R205 1 10K\_0402\_5%  
EC\_PWROK R206 1 10K\_0402\_5%  
LAN\_RST# R207 1 10K\_0402\_5%

SYS\_PWROK  
EC\_PWROK  
LAN\_RST#

SYS\_PWROK  
EC\_PWROK  
LAN\_RST#

SYS\_PWROK  
EC\_PWROK  
LAN\_RST#

SYS\_PWROK  
EC\_PWROK  
LAN\_RST#

SYS\_PWROK  
EC\_PWROK  
LAN\_RST#

SYS\_PWROK  
EC\_PWROK  
LAN\_RST#

SYS\_PWROK  
EC\_PWROK  
LAN\_RST#

SYS\_PWROK  
EC\_PWROK  
LAN\_RST#

SYS\_PWROK  
EC\_PWROK  
LAN\_RST#

SYS\_PWROK  
EC\_PWROK  
LAN\_RST#

SYS\_PWROK  
EC\_PWROK  
LAN\_RST#

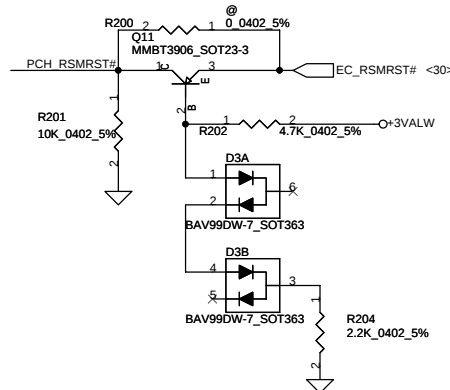
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SYS\_PWROK  
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LAN\_RST#

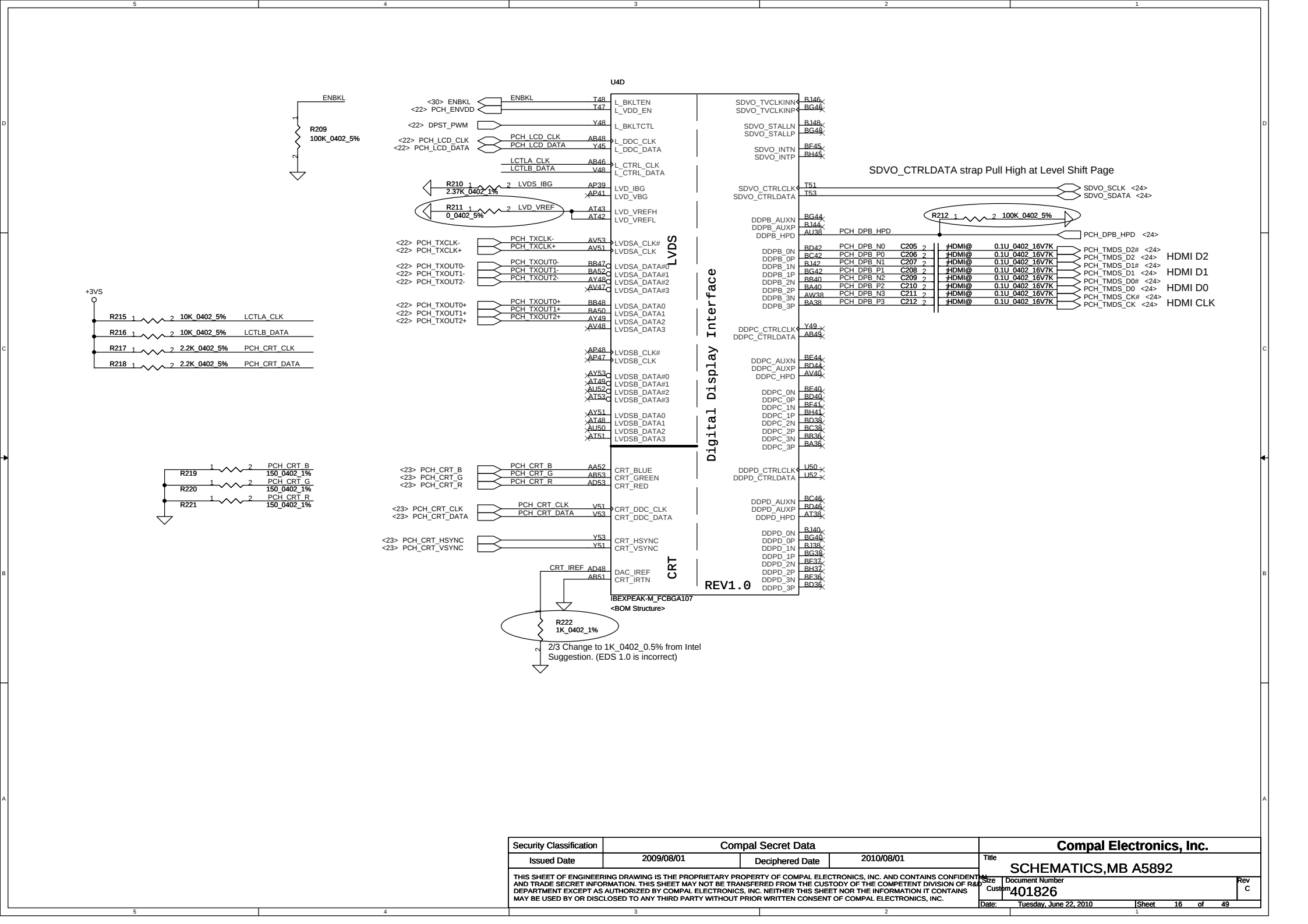
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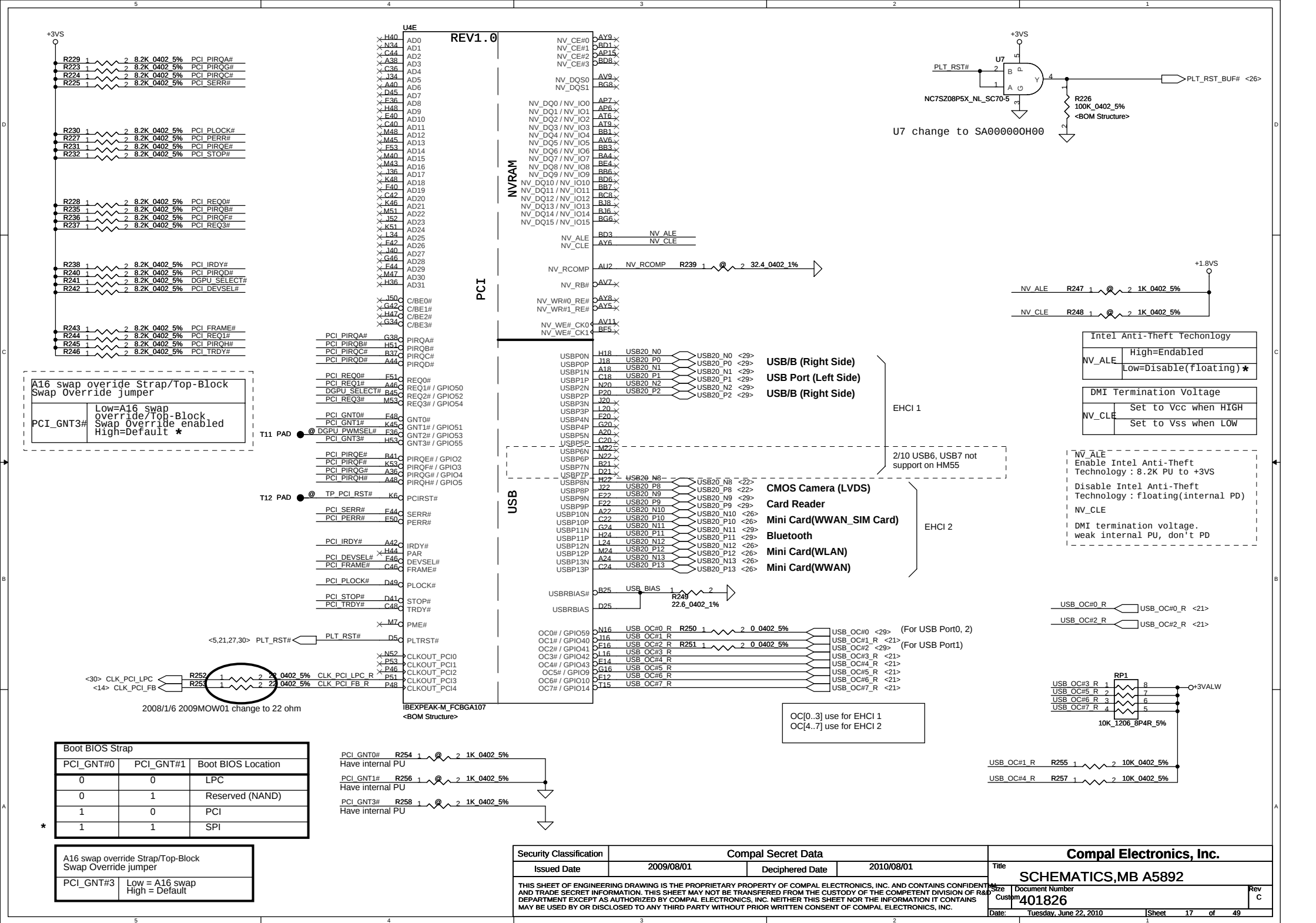
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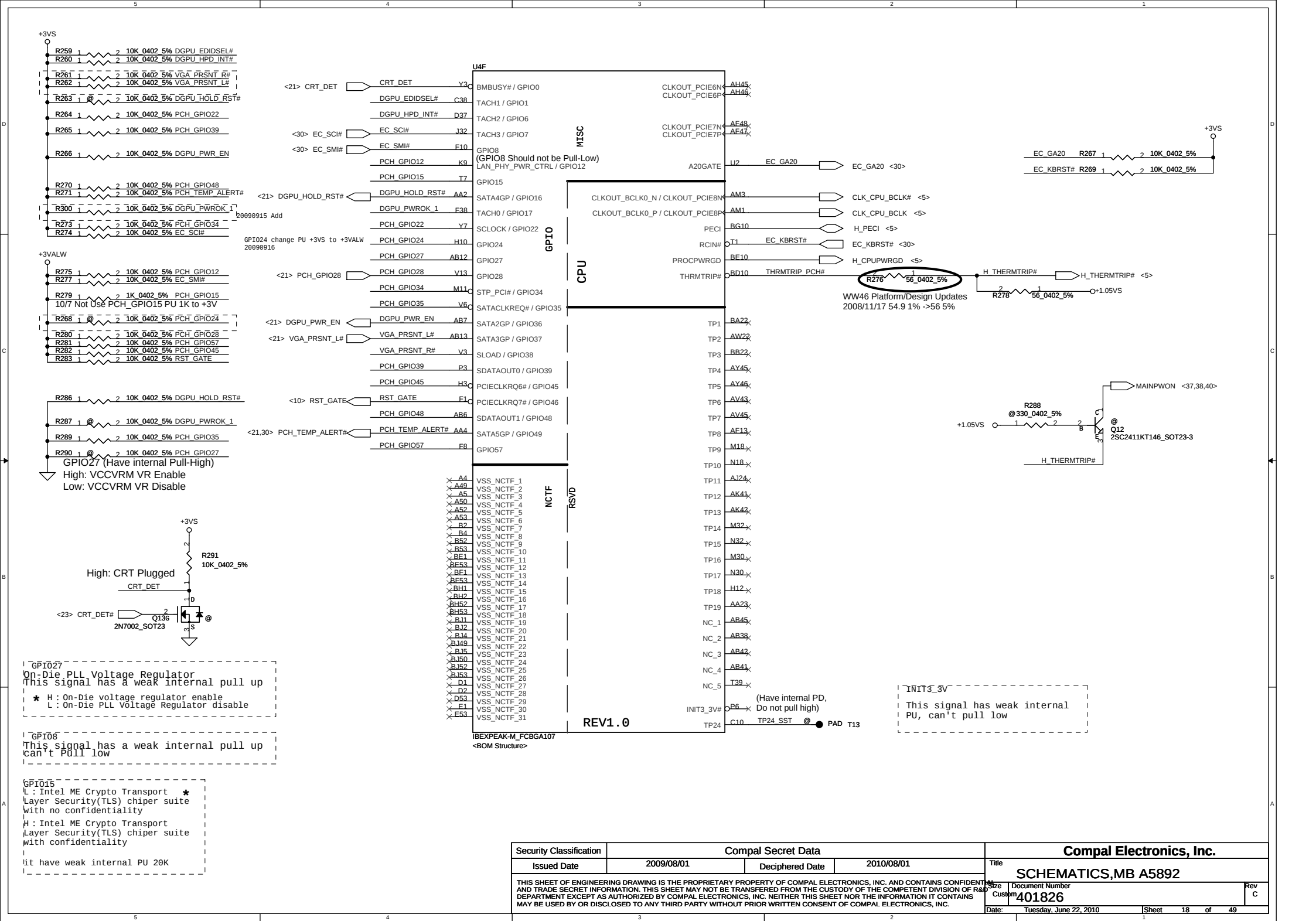
No used Integrated LAN,  
connecting LAN\_RST# to GND

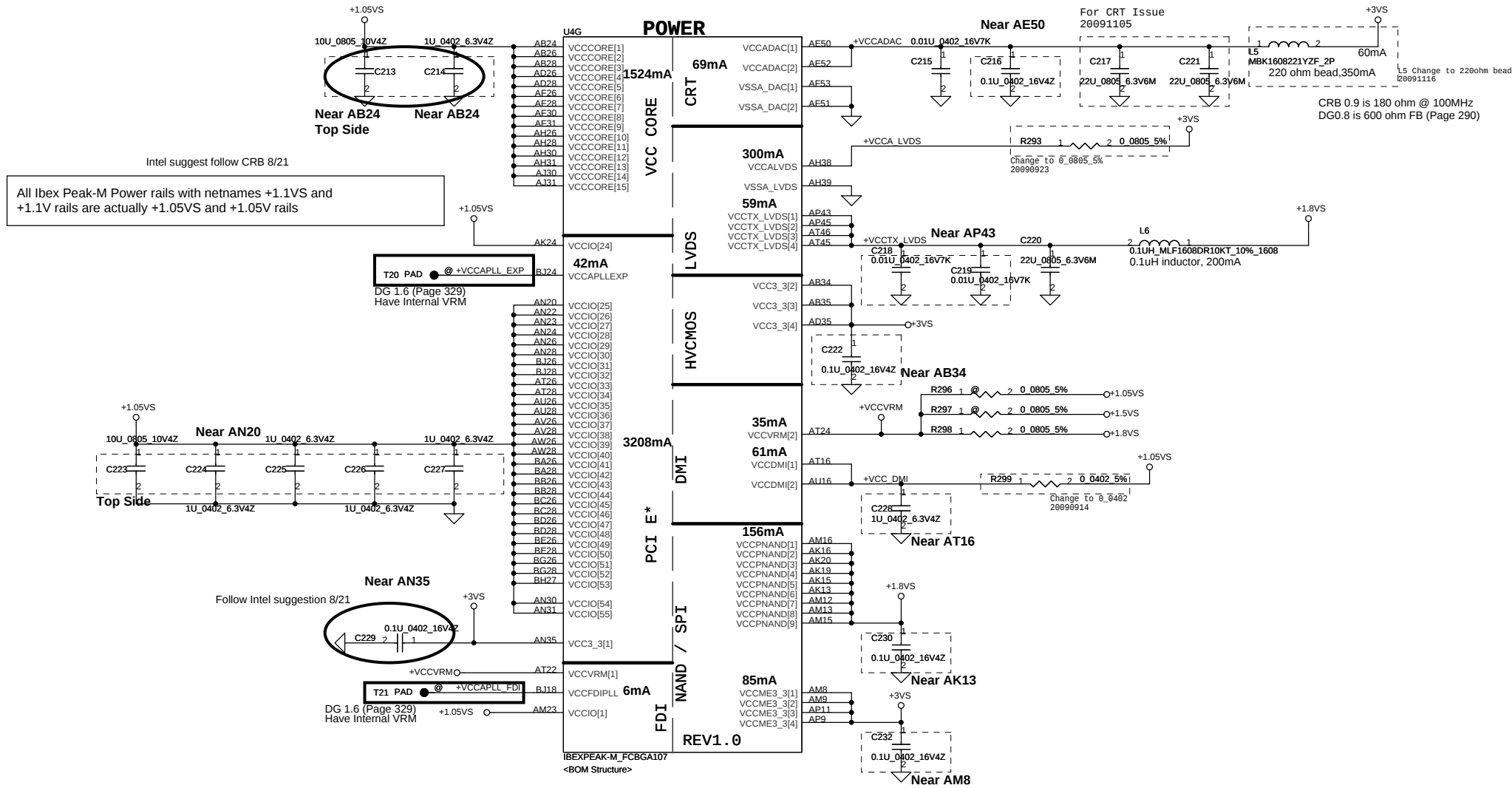


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |                        |  |  |  |                          |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|------------------------|--|--|--|--------------------------|--|--|--|
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| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |  | Tuesday, June 22, 2010 |  |  |  | Sheet                    |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  | 15                     |  |  |  | of 49                    |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |                        |  |  |  | Rev                      |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |                        |  |  |  | C                        |  |  |  |



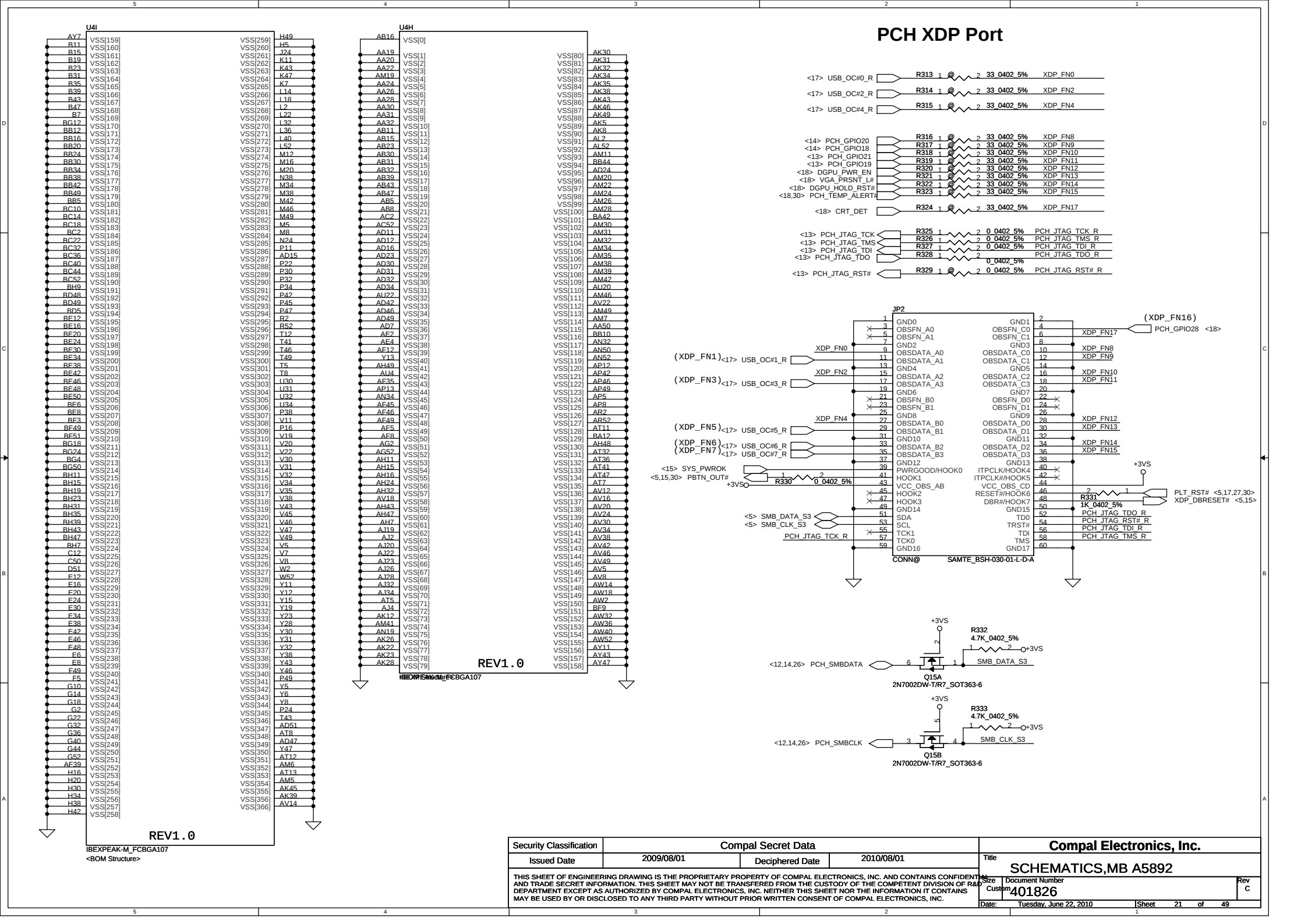




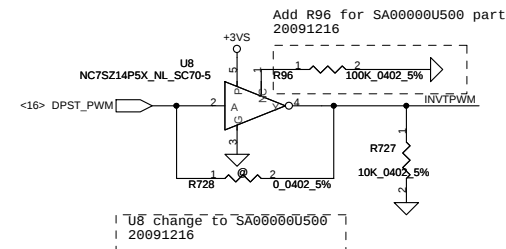
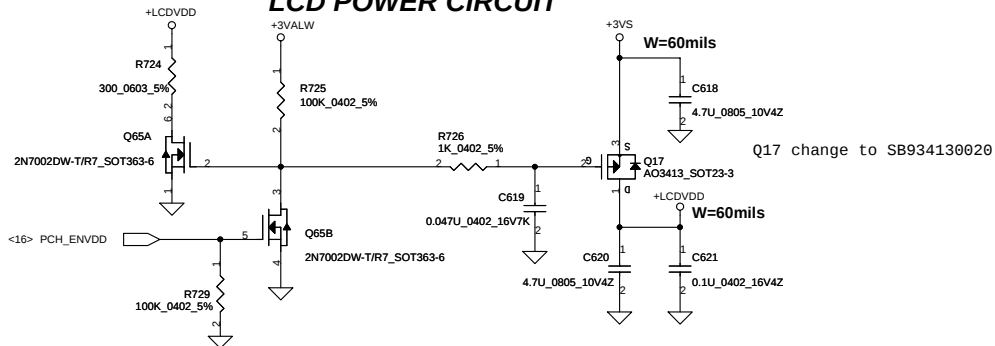


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                        |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date                     | Tuesday, June 22, 2010 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 19 of 49               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev                      | C                      |

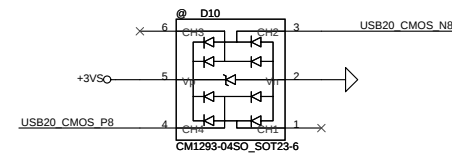
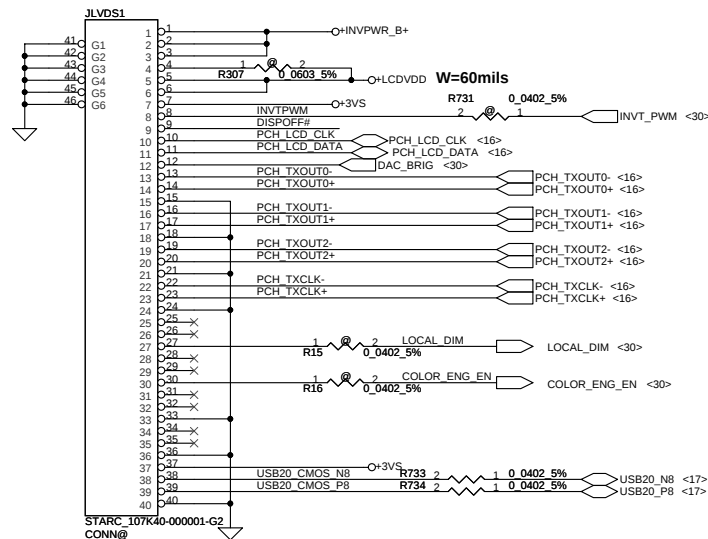
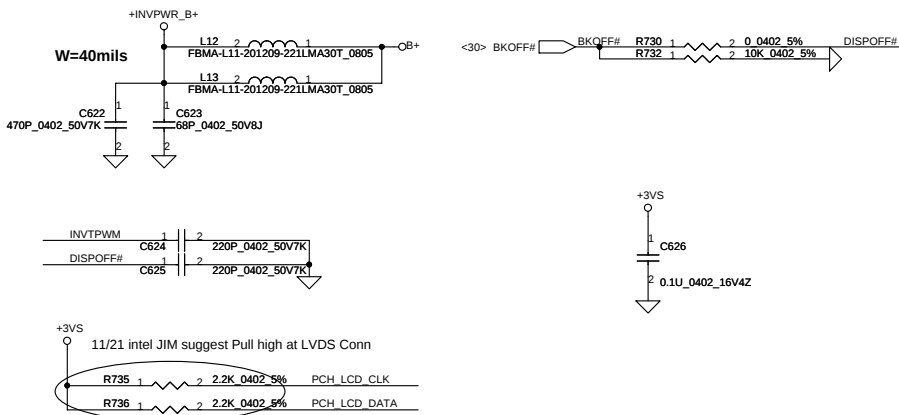




# LCD POWER CIRCUIT

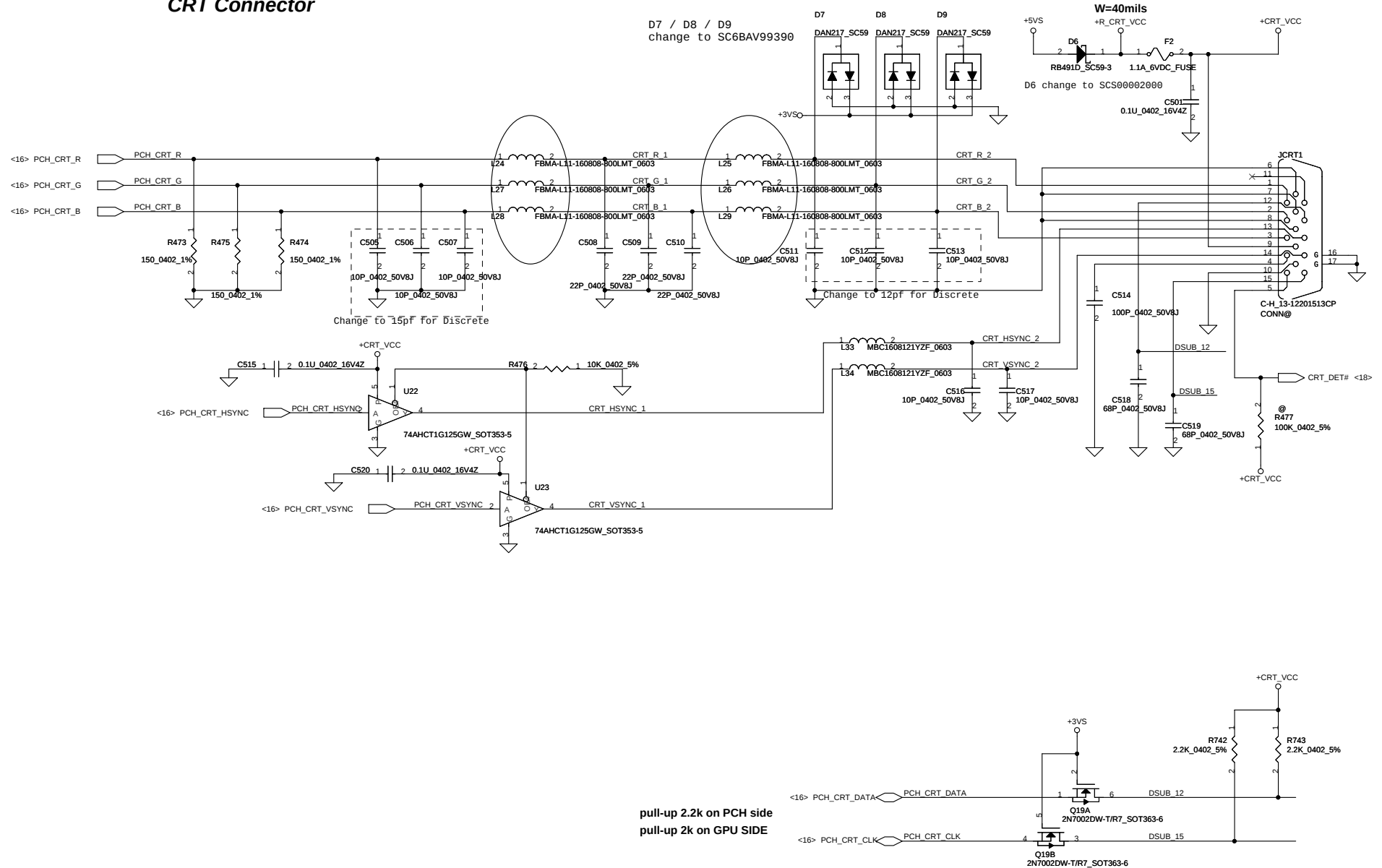


# LED PANEL Conn.



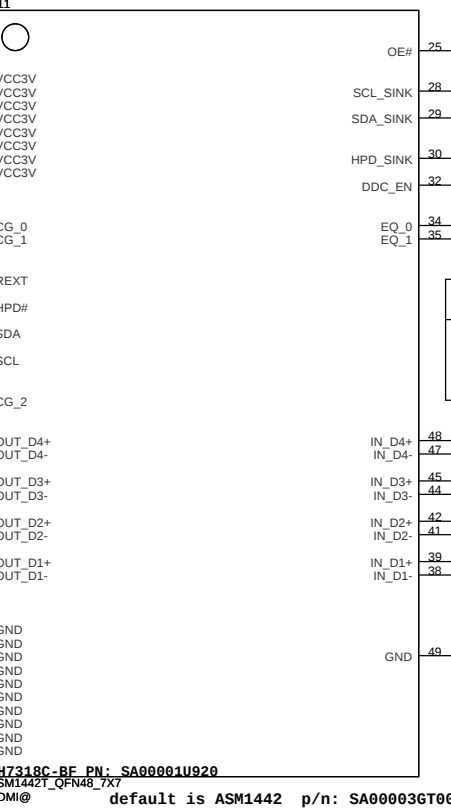
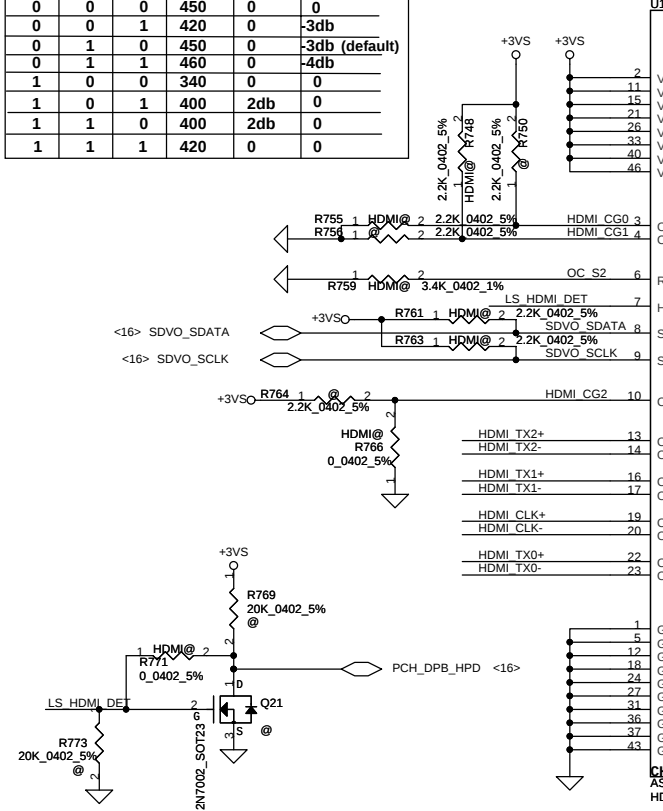
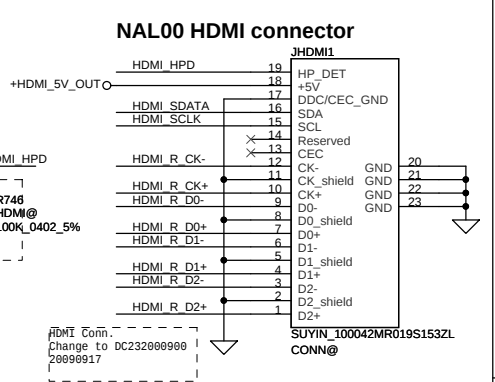
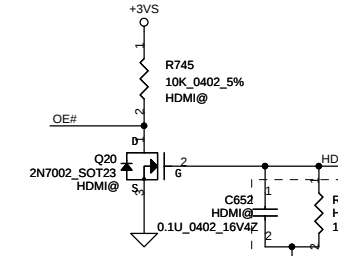
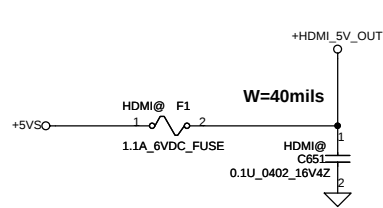
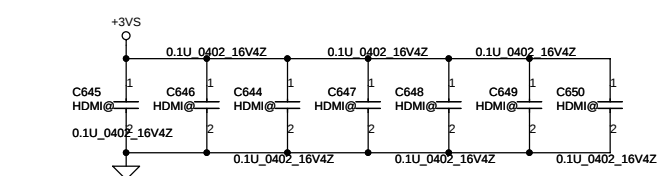
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|------------------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/5/12          | Deciphered Date | 2010/04/15 | Title                    | SCHEMATICS,MB A5892    |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Document Number          | 401826                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date                     | Tuesday, June 22, 2010 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Sheet                    | 22 of 49               |

# CRT Connector

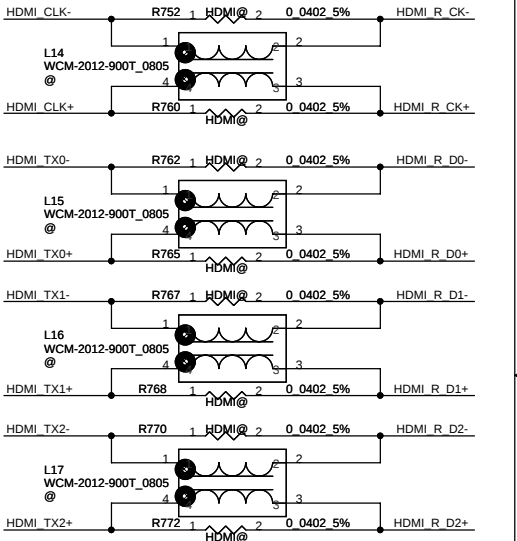
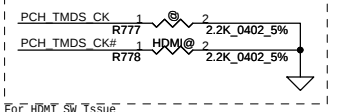


| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc.  |       |
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| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/5/12          | Deciphered Date | 2010/04/15 | SCHEMATICS, MB A5892      |       |
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| Date: Tuesday, June 22, 2010                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                 |            | Sheet 23 of 49            |       |

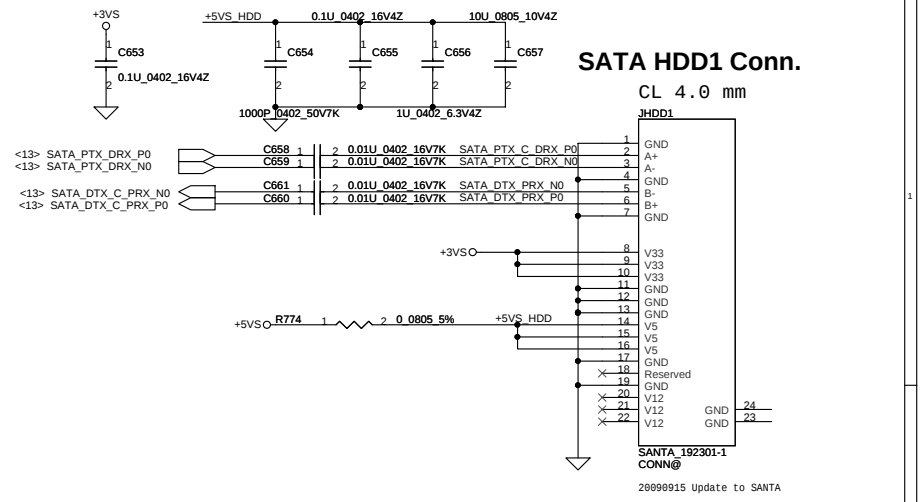
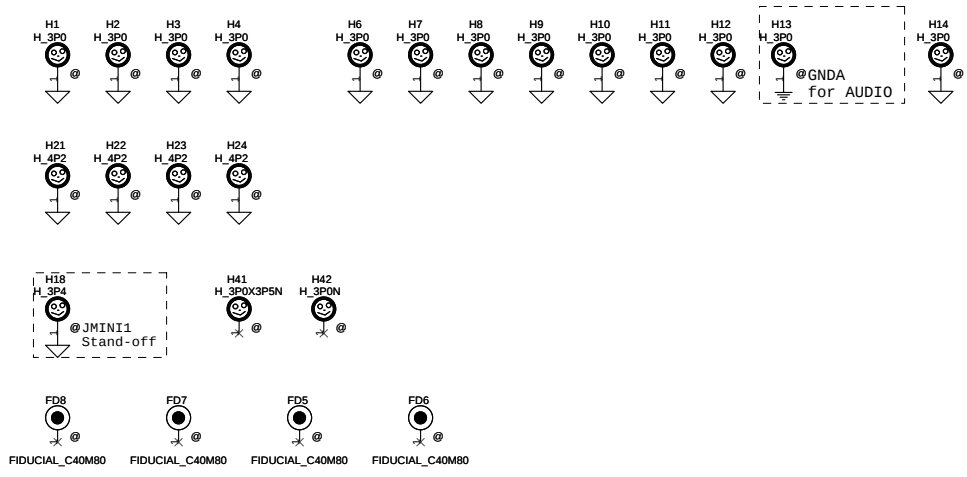
| CG0 | CG1 | CG2 | Swing | Pre-amp | Slew-rate      |
|-----|-----|-----|-------|---------|----------------|
| 0   | 0   | 0   | 450   | 0       | 0              |
| 0   | 0   | 1   | 420   | 0       | -3db           |
| 0   | 1   | 0   | 450   | 0       | -3db (default) |
| 0   | 1   | 1   | 460   | 0       | -4db           |
| 1   | 0   | 0   | 340   | 0       | 0              |
| 1   | 0   | 1   | 400   | 2db     | 0              |
| 1   | 1   | 0   | 400   | 2db     | 0              |
| 1   | 1   | 1   | 420   | 0       | 0              |



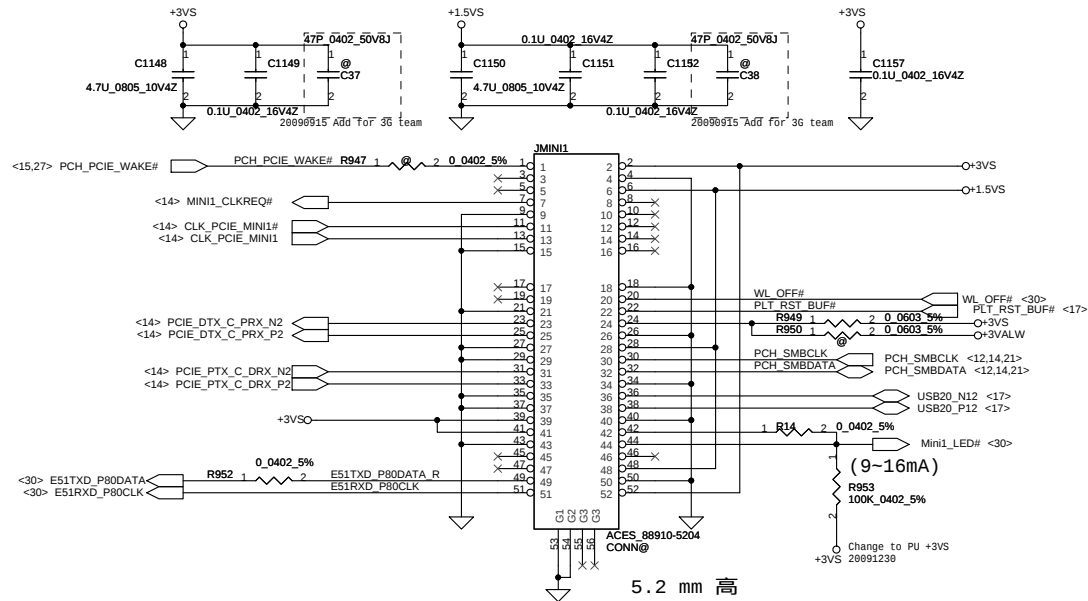
| EQ0 | EQ1 | Equalization  |
|-----|-----|---------------|
| 0   | 0   | 12dB          |
| 0   | 1   | 9dB           |
| 1   | 0   | 6dB           |
| 1   | 1   | 3dB (default) |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                    |            |                          |                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------|------------|--------------------------|------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | Compal Secret Data |            | Compal Electronics, Inc. |                        |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/4/15 | Deciphered Date    | 2010/04/15 | Title                    | SCHEMATICS,MB A5892    |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                    |            | Date                     | Tuesday, June 22, 2010 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                    |            | Sheet                    | 24 of 49               |



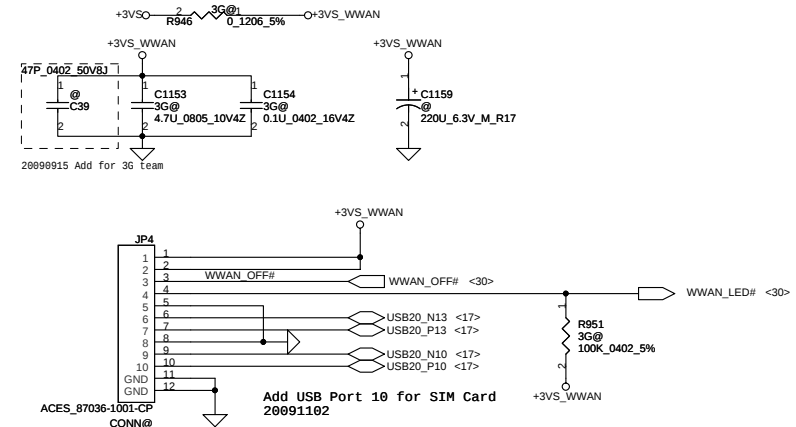
## For Wireless LAN



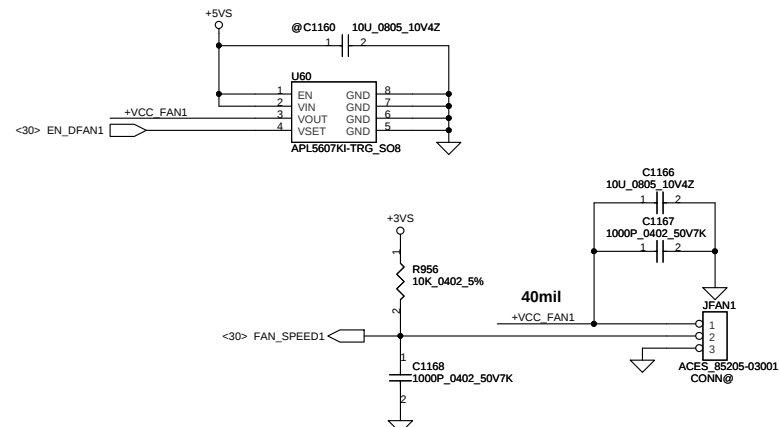
Mini Card Power Rating

| Power  | Primary Power (mA) |        | Auxiliary Power (mA) |
|--------|--------------------|--------|----------------------|
|        | Peak               | Normal | Normal               |
| +3VS   | 1000               | 750    |                      |
| +3V    | 330                | 250    | 250 (wake enable)    |
| +1.5VS | 500                | 375    | 5 (Not wake enable)  |

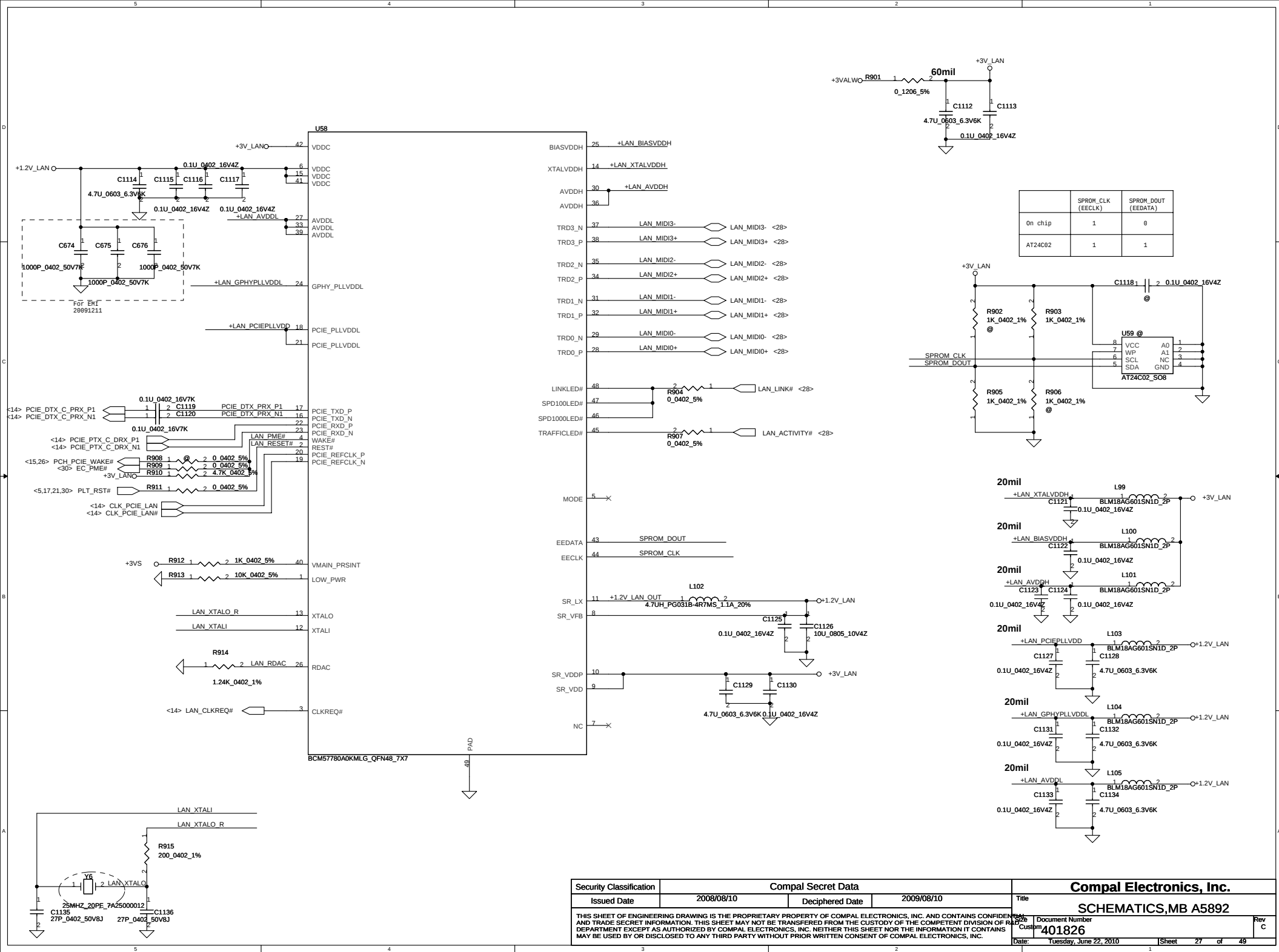
## To 3G / GPS Module Connect



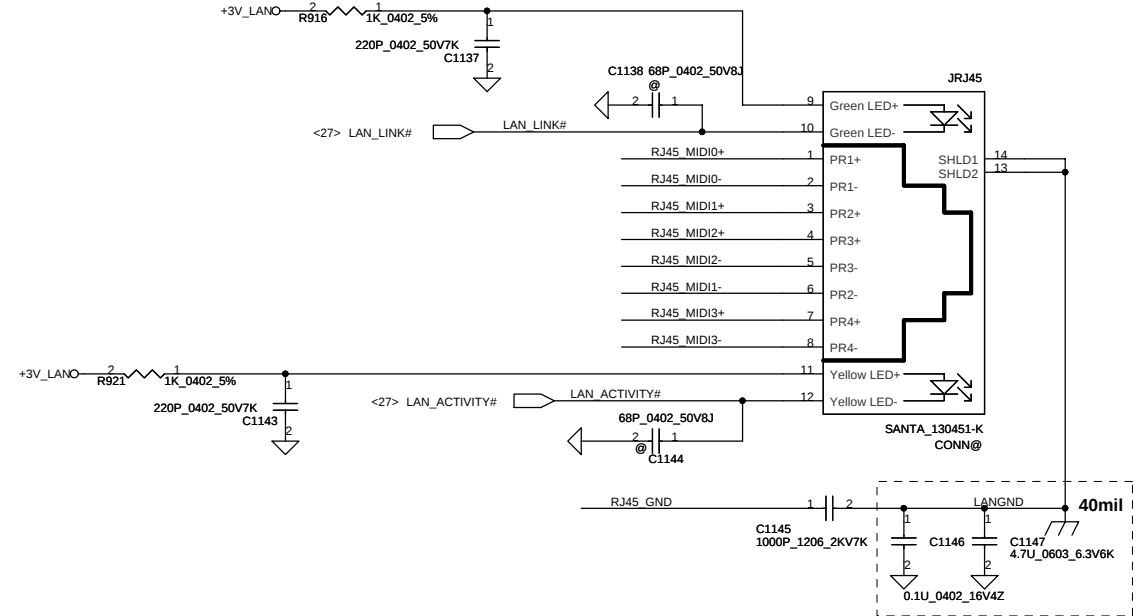
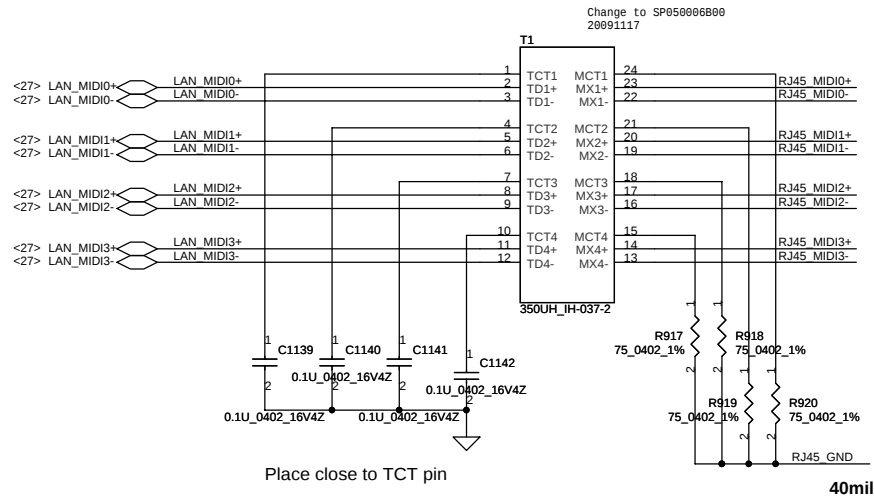
## FAN1 Conn



| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  | Compal Secret Data |  |  |  | Compal Electronics, Inc. |  |  |  |
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| 2007/12/25                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |  | Title              |  |  |  | SHEMATICS,MB A5892       |  |  |  |
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| Sheet                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  | 26                 |  |  |  | of                       |  |  |  |
| 49                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  | Rev                |  |  |  | C                        |  |  |  |

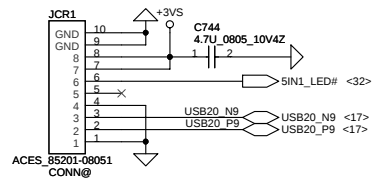


# LAN Connector

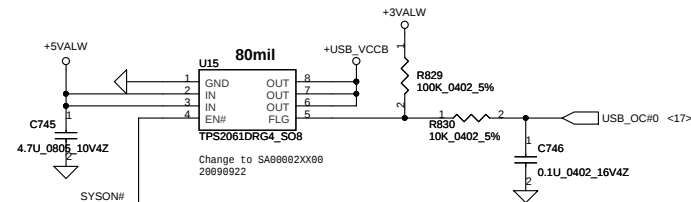
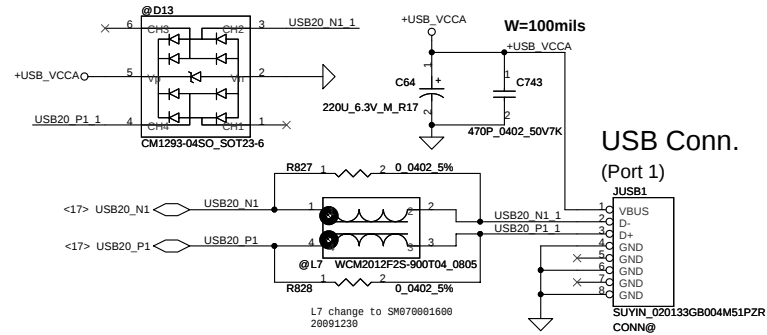
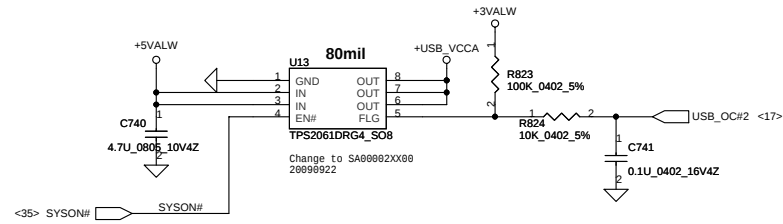
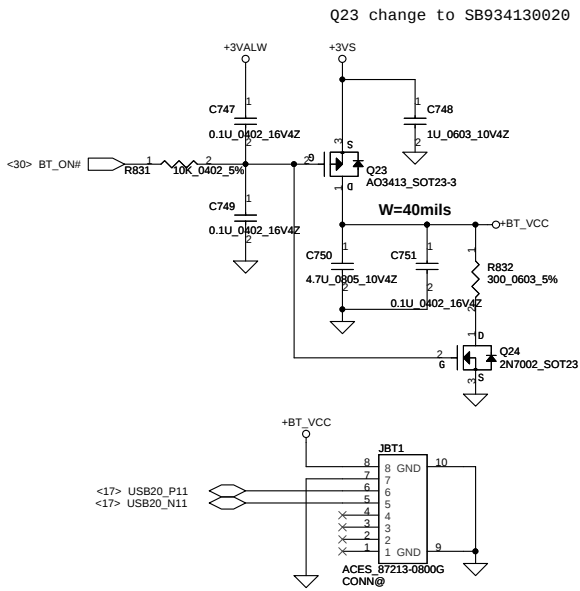


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |                    |            |                          |                     |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        | Compal Secret Data |            | Compal Electronics, Inc. |                     |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2008/08/10             | Deciphered Date    | 2009/08/10 | Title                    | SCHEMATICS,MB A5892 |
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| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Tuesday, June 22, 2010 | Sheet              | 28         | of                       | 49                  |

## Card Reader Conn.

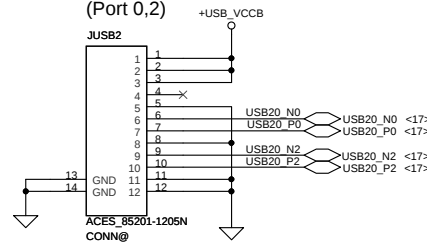


## Bluetooth Conn.



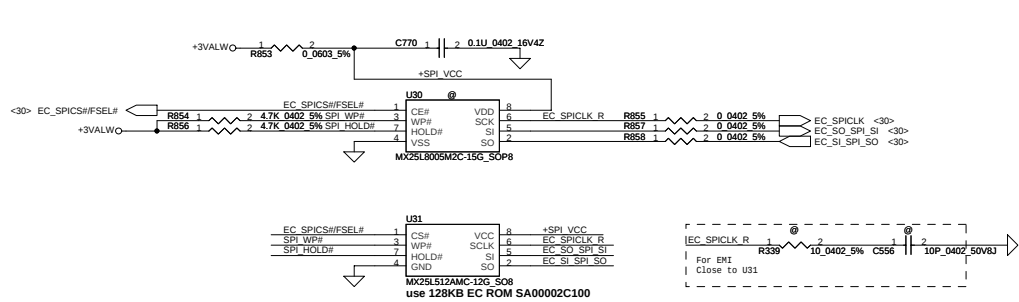
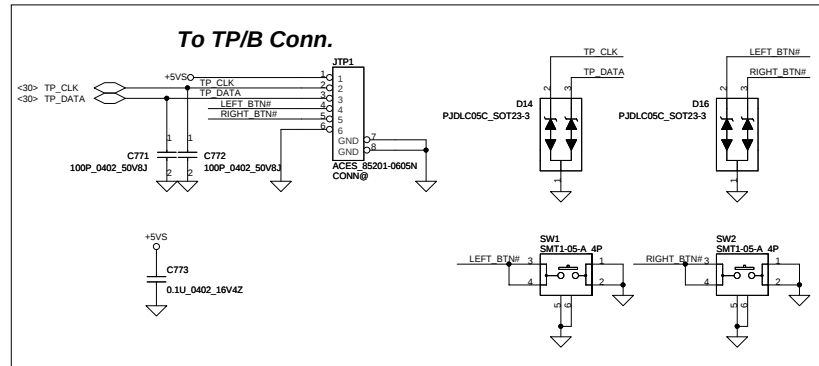
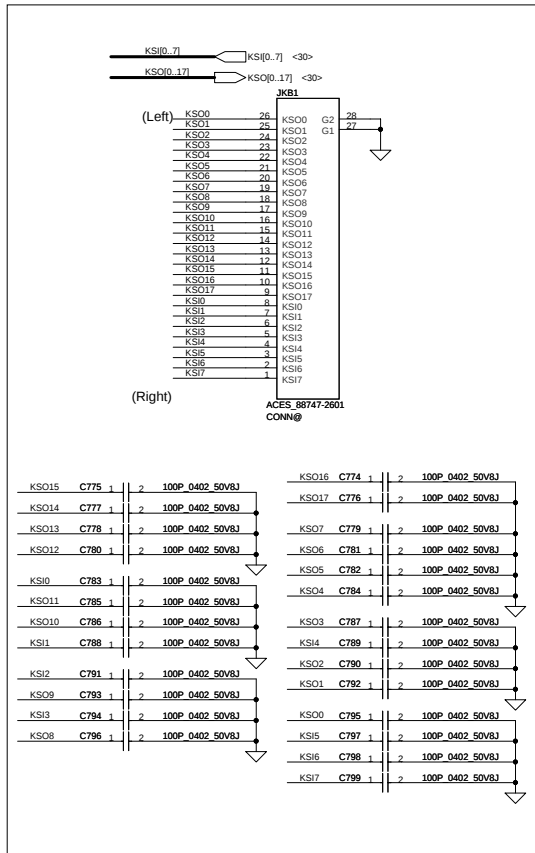
## USB/B Conn.

(Port 0,2)



| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  | Compal Secret Data     |  |  |  | Compal Electronics, Inc. |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|------------------------|--|--|--|--------------------------|--|--|--|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  | Deciphered Date        |  |  |  | Title                    |  |  |  |
| 2009/5/12                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  | 2009/12/31             |  |  |  | SCHEMATICS,MB A5892      |  |  |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  | Tuesday, June 22, 2010 |  |  |  | C                        |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  | Sheet 29 of 49         |  |  |  |                          |  |  |  |



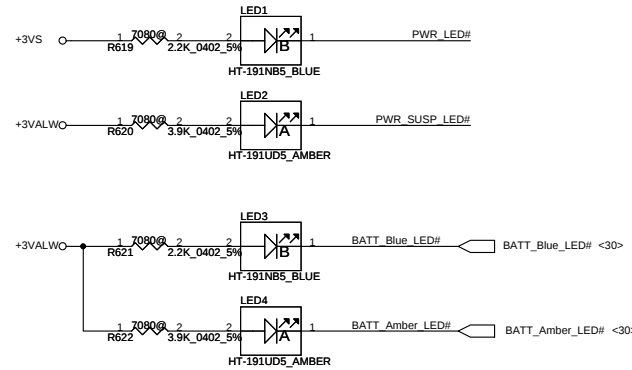
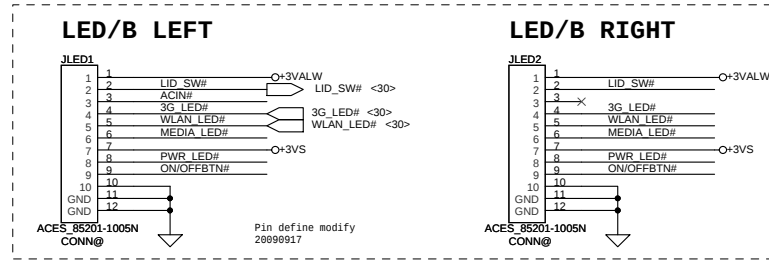
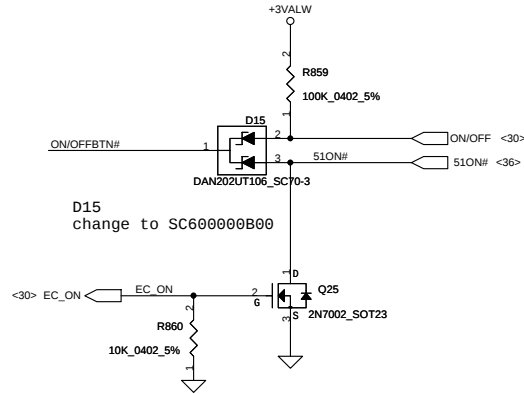


ENE suggestion SPI Frequency over 66MHz  
SST: 50MHz  
MXIC: 70MHz  
ST: 40MHz

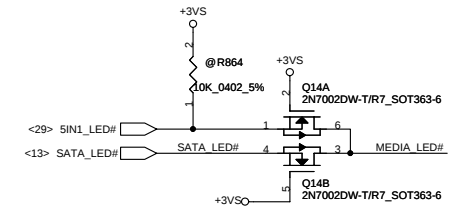
### To BTN/B Conn.

| KSO0                                 | KSO3                                                                   |
|--------------------------------------|------------------------------------------------------------------------|
| KSI1<br>KSI2<br>KSI3<br>KSI4<br>KSI5 | WL_BTN#<br>T/P lock_BTN#<br>Back up_BTN#<br>BT_BTN#<br>Power save_BTN# |
|                                      | Program_BTN#<br>Volum up_BTN#<br>Volum down_BTN#                       |

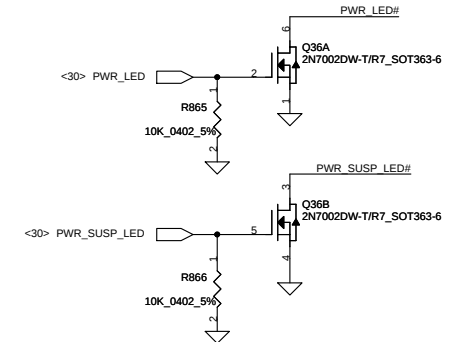
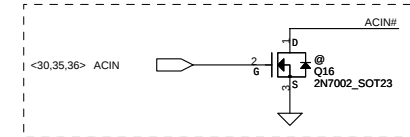
# Power Button



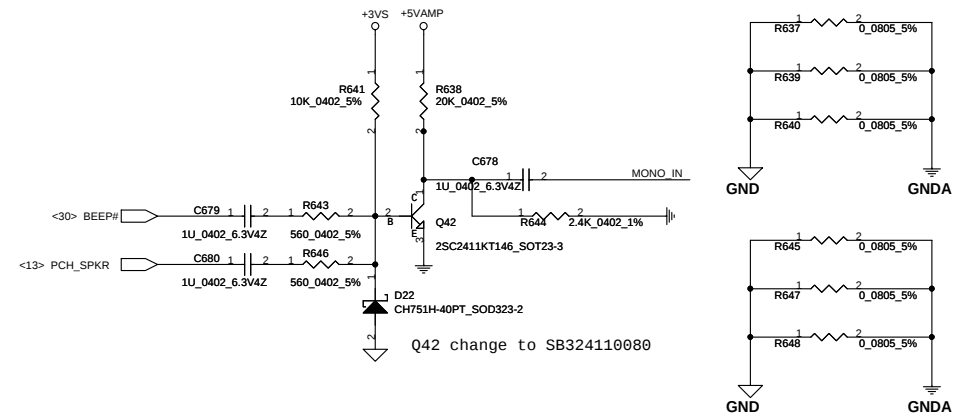
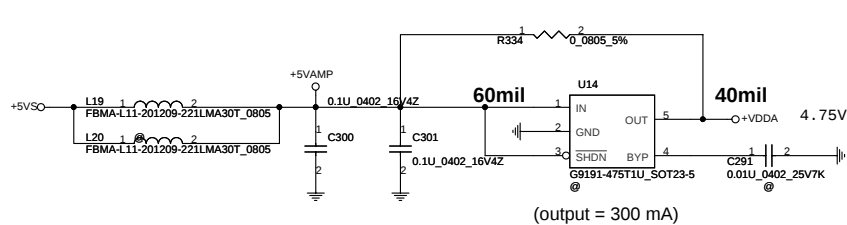
NEW70 7 80  
R619/R621 to 2.2Kohm  
R620/R622 to 3.9kohm  
20091116



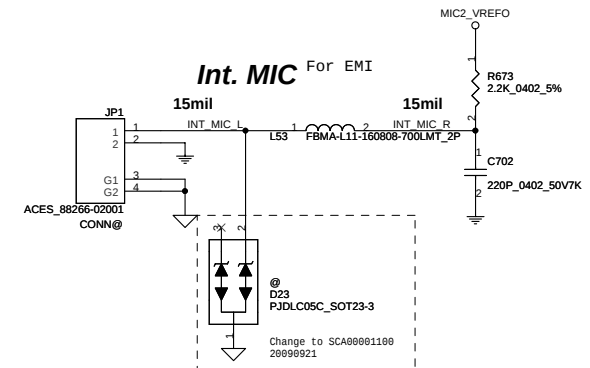
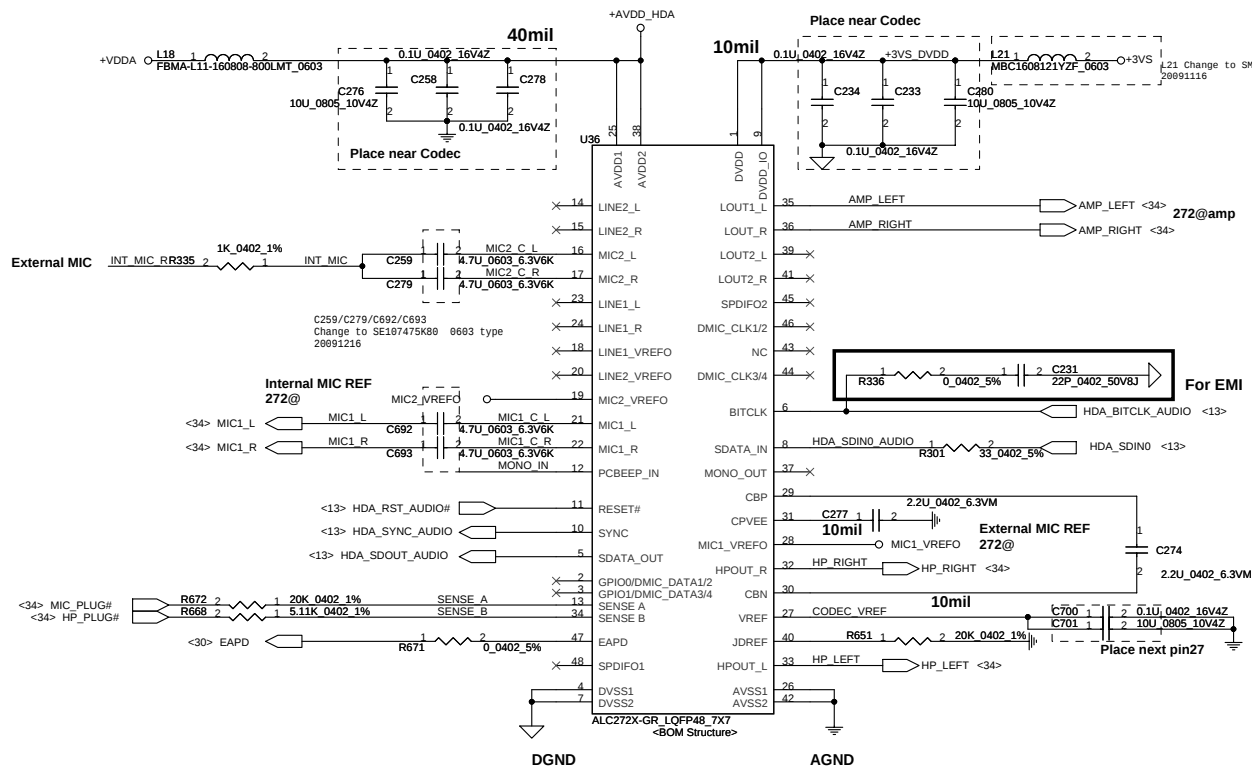
For NEW60 ACIN LED control  
20091118



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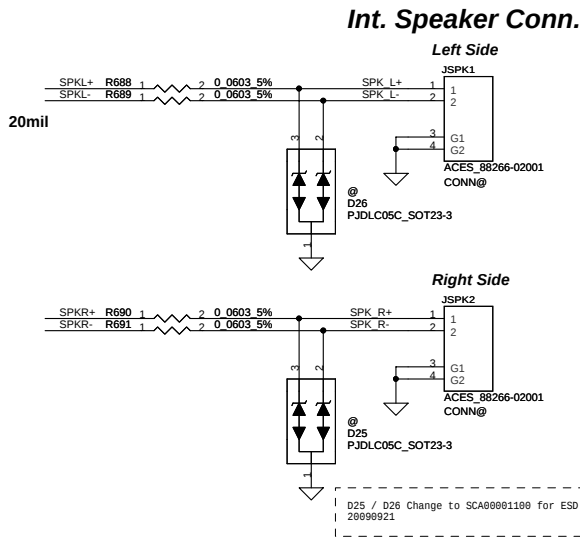
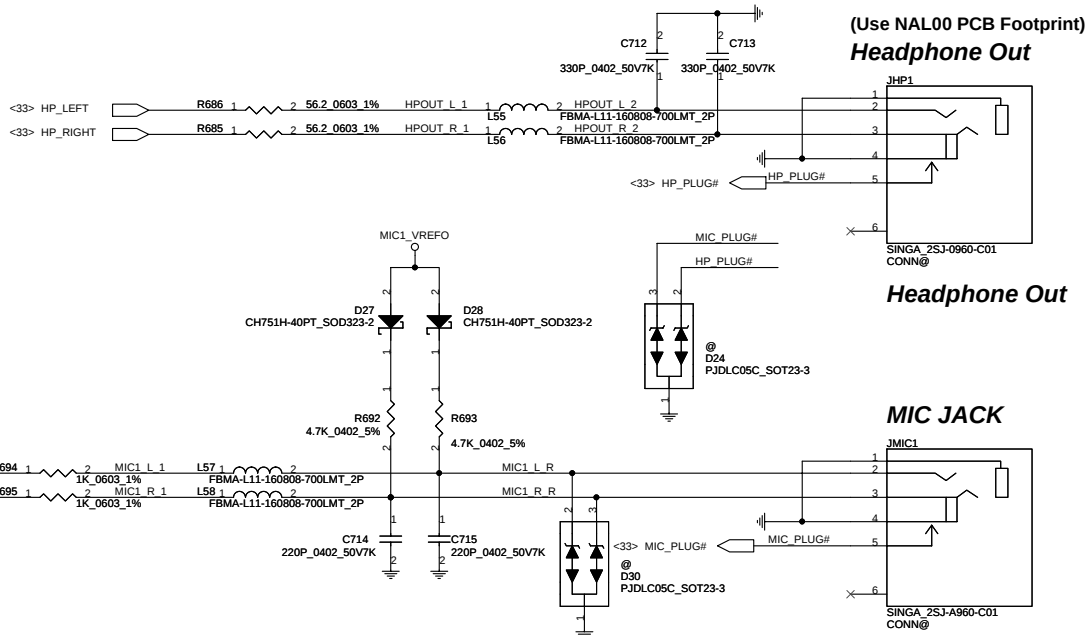
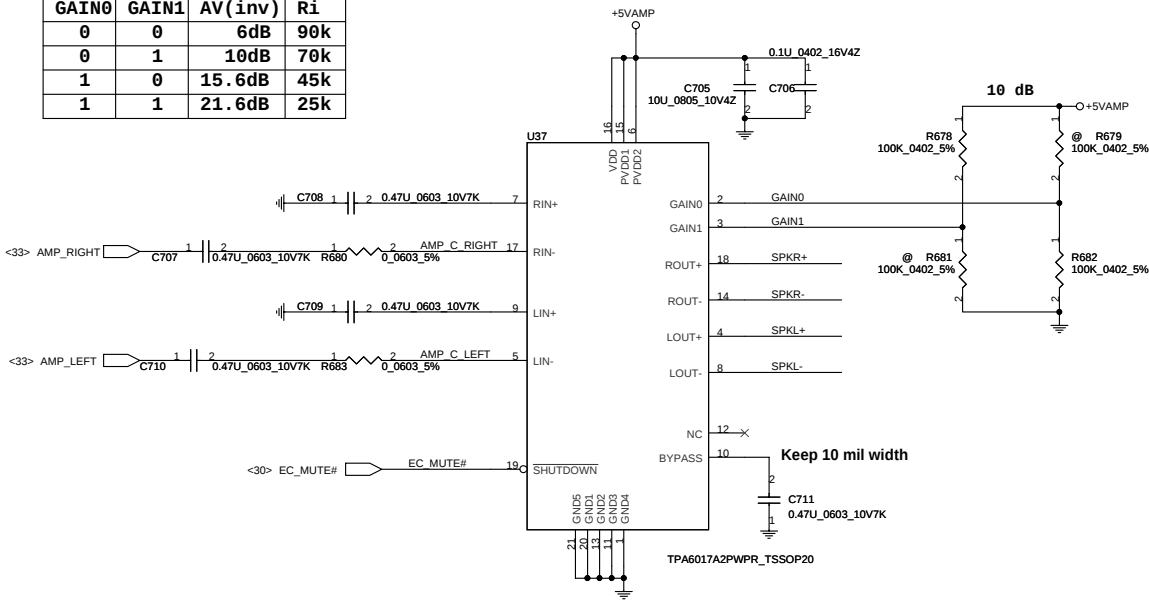


## HD Audio Codec



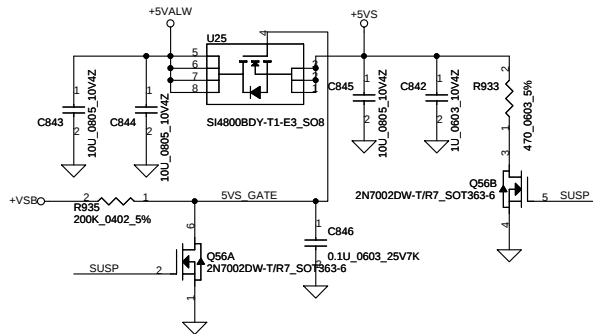
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Title                        |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|------------------------------|----------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2008/08/10 | Deciphered Date    | 2009/08/10 | Compal Electronics, Inc.     |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | 401826                       | C              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date: Tuesday, June 22, 2010 | Sheet 33 of 49 |

| GAIN0 | GAIN1 | AV(inv) | Ri  |
|-------|-------|---------|-----|
| 0     | 0     | 6dB     | 90k |
| 0     | 1     | 10dB    | 70k |
| 1     | 0     | 15.6dB  | 45k |
| 1     | 1     | 21.6dB  | 25k |

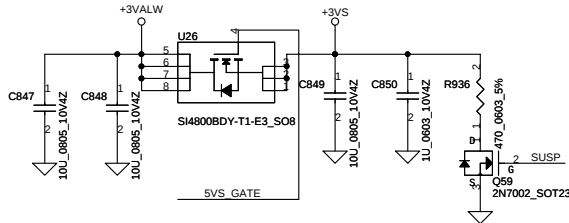


| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 | Title      |                     |
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| Date: Tuesday, June 22, 2010                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                 |            | Sheet 34 of 49      |

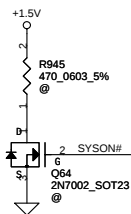
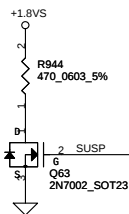
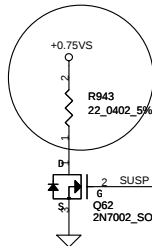
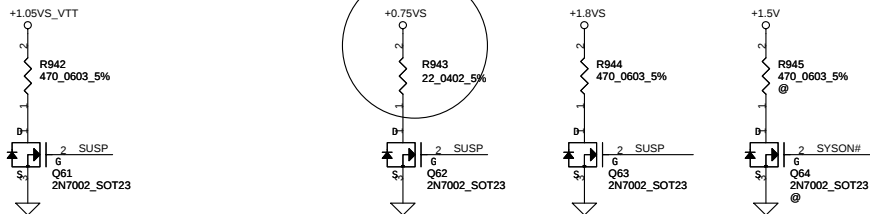
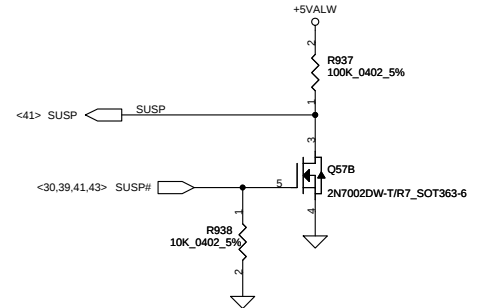
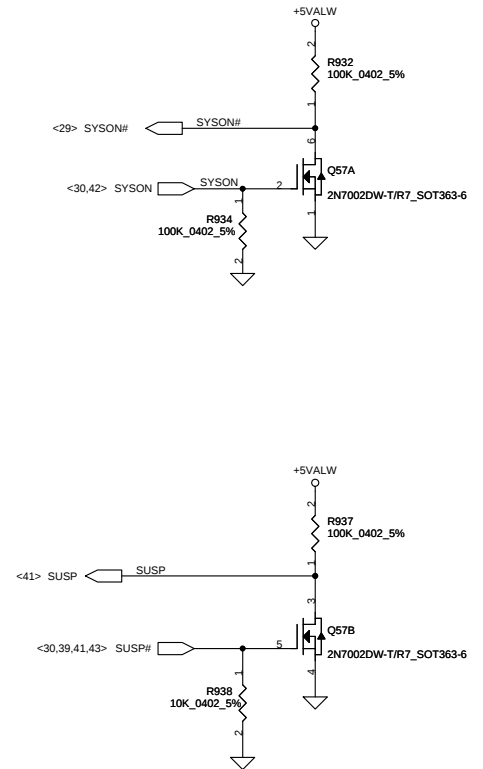
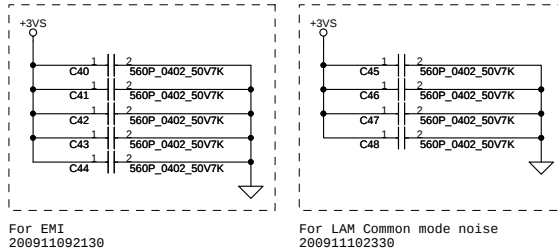
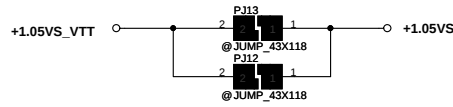
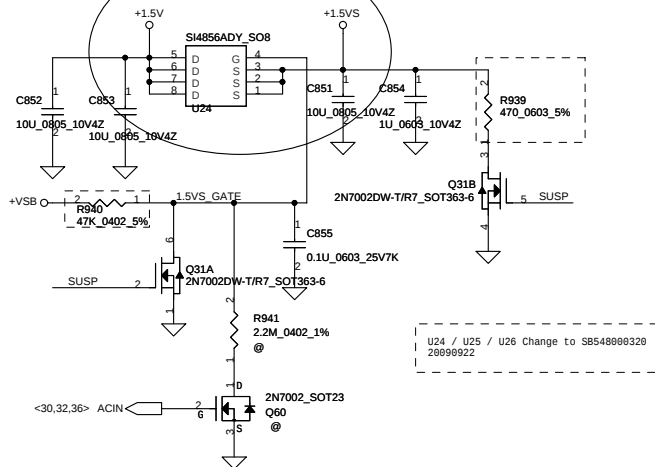
# **+5VALW TO +5VS**



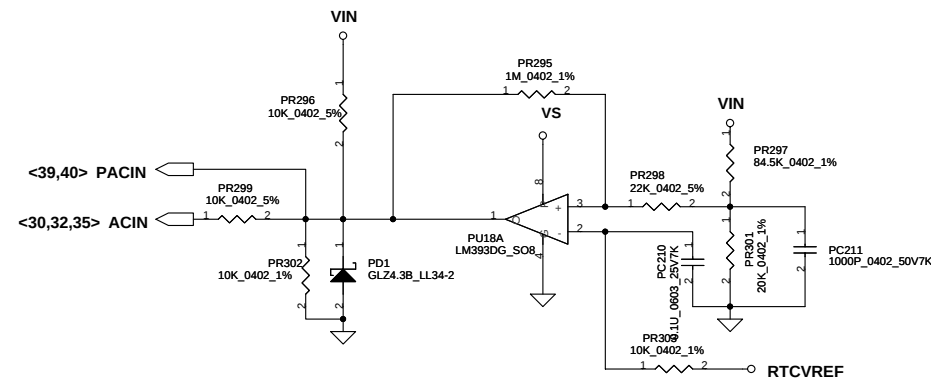
# **+3VALW TO +3VS**



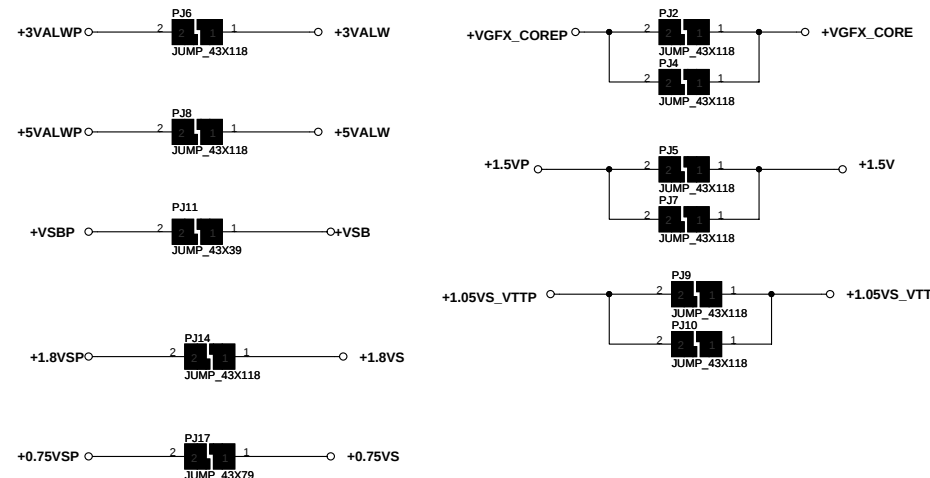
# **+1.5V to +1.5VS**



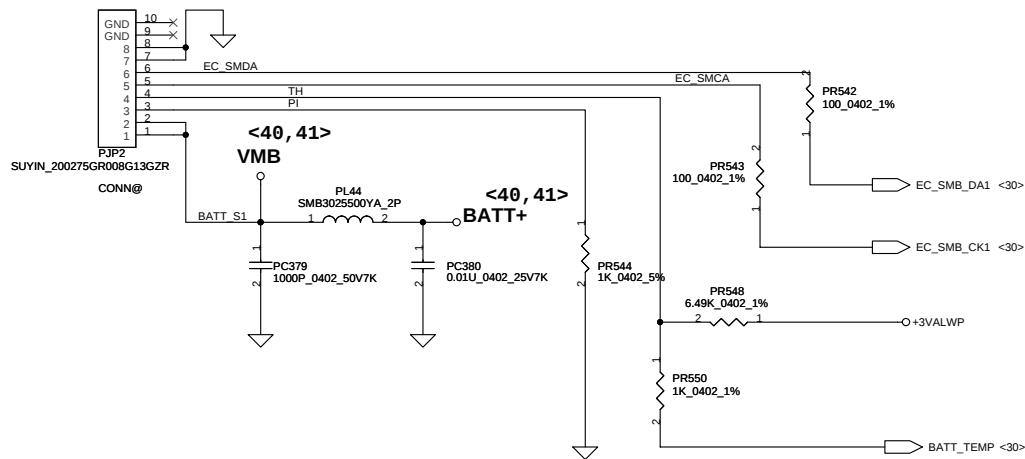
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  | Compal Secret Data           |  |  |  | Compal Electronics, Inc. |  |  |  |
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| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  | 2009/5/12                    |  |  |  | Deciphered Date          |  |  |  |
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| Sheet 35 of 49                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  | Date: Tuesday, June 22, 2010 |  |  |  | Sheet 35 of 49           |  |  |  |



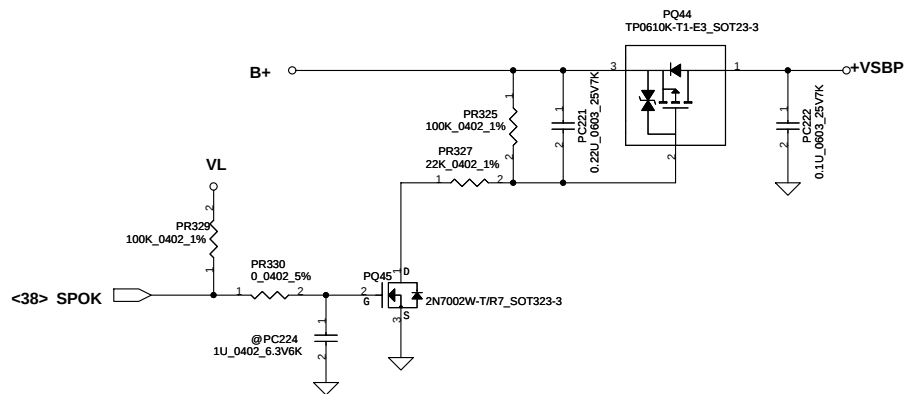
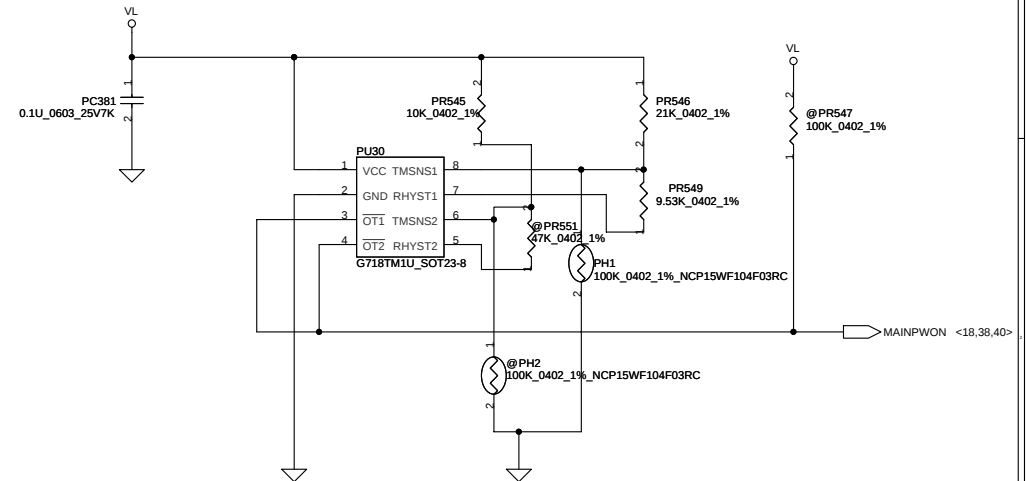
|       | Min.    | Typ     | Max.    |
|-------|---------|---------|---------|
| H-->L | 16.976V | 17.525V | 17.728V |
| L-->H | 17.430V | 17.901V | 18.384V |



|                                                                                                                                                                                                                                                                                                                                                                                                                        |           |                        |                |                          |                      |
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| Date:                                                                                                                                                                                                                                                                                                                                                                                                                  |           | Tuesday, June 22, 2010 | Sheet 36 of 49 |                          |                      |



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



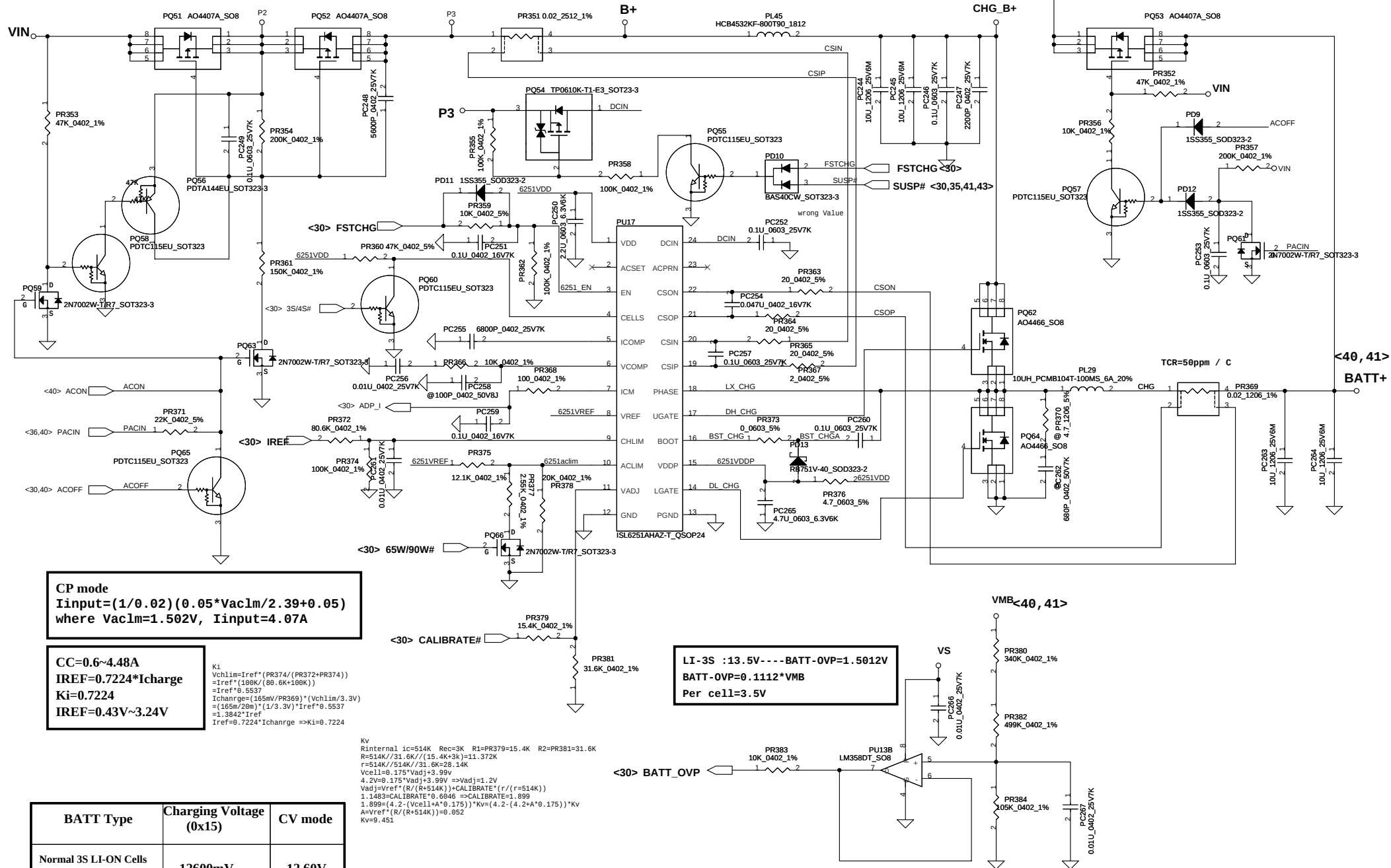
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                    |            |                          |                        |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | Compal Secret Data |            | Compal Electronics, Inc. |                        |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                    |            | Sheet                    | 37 of 49               |

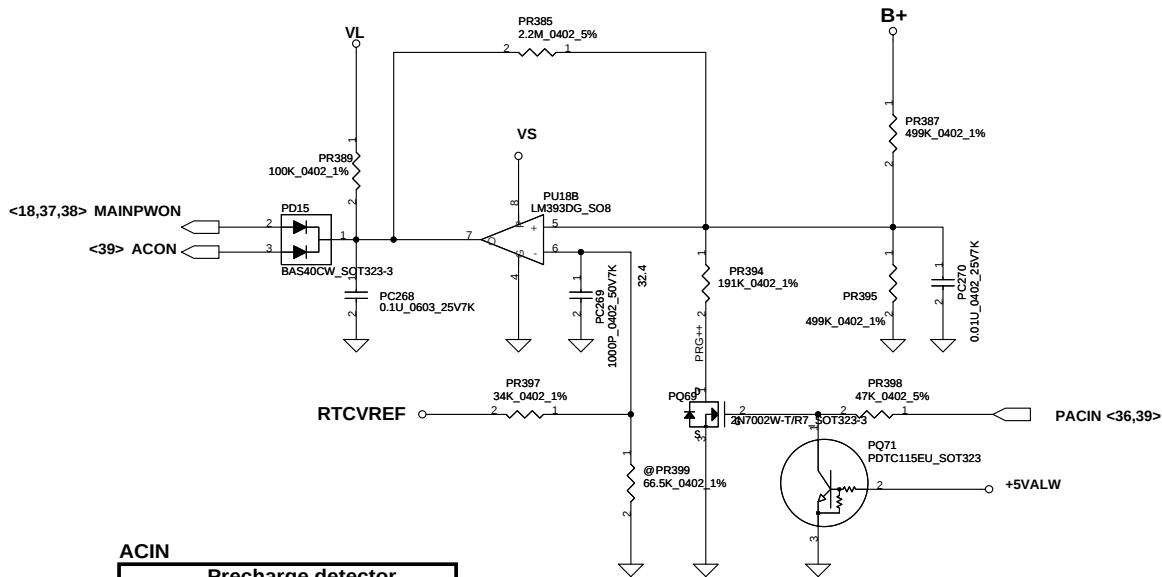


Iada=0~4.74A(90W/19V=4.736A)  
Iada=0~3.42A(90W/19V=3.421A)

ADP\_I = 19.9\*Iadapter\*Rsense

CP = 85%\*Iada ; CP = 4.07A  
CP = 85%\*Iada ; CP = 2.91A



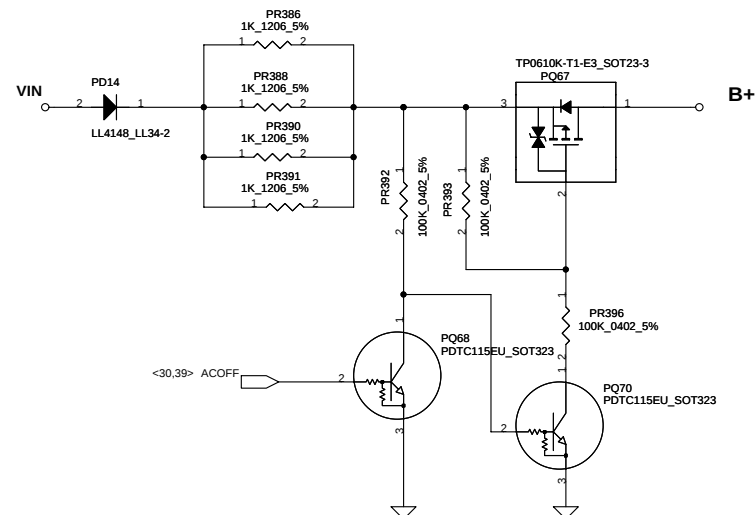


# ACIN

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

# BATT ONLY

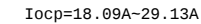
|       | Min.   | typ.   | Max    |
|-------|--------|--------|--------|
| H-->L | 6.138V | 6.214V | 6.359V |
| L-->H | 7.196V | 7.349V | 7.505V |



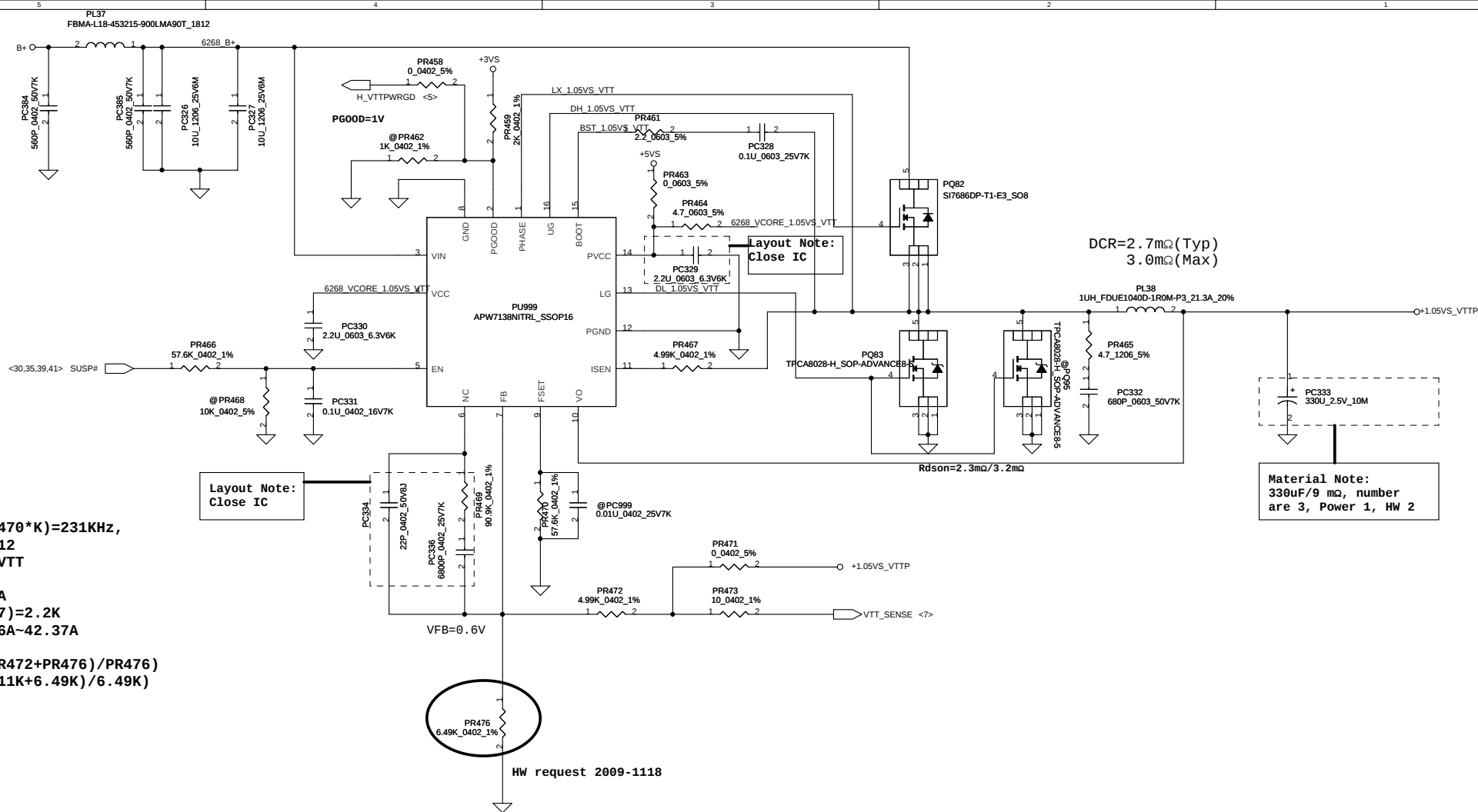
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                 |                          |                              |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                 |                          | Sheet 40 of 49               |



Because +1.5VSP has 17.74A power budget, it includes DDR3, VGA chip, VRAM, so must use molding choke.



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                    |            |                              |                |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                    |            | Tuesday, June 22, 2010       | Sheet 42 of 49 |  |

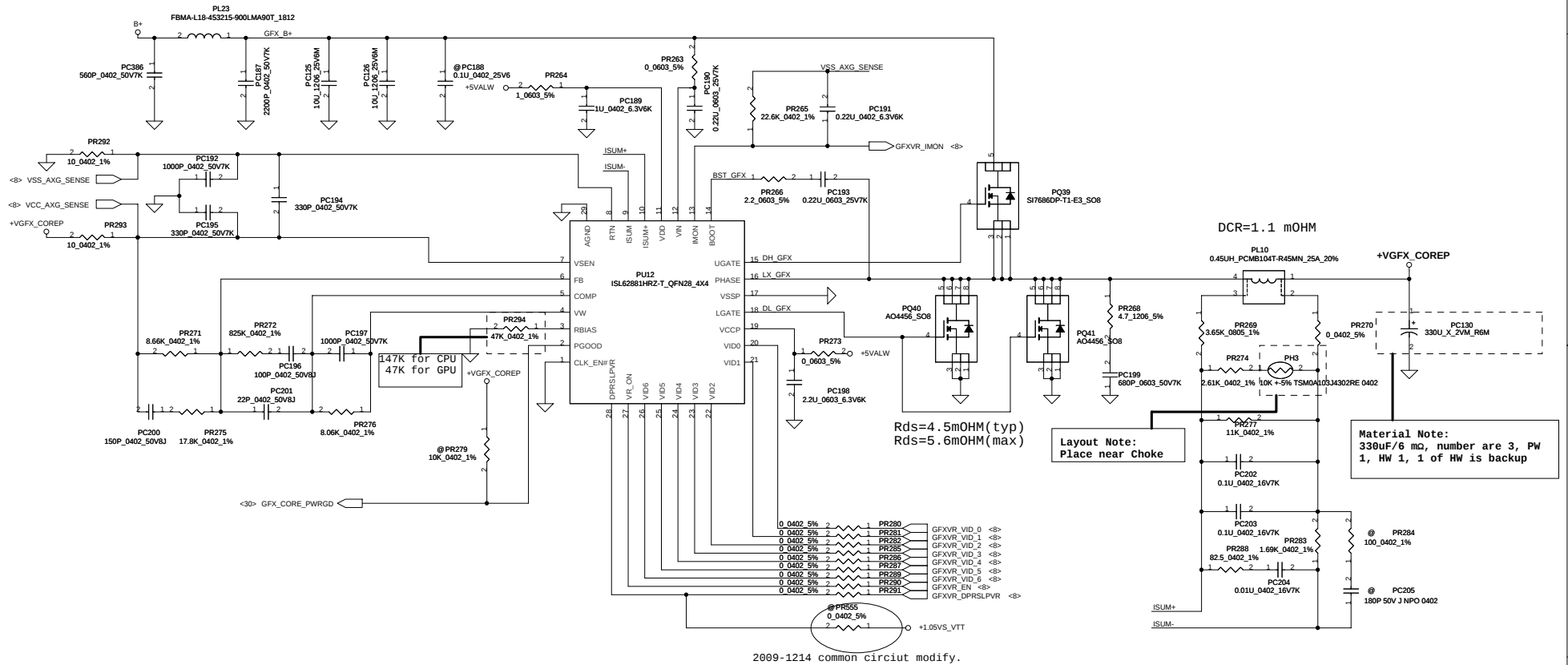


$F_{sw} = 1 / (PR470 * K) = 231 \text{ KHz}$ ,  
 $K = 75 * 10^{-12}$   
 $+1.05V_{SP\_VTT}$   
 $I_{peak} = 25 \text{ A}$   
 $I_{max} = 17.5 \text{ A}$   
 $R_{sen}(PR467) = 2.2 \text{ K}$   
 $I_{ocp} = 30.96 \text{ A} \sim 42.37 \text{ A}$

$V_o = V_r * ((PR472 + PR476) / PR476)$   
 $= 0.6 * ((5.11 \text{ K} + 6.49 \text{ K}) / 6.49 \text{ K})$   
 $1.07 \text{ V}$

| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | Compal Secret Data |            | Compal Electronics, Inc.     |                      |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                    |            | Date: Tuesday, June 22, 2010 | Sheet 43 of 49       |

Intel Auburndale CPU(Integrate Graphics) Ipeak=22A Imax=15A  
 OCP calculation : Assume DCR=1.1m ohm  
 $G1=Rn/(Rn+Rsum)=0.617$   
 where  $Rn=PR277 // (PR274+PH3)=5.875k$  ohm  
 $Rsum=PR269=3.65k$  ohm  
 $LL=2 \times Rdroop \times G1 \times DCR / Ri = 6.96m$  V/A  
 where  $Rdroop=PR271=8.66k$  ohm,  $Ri=PR283=1.69k$  ohm  
 $Iocp=OCP \text{ Threshold} \times Rdroop / LL=24.89A$



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                    |  |
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| Date: Tuesday, June 22, 2010                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Sheet              |  | 44 of 49           |  |

| PH0 | PH1 | # of PH |
|-----|-----|---------|
| 0   | 1   | 2       |
| 1   | 1   | 3       |

|                | HFM_VID | HFM_Icc | LL   | Icc_TDC | Icc_Dyn |
|----------------|---------|---------|------|---------|---------|
| Auburndale 45W | 1.075   | 50      | 1.9m | 37      | 35      |
| Auburndale 35W | 0.975   | 38      | 1.9m | 29      | 27      |
| Clarksfield SV | 0.95    | 51      | 1.9m | 38      | 39      |
| Clarksfield XE | 0.95    | 65      | TBD  | 48      | TBD     |

## ADP3212MNR2G\_QFN48\_7X7

Place PH1 close to PHASE 1 inductor on the same layer

EMI request to mount the caps.(2009-1109)

EMI request to reserve cap.(2009-1109)

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

Page 1 of 3  
for PWR

| Item | Fixed Issue                                | Reason for change                                                                                | Rev. | PG# | Modify List                                                                                                         | Date      | Phase  |
|------|--------------------------------------------|--------------------------------------------------------------------------------------------------|------|-----|---------------------------------------------------------------------------------------------------------------------|-----------|--------|
| 1    | Arrandale CPU of UMA SKU only use 1 LS MOS | Arrandale CPU of UMA SKU only use 1 LS MOS                                                       | 0.1  | 45  | 1 pop PQ87, PQ90, un-pop PQ86.<br>2 Delete PQ89, PQ93 SB00000GL00(S TR TPCA8028-H 1N SOP ADVANCE 4 PC A false )     | 2009-1019 | to DVT |
| 2    | BOM unique.                                | In order to BOM unique for 1SS355, re-link PD8.                                                  | 0.1  | 38  | Change PD8 from SC1SS355003 to SC100001K00                                                                          | 2009-1019 | to DVT |
| 3    | CIS link error.                            | CIS link error.                                                                                  | 0.1  | 45  | Chnage PR500 from SD028100A00(S RES 1/16W 10 +-5% 0402) to SD028100A80(S RES 1/16W 10 +-5% 0402 )                   | 2009-1019 | to DVT |
| 4    | BOM unique.                                | BOM unique.                                                                                      | 0.1  | 39  | Chnage PC265 from SE107475M80(S CER CAP 4.7U 6.3V M X5R 0603 to SE107475K80(S CER CAP 4.7U 6.3V K X5R 0603)         | 2009-1019 | to DVT |
| 5    | BOM unique.                                | BOM unique.                                                                                      | 0.1  | 41  | Chnage PC284 from SE107475M80(S CER CAP 4.7U 6.3V M X5R 0603 to SE107475K80(S CER CAP 4.7U 6.3V K X5R 0603)         | 2009-1019 | to DVT |
| 6    | BOM unique.                                | BOM unique.                                                                                      | 0.1  | 45  | Chnage PC350 from SE107475M80(S CER CAP 4.7U 6.3V M X5R 0603 to SE107475K80(S CER CAP 4.7U 6.3V K X5R 0603)         | 2009-1019 | to DVT |
| 7    | BOM unique.                                | BOM unique.                                                                                      | 0.1  | 38  | Change PC225/PC227 from SE153106K80(S CER CAP 10U 25V K X6S 1206) to SE142106M80 (S CER CAP 10U 25V M X5R 1206)     | 2009-1019 | to DVT |
| 8    | BOM unique.                                | BOM unique.                                                                                      | 0.1  | 45  | Change PC339/PC341 from SE153106K80(S CER CAP 10U 25V K X6S 1206) to SE142106M80 (S CER CAP 10U 25V M X5R 1206)     | 2009-1019 | to DVT |
| 9    | BOM unique.                                | BOM unique.                                                                                      | 0.1  | 43  | Change PQ83 from SB00000I900(S TR AON6704L 1N DFN) to SB00000GL00(S TR TPCA8028-H 1N SOP)                           | 2009-1019 | to DVT |
| 10   | VTT Power rail commond design.             | VTT Power rail commond design.                                                                   | 0.1  | 43  | Delete PQ95 SB00000GL00(S TR TPCA8028-H 1N SOP)-X63826B0L11<br>Delete PQ95 SB00000I900(S TR AON6704L 1N DFN)-OTHERS | 2009-1019 | to DVT |
| 11   | Charger, EMI request.                      | EMI request to add a bead to replace Jump to PASS EMI test.                                      | 0.2  | 39  | Add PL45 SM010018210(S SUPPRE_TAI-TECH HCB4532KF-800T90 1812)                                                       | 2009-1105 | to DVT |
| 12   | +VSBP, EMI request.                        | EMI request to add PC221/PC222 to PASS EMI test                                                  | 0.2  | 37  | Add PC221 SE000005Z80 S CER CAP .22U 25V K X7R 0603<br>Add PC222 SE042104K80 S CER CAP .1U 25V K X7R 0603           | 2009-1105 | to DVT |
| 13   | +1.8VSP, BOM error.                        | +1.8VSP EN delete wrong. Must add PR401 and PC274 for SUSP# enable.                              | 0.2  | 41  | Add PR401 SD028220280 S RES 1/16W 22K 0402 5%<br>Add PC274 SE026474K80 S CER CAP 0.47U 16V K X7R 0603               | 2009-1105 | to DVT |
| 14   | +1.5VP, EMI request.                       | EMI request add snubber for +1.5VP to PASS EMIU test.                                            | 0.2  | 42  | Add PR415 SD001470B80 S RES 1/4W 4.7 +-5% 1206<br>Add PC294 SE025681K80 S CER CAP 680P 50V K X7R 0603               | 2009-1105 | to DVT |
| 15   | +1.5VP, EMI request.                       | EMI request add a small cap to reduce high Freq noise.<br>EMI request change boost R to 2.2 ohm. | 0.2  | 42  | Add PC383 SE074561K80 S CER CAP 560P 50V K X7R 0402<br>Change PR414 from SD013000080 to SD013220B80                 | 2009-1105 | to DVT |
| 16   | +1.05VS_VTTP EMI request.                  | EMI request add two small cap to reduce high Freq noise.                                         | 0.2  | 43  | Add PC384 SE074561K80 S CER CAP 560P 50V K X7R 0402<br>Add PC385 SE074561K80 S CER CAP 560P 50V K X7R 0402          | 2009-1105 | to DVT |
| 17   | +1.05VS_VTTP EMI request.                  | EMI request add snubber for +1.05VS_VTTP to PASS EMIU test.                                      | 0.2  | 43  | Add PR465 SD001470B80 S RES 1/4W 4.7 +-5% 1206<br>Add PC332 SE024681J80 S CER CAP 680P 50V J NPO 0603               | 2009-1105 | to DVT |
| 18   | +1.05VS_VTTP EMI request.                  | EMI request change boost R to 2.2 ohm.                                                           | 0.2  | 43  | Change PR461 from SD013000080 to SD013220B80                                                                        | 2009-1105 | to DVT |
| 19   | +1.05VS_VTTP, HW request.                  | HW request to increase +1.05VS_VTTP voltage.                                                     | 0.2  | 43  | Change PR472 from SD034499180 to SD034649180.                                                                       | 2009-1105 | to DVT |
| 20   | +GFX_COREP, EMI request.                   | EMI request add a small cap to reduce high Freq noise.                                           | 0.2  | 44  | Add PC386 SE074561K80 S CER CAP 560P 50V K X7R 0402                                                                 | 2009-1105 | to DVT |
| 21   | +GFX_COREP, EMI request.                   | EMI request add snubber for +1.05VS_VTTP to PASS EMIU test.                                      | 0.2  | 44  | Add PR268 SD001470B80 S RES 1/4W 4.7 +-5% 1206<br>Add PC199 SE024681J80 S CER CAP 680P 50V J NPO 0603               | 2009-1105 | to DVT |
| 22   | +GFX_COREP, EMI request.                   | EMI request change boost R to 2.2 ohm.                                                           | 0.2  | 44  | Change PR266 from SD013000080 to SD013220B80                                                                        | 2009-1105 | to DVT |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                        |                    |            |                          |                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------|------------|--------------------------|--------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        | Compal Secret Data |            | Compal Electronics, Inc. |                    |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2009/5/12              | Deciphered Date    | 2009/12/31 | Title                    | SCHMATICS,MB A5892 |
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| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Tuesday, June 22, 2010 |                    | Sheet      | 46                       | of 49              |

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

Page 2 of 3 for PWR

| Item | Fixed Issue                           | Reason for change                                                                                               | Rev. | PG# | Modify List                                                                                                                                                 | Date      | Phase  |
|------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------|------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------|
| 24   | +CPU_COREP, EMI request.              | EMI request add a small cap to reduce high Freq noise.                                                          | 0.2  | 45  | Add PC387 SE074561K80 S CER CAP 560P 50V K X7R 0402                                                                                                         | 2009-1105 | to DVT |
| 25   | +CPU_COREP, EMI request.              | EMI request change boost R to 2.2 ohm.                                                                          | 0.2  | 45  | Change PR498/PR509 from SD013000080 to SD013220B80                                                                                                          | 2009-1105 | to DVT |
| 26   | +CPU_COREP, EMI request.              | EMI request add snubber for +CPU_COREP to PASS EMIU test.                                                       | 0.2  | 45  | Add PR499/PR512 SD001470B80 S RES 174W 4.7 +-5% 1206<br>Add PC347/PC359 SE024681J80 S CER CAP 680P 50V J NPO 0603                                           | 2009-1105 | to DVT |
| 27   | +CPU_COREP, Transient Loadline issue. | LA5892 transient and loadline must change some value to meet intel spec.                                        | 0.2  | 45  | Change PL40/PL41 from SH000005680 to SH0000012036BM00.                                                                                                      | 2009-1105 | to DVT |
| 28   | +CPU_COREP, Transient Loadline issue. | LA5892 transient and loadline must change some value to meet intel spec.                                        | 0.2  | 45  | Change PR524/PR525 from SD013120380 to SD013137380.                                                                                                         | 2009-1105 | to DVT |
| 29   | +CPU_COREP, Transient Loadline issue. | LA5892 transient and loadline must change some value to meet intel spec.                                        | 0.2  | 45  | Change PC362 from SE074391K80 S CER CAP 390P 50V K X7R 0402 to SE074561K80 S CER CAP 560P 50V K X7R 0402                                                    | 2009-1105 | to DVT |
| 30   | +CPU_COREP, Transient Loadline issue. | LA5892 transient and loadline must change some value to meet intel spec.                                        | 0.2  | 45  | Change PR501 from SD034536180 S RES 5.36K 0402 1% to SD034549180 S RES 1/16W 5.49K 0402 1%                                                                  | 2009-1105 | to DVT |
| 31   | +CPU_COREP, EMI request.              | +CPU_COREP, EMI request.                                                                                        | 0.3  | 45  | Add PC388 SE074102K80 S CER CAP 1000P 50V K X7R 0402                                                                                                        | 2009-1113 | to DVT |
| 32   | +CPU_COREP, EMI request.              | +CPU_COREP, EMI request.                                                                                        | 0.3  | 45  | Add PC389 SE074222K80 S CER CAP 2200P 50V K X7R 0402<br>Add PC390 SE074561K80 S CER CAP 560P 50V K X7R 0402                                                 | 2009-1113 | to DVT |
| 33   | +CPU_COREP, cost issue.               | Beuase SF000000G80 will cost uo, change to SF22004M210.                                                         | 0.3  | 45  | Change PC343 from SF000000G80 to SF22004M210.                                                                                                               | 2009-1113 | to DVT |
| 34   | +CPU_COREP, IMON issue.               | Because Intel update IMON RC time constant, update PC348 to 0.068u to meet spec.                                | 0.3  | 45  | Change PC348 from SE076103K80 S CER CAP .01U 16V K X7R 0402 to SE000003J80 S CER CAP 0.068U 16V K X7R 0402                                                  | 2009-1113 | to DVT |
| 35   | +3V/+5V cost issue.                   | Because Nippon cost up thier OS-CON cap, so we change Nippon cap to Sanyo cap by sourcer request.               | 0.4  | 38  | Change PC233/PC237 from SF22001M300 S ELE CAP 220U 6.3V M F60(6.3X5.7) PXC to SF22001M200 S ELE CAP 220U 6.3V M B C6 SVPC ESR15                             | 2009-1118 | to DVT |
| 36   | +1.05VS_VTTP issue.                   | HW request to increase +1.05VS_VTTP voltage.                                                                    | 0.4  | 43  | Change PR472 from SD034649180 to SD034511180.                                                                                                               | 2009-1118 | to DVT |
| 37   | +1.05VS_VTTP issue.                   | HW request to increase +1.05VS_VTTP voltage.                                                                    | 0.4  | 43  | Chnage PR476 from SD034665180 to SD034649180.                                                                                                               | 2009-1118 | to DVT |
| 38   | +0.75VSP power sequence issue.        | HW request to adjust power sequence.                                                                            | 0.4  | 47  | change PR409 from SD028000080 S RES 0 0402 5% to SD028200280 S RES 1/16W 20K 0402 5%.                                                                       | 2009-1118 | to DVT |
| 39   | +1.05VS_VTTP issue.                   | +1.05VS_VTTP choke unique to +1.5VP.                                                                            | 0.4  | 43  | Change PL38 from SH000008V80 S COIL 1UH +-20% PCMB103E-1R0MS 20A to SH000009U00 S COIL 1UH +-20% FDUE1040D-1R0M=P3 21.3A                                    | 2009-1118 | to DVT |
| 40   | +1.05VS_VTTP 2nd source issue.        | In order to phase in 2nd source, change ISL6268 to APW7138.                                                     | 0.5  | 43  | Change PU26 from SA00001HT80 S IC ISL6268CAZ-T SSOP 16P to PU999 SA000020600 S IC APW7138NITRL SSOP 16P                                                     | 2009-1208 | to PVT |
| 41   | +1.05VS_VTTP 2nd source issue.        | APW7138 needn't pop PC335.                                                                                      | 0.5  | 43  | Delete PC335 SE075103K80 S CER CAP .01U 25V K X7R 0402 and change location to PC999.                                                                        | 2009-1208 | to PVT |
| 42   | HDD LED flash issue.                  | HDD LED will flash when plug in adapter, because +3VS rise a little. HW request add PC224 to solve it.          | 0.5  | 37  | Add PC224 SE000000K80 S CER CAP 1U 6.3V X5R 0402                                                                                                            | 2009-1208 | to PVT |
| 43   | HDD LED flash issue.                  | If add PC224, must change PR330 from 0 to 1K to avoid SPOK pin fail. that is add a current limit R on SPOK pin. | 0.5  | 37  | Chnage PR330 from SD028000080 to SD028100180.                                                                                                               | 2009-1208 | to PVT |
| 44   | BOM error.                            | +1.8VSP choke use wrong material. Unique MP2121 to other project.                                               | 0.5  | 41  | Change PL30 from SH000006I80 S COIL 2.2UH +-20% PCMC063T-2R2MN 8A to SH000009Q00 S COIL 2.2UH 20% MSCDRI-74A-2R2M-E 6.5A<br>Add PR554 SD028000080 0 0402 5% | 2009-1208 | to PVT |
| 45   | +1.05VS_VTTP issue.                   | HW request to adjust +1.05VS_VTTP Vout.                                                                         | 0.5  | 43  | Change PR472 from SD034511180 to SD034499180.                                                                                                               | 2009-1208 | to PVT |
| 46   | +VGF_X_COREP issue                    | ISL62881 common circiut update.                                                                                 | 0.5  | 44  | Delete PR291 SD028000080.<br>Add PR555 SD028000080.                                                                                                         | 2009-1208 | to PVT |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |                    |            |                          |                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------|------------|--------------------------|---------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                           |           | Compal Secret Data |            | Compal Electronics, Inc. |                     |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2009/5/12 | Deciphered Date    | 2009/12/31 | Title                    | SCHEMATICS,MB A5892 |
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| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           |                    |            | Tuesday, June 22, 2010   | Sheet 47 of 49      |

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

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for PWR

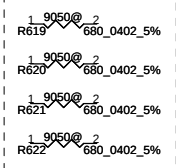
| Item | Fixed Issue             | Reason for change                                                                                             | Rev. | PG # | Modify List                                                                                                              | Date      | Phase     |
|------|-------------------------|---------------------------------------------------------------------------------------------------------------|------|------|--------------------------------------------------------------------------------------------------------------------------|-----------|-----------|
| 24   | Sequense issue.         | Modify sequense by HW request.                                                                                | 0.6  | 37   | Chnage PR330 from SD028100180 S RES 1/16W 1K +-5% 0402 to SD028000080 S RES 1/16W 0 +-5% 0402.                           | 2010-0112 | to Pre-MP |
| 25   | Sequense issue.         | Modify sequense by HW request.                                                                                | 0.6  | 37   | Delete PC224 SE000000K80 S CER CAP 1U 6.3V K X5R 0402                                                                    | 2010-0112 | to Pre-MP |
| 26   | EMI issue.              | Because EMI has power BB on 250MHz, add HS gate R to solve.                                                   | 0.6  | 45   | Add PR556/PR557 SD013220B80 S RES 1/10W 2.2 +-5% 0603                                                                    | 2010-0112 | to Pre-MP |
| 27   | BOM loss update in DVT. | BOM loss update in DVT, change 1.8V choke.                                                                    | 0.6  | 41   | Change PL30 from SH000006180 S COIL 2.2UH +-20% PCMC063T-2R2MM 8A to SH000009Q00 S COIL 2.2UH 20% MSCDRI-74A-2R2M-E 6.5A | 2010-0112 | to Pre-MP |
| 28   | Common circiut update.  | GFX_COREP common circiut update.                                                                              | 0.6  | 44   | Add PR291 SD028000080 0 0402 5%<br>Delete PR555 SD028000080 0 0402 5%                                                    | 2010-0112 | to Pre-MP |
| 29   | Changer choke issue.    | Because Cyntec has qulity issue and can't use in MFG, in order to prevent shortage issue, change to Maglayer. | 0.6  | 39   | Chnage PL29 from SH000005Z80 S COIL 10UH +-20% PCMB104T-100MS 6A to SH000009R00 S COIL 10UH +-20% MMD-10DZ-100M-X1 6A    | 2010-0112 | to Pre-MP |
| 30   |                         |                                                                                                               |      |      |                                                                                                                          |           |           |
| 31   |                         |                                                                                                               |      |      |                                                                                                                          |           |           |
| 32   |                         |                                                                                                               |      |      |                                                                                                                          |           |           |
| 33   |                         |                                                                                                               |      |      |                                                                                                                          |           |           |
| 34   |                         |                                                                                                               |      |      |                                                                                                                          |           |           |
| 35   |                         |                                                                                                               |      |      |                                                                                                                          |           |           |
| 36   |                         |                                                                                                               |      |      |                                                                                                                          |           |           |
| 37   |                         |                                                                                                               |      |      |                                                                                                                          |           |           |
| 38   |                         |                                                                                                               |      |      |                                                                                                                          |           |           |
| 39   |                         |                                                                                                               |      |      |                                                                                                                          |           |           |
| 40   |                         |                                                                                                               |      |      |                                                                                                                          |           |           |
| 41   |                         |                                                                                                               |      |      |                                                                                                                          |           |           |
| 42   |                         |                                                                                                               |      |      |                                                                                                                          |           |           |
| 43   |                         |                                                                                                               |      |      |                                                                                                                          |           |           |
| 44   |                         |                                                                                                               |      |      |                                                                                                                          |           |           |
| 45   |                         |                                                                                                               |      |      |                                                                                                                          |           |           |
| 46   |                         |                                                                                                               |      |      |                                                                                                                          |           |           |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |                    |            |                           |                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------|------------|---------------------------|---------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           | Compal Secret Data |            | Compal Electronics, Inc.  |                     |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2009/5/12 | Deciphered Date    | 2009/12/31 | Title                     | SCHEMATICS,MB A5892 |
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| Date: Tuesday, June 22, 2010                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |                    |            | Sheet 48                  | of 49               |

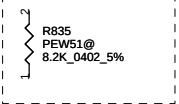
Version change list (P. I. R. List)

| Item | Phase  | PAGE | DATE    | Modifycatio list                                                                                                                                                                                                                                            | Purpose |
|------|--------|------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1    |        |      | 09 / 30 | Q9 / Q15 / Q65 / Q14 / Q36 / Q19 / Q31 / Q56 / Q57<br>Change to SB00000AR10<br>Q4/Q5/Q6/Q7/Q13/Q24/Q25/Q59/Q61/Q62/Q63/Q20<br>Change to SB570020120                                                                                                         |         |
| 2    | DVT    |      | 11 / 03 | Modify WWAN Mini catd PIN define.<br>X1 / X2 Change to SJ132P7KW10.<br>Add PCH SUSCLK net for remove EC crystal.<br>Remove C147.<br>Add F2 for RF team.<br>Add C670 / C671 / C672 / C673 For INTEL<br>Change C217 to 22U and add C221 22U for CRT issue.    |         |
|      |        |      | 11 / 05 | Add P80DATA PD 100Kohm(R51) for EC common design.<br>Add C40 / C41 / C42 / C43 / C44 for EMI.<br>Add ACIN#(Q16) for ACIN LED(NEW60)<br>Add C45 / C46 / C47 / C48 for LAN Common mode noise<br>Remove net BT_LED#.                                           |         |
|      |        |      | 11 / 09 | Add R14 for MINI1 LED Function.                                                                                                                                                                                                                             |         |
|      |        |      | 11 / 10 | Add D13/D14/D16/D23/D24/D25/D26/D30 for ESD<br>Add R836/C760 R338/C555 for RF.<br>L21 Change to SM010012010<br>L5 Change to SM01000AX00<br>Change R619/R621 to 680ohm<br>Change R620/R622 to 3.9kohm<br>Y1 Change to SJ100009R00<br>R841 Change to 3.2k ohm |         |
|      |        |      | 11 / 11 | Update Power SCH                                                                                                                                                                                                                                            |         |
|      |        |      | 11 / 16 | Change T1 to SP050006B00                                                                                                                                                                                                                                    |         |
|      |        |      | 11 / 17 | Change PCH P/N to SA00003N7B0<br>Change R167 to 470 ohm.                                                                                                                                                                                                    |         |
|      |        |      | 11 / 18 | Update Power SCH                                                                                                                                                                                                                                            |         |
|      |        |      | 11 / 19 |                                                                                                                                                                                                                                                             |         |
| 3    | PVT    |      | 12 / 07 | C259 / C279 / C692 / C693 Change to SE107475K80 0603 type                                                                                                                                                                                                   |         |
|      |        |      | 12 / 09 | Reserved R15 (net LOCAL_DIM) / R16 (net COLOR_ENG_EN) for LVDS function.<br>Reserved R307 for +LCDVDD.<br>EC Pin36 for WLAN_LED# (output), Pin 17 for MINI1_LED# (input)<br>EC Pin91 for 3G_LED#(output) & Pin85 for WWAN_LED# (input)<br>Update Power SCH  |         |
|      |        |      | 12 / 10 | Update Power SCH                                                                                                                                                                                                                                            |         |
|      |        |      | 12 / 11 | Add R96 PD 100K for LVDS Panel issue.<br>Add C674 / C675 / C676 For EMI.<br>Del SW3 Power on SW                                                                                                                                                             |         |
|      |        |      | 12 / 14 | Update Power SCH                                                                                                                                                                                                                                            |         |
|      |        |      | 12 / 16 | U8 change to SA00000U500                                                                                                                                                                                                                                    |         |
|      |        |      | 12 / 17 | R619 / R621 change to 2.2K SD028220180 for LED<br>Q13 / R477 Change to unpop<br>R171 Change to pop,R172 change to unpop for Board ID.<br>Add R777 / R778 For HDM1 Issue.Only pop R778.<br>R751 Change to 2.2K.                                              |         |
| 4    | PRE MP |      |         | ADD PU R951 / R953<br>UNPOP D23 for MIC noise issue.<br>UNPOP R827 / R828, ADD L7 SM070001600 for USB.<br>Update Power SCH                                                                                                                                  |         |
|      |        |      | 01 / 06 | Change Q9,Q65,Q15,Q14,Q36,Q19,Q31,Q56,Q57 to SB00000DH00                                                                                                                                                                                                    |         |
|      |        |      | 01 / 11 | Change LED1 / LED3 to SC591N85A30<br>Del L7, Add R827 / R828.<br>Del D26 / D25                                                                                                                                                                              |         |
|      |        |      | 01 / 21 | Update Power SCH                                                                                                                                                                                                                                            |         |
|      |        |      | 03 / 01 | Modify Power SCH NAME                                                                                                                                                                                                                                       |         |
|      | MP     |      | 05 / 11 | Reserve D13 / D24 / D30 @ (ESD)                                                                                                                                                                                                                             |         |
|      |        |      | 06 / 09 | Add NEW7X0@ / PEW51@ BOM Structure fo ID                                                                                                                                                                                                                    |         |

For NEW50 / NEW90 LED



For PEW51 project ID



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                 |            |                          |                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Compal Secret Data |                 |            | Compal Electronics, Inc. |                        |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2008/07/01         | Deciphered Date | 2009/12/31 | Title                    | SCHEMATICS,MB A5892    |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                 |            | Sheet                    | 49 of 49               |