



Part Number = X76264BOL81
SEYSAM1G@



Part Number = X76264BOL82
SEYHYN1G@



Part Number = X76264BOL55
WHISAM1G@



Part Number = X76264BOL60
WHIHYN1G@



Part Number = X76264BOL61
SAM2G@



Part Number = X76264BOL62
HYN2G@

Compal Confidential

P7YE5/S5 Schematics Document

AMD Sabine

APU Llano / Hudson M2 / Vancouver Whistler_Seymour

DIS only / UMA only / PX Muxless with BACO



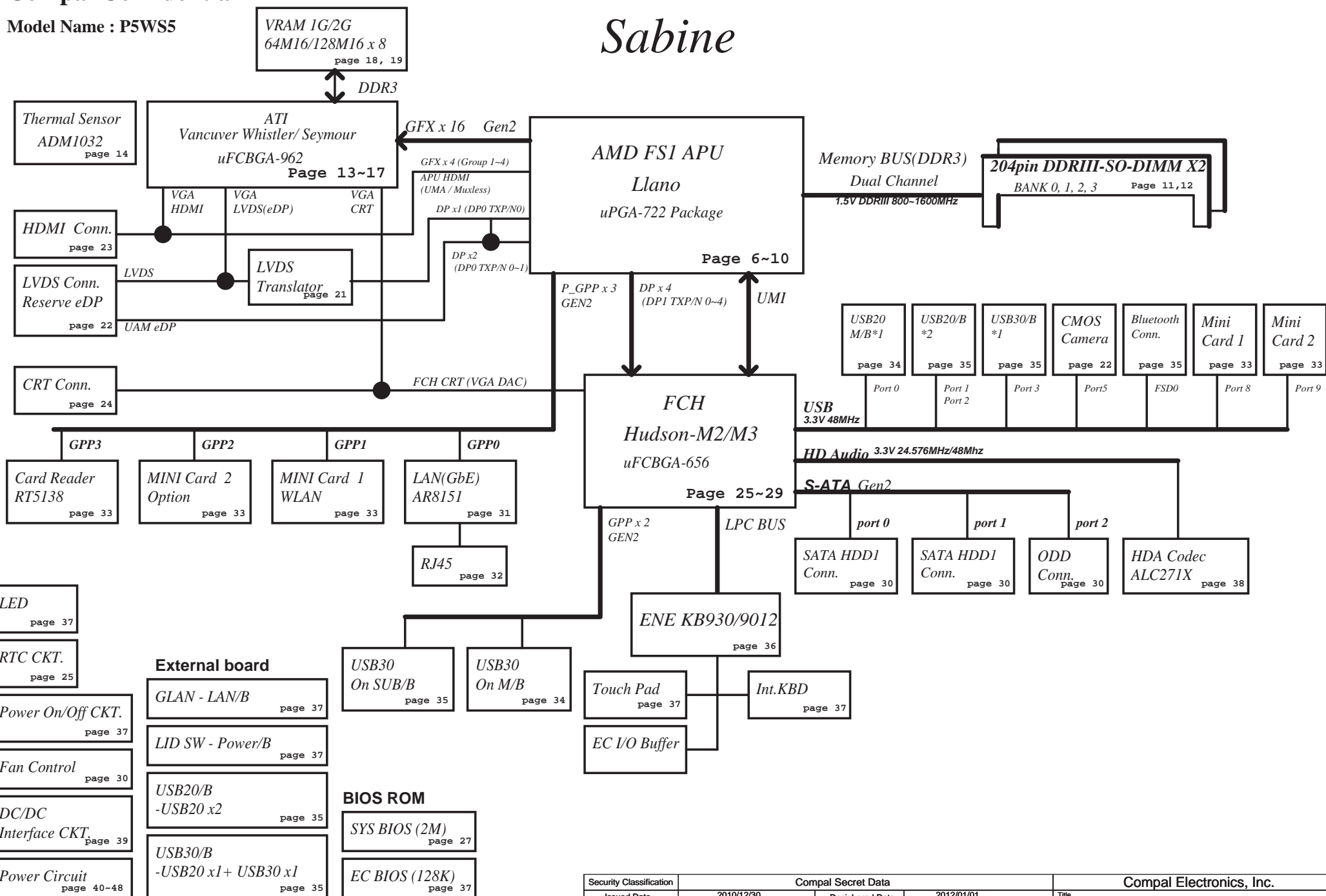
Part Number = DA80000NI00

2011-02-18

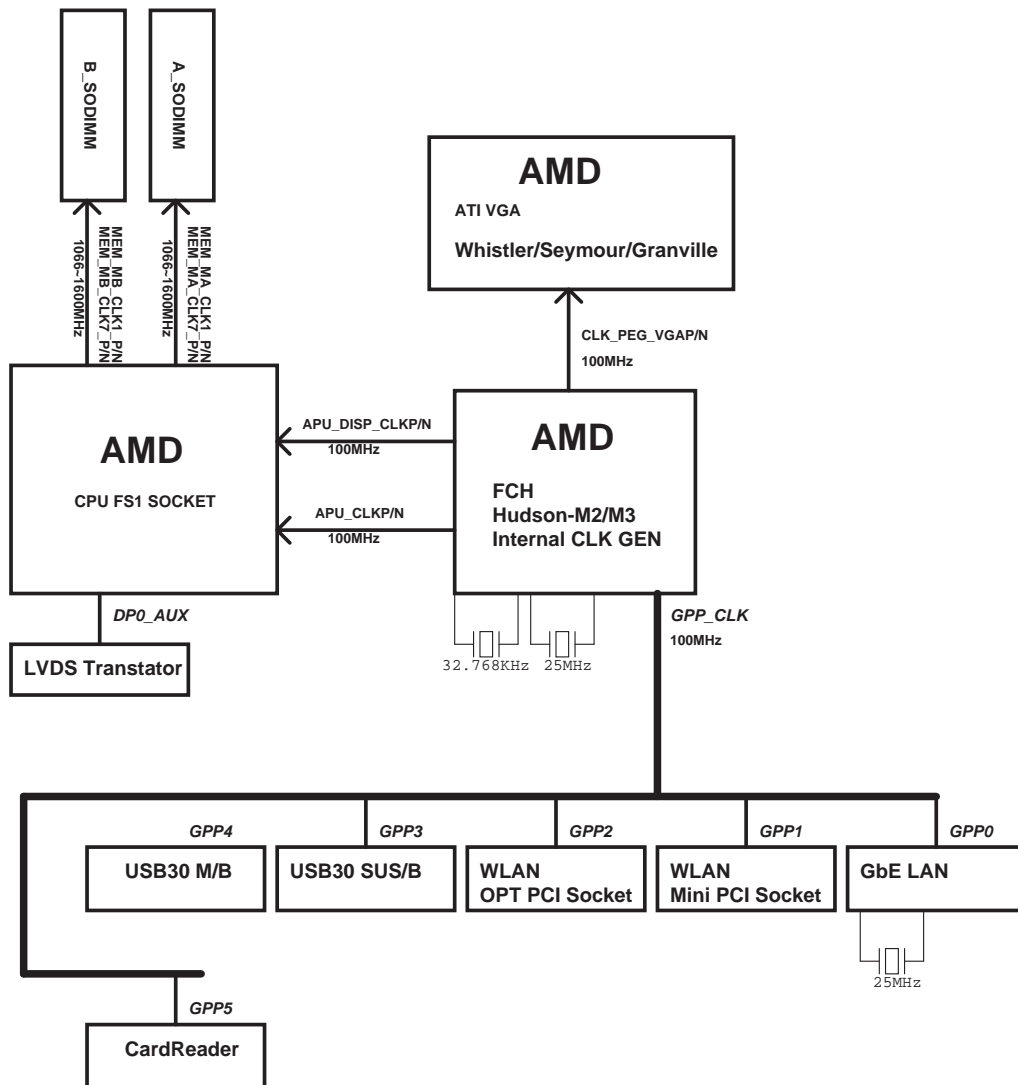
LA-6991P REV: 0.2

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Issued Date	2010/12/30	Deciphered Date	2012/01/01	Title	
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				4019BN	A
Date: Thursday, February 24, 2011				Sheet	1 of 50

Sabine



CLOCK DISTRIBUTION

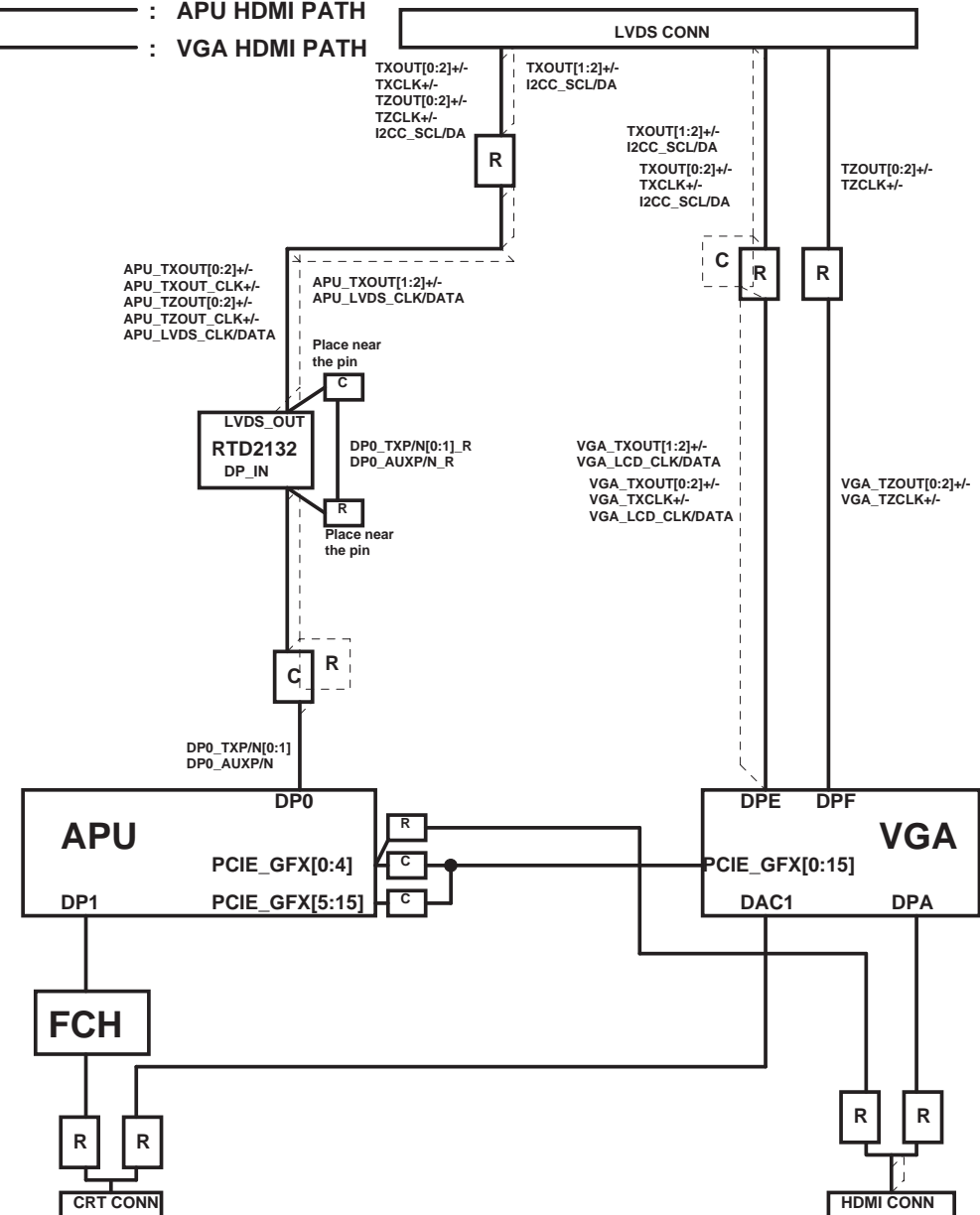


DISPLAY DISTRIBUTION

- ```

_____ : LVDS PATH
_____, --- : eDP PATH
_____ : APU HDMI PATH
_____ : VGA HDMI PATH

```



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                                    |                             |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|------------------------------------|-----------------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Title<br><b>SCHEMATIC MB A6991</b> |                             |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | A4                                 | 4019BN                      | A              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date:                              | Thursday, February 24, 2011 | Sheet: 3 of 50 |

Voltage Rails

| Power Plane  | Description                                  | S1  | S3  | S5  |
|--------------|----------------------------------------------|-----|-----|-----|
| VIN          | Adapter power supply (19V)                   | N/A | N/A | N/A |
| B+           | AC or battery power rail for power circuit.  | N/A | N/A | N/A |
| +CPU_CORE    | Core voltage for CPU                         | ON  | OFF | OFF |
| +CPU_CORE_1  | Core voltage for CPU (0.7-1.2V)              | ON  | OFF | OFF |
| +CPU_CORE_NB | Voltage for On-die VGA of APU                | ON  | OFF | OFF |
| +VGA_CORE    | 0.95-1.2V switched power rail                | ON  | OFF | OFF |
| +0.75VS      | 0.75V switched power rail for DDR terminator | ON  | ON  | OFF |
| +1.0VSG      | 1.0V switched power rail for VGA             | ON  | OFF | OFF |
| +1.1ALW      | 1.1V switched power rail for FCH             | ON  | ON  | ON* |
| +1.1VS       | 1.1V switched power rail for FCH             | ON  | OFF | OFF |
| +1.2VS       | 1.2V switched power rail for APU             | ON  | OFF | OFF |
| +1.5V        | 1.5V power rail for CPU VDDIO and DDR        | ON  | ON  | OFF |
| +1.5VS       | 1.5V switched power rail                     | ON  | OFF | OFF |
| +1.8VSG      | 1.8V switched power rail                     | ON  | OFF | OFF |
| +2.5VS       | 2.5V for CPU_VDDA                            | 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 |
| +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

EC SM Bus2 address

| Device        | Address     | HEX | Device                | Address     | HEX |
|---------------|-------------|-----|-----------------------|-------------|-----|
| Smart Battery | 0001 011X b | 16H | SB-TSI                | 1001 100X b | 98H |
|               |             |     | GMT G781-1 (GPU)      | 1001 101X b | 9AH |
|               |             |     | CAT24C64WI (RTD2136S) | 1010 100X b | A8H |
|               |             |     | VGA-TSI               | 1000 001X b | 82H |
|               |             |     |                       |             |     |

FCH  
SM Bus 0 address

FCH  
SM Bus 1 address

| Device    | Address    | HEX | Device | Address | HEX |
|-----------|------------|-----|--------|---------|-----|
| DDR DIMM1 | 1001 000Xb | 90  |        |         |     |
| DDR DIMM2 | 1001 010Xb | 94  |        |         |     |
|           |            |     |        |         |     |
|           |            |     |        |         |     |

| 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   |

Board ID / SKU ID Table for AD channel

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

BTO Option Table

| BOM Structure | BTO Item                                    |
|---------------|---------------------------------------------|
| UMA@          | Display from UMA (PX4.0 or UMA only)        |
| VGA@          | Have VGA chip (Discrete only or PX4.0)      |
| DISO@         | Display from VGA (Discrete only)            |
| SEYM@         | Use Seymour (Discrete only and PX4.0)       |
| WHI@          | Use Whistler (Discrete only and PX4.0)      |
| GRAN@         | Use Granville (Discrete only and PX4.0)     |
| VAN@          | Use Vancouver VGA (Discrete only and PX4.0) |
| RT@           | Use translator RTD2136S                     |
| ANX@          | Use translator ANX3110                      |
| M2@           | Use Hudson-M2                               |
| M3@           | Use Hudson-M3                               |
| 930@          | Use KB930                                   |
| 9012@         | Use KB9012                                  |
| 128@          | Use VRAM channel A                          |
| PX@           | PX4.0                                       |
| BACO@         | Use BACO                                    |
| NOBACO@       | No use BACO                                 |
| APULVDS@      | UMA LVDS path                               |
| APUEDP@       | UMA eDP path                                |
| VGALVDS@      | VGA LVDS path                               |
| VGAEDP@       | VGA eDP path                                |
| EDP@          | eDP path                                    |
| JE@           | ACER                                        |
| SJV@          | PB and GW                                   |
| NOGRAN@       | No Use Granville                            |
|               |                                             |
|               |                                             |
|               |                                             |
|               |                                             |
|               |                                             |

PROJECT ID Table

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

BOARD ID Table

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

BOM Config

EVT

UMA only:

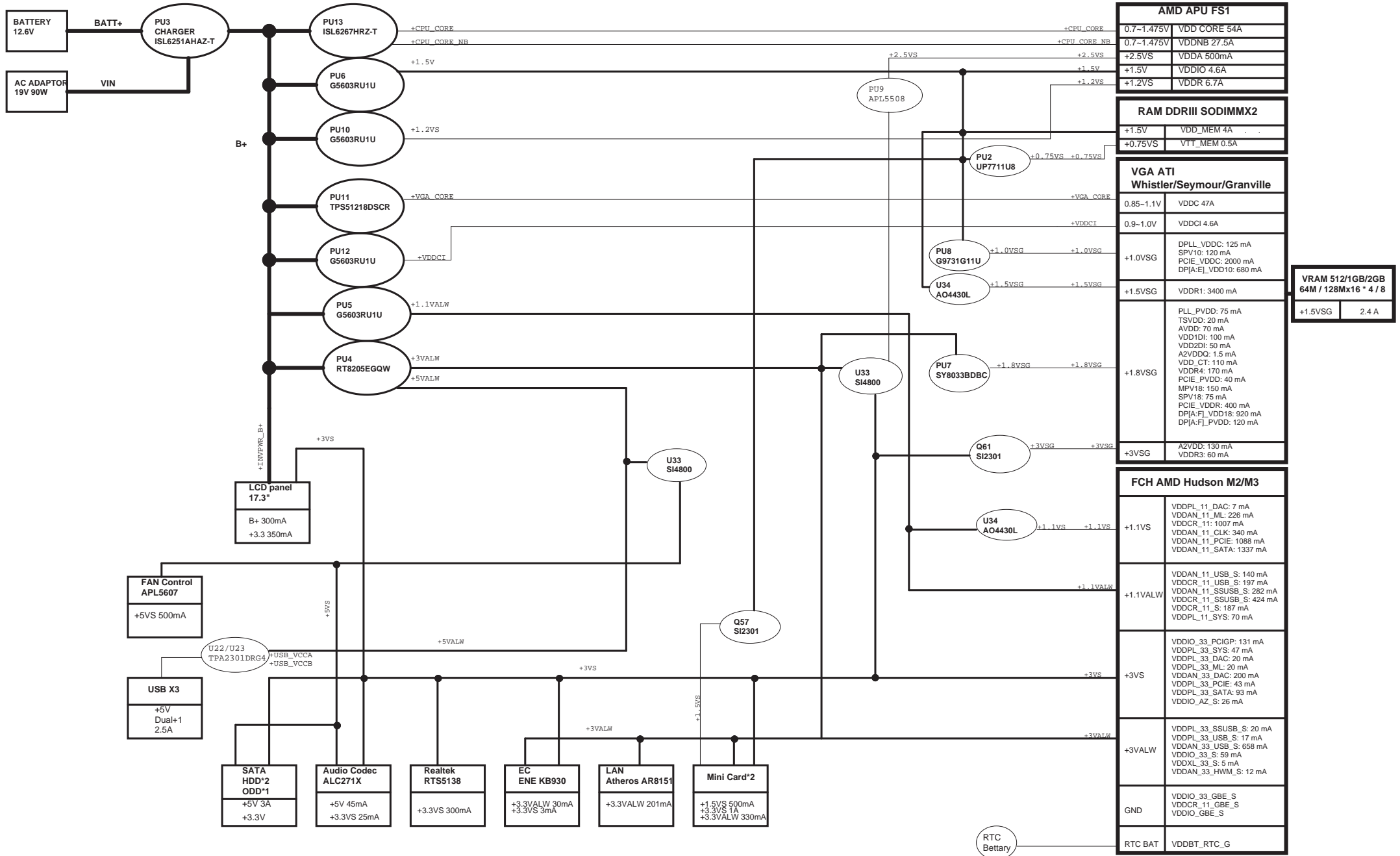
UMA@, RT@, ANX@, M3@, 930@, APULVDS@, JE@

DISO only:

VGA@, DISO@, VGALVDS@, SEYM@ or WHI@, VAN@, 128@(With WHI@), NOGRAN@, NOBACO@, M3@, 930@, JE@

PX

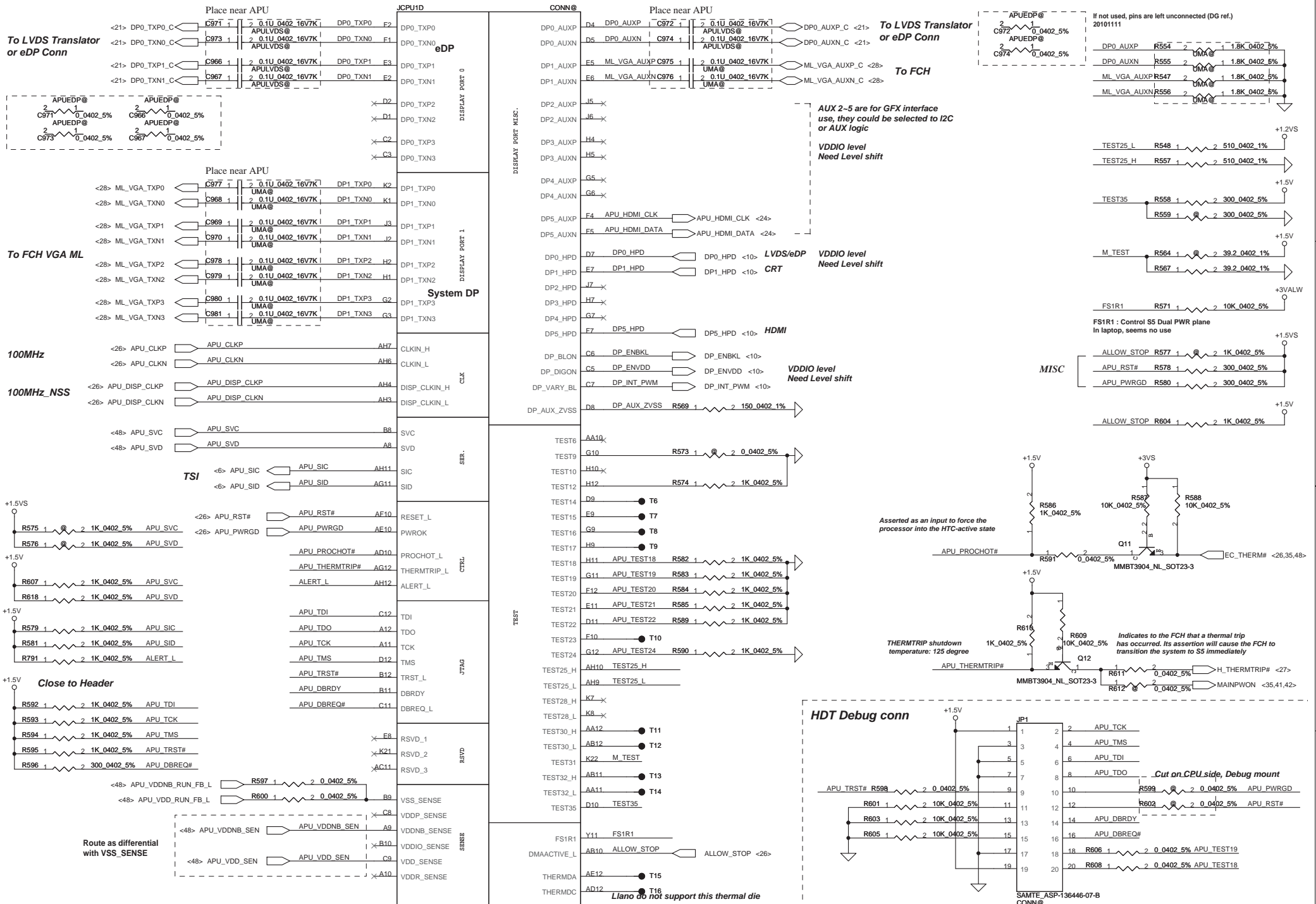
UMA@, VGA@, PX@, SEYM@ or WHI@, VAN@, 128@(With WHI@), NOGRAN@, RT@, ANX@, APULVDS@, BACO@, M3@, 930@, JE@







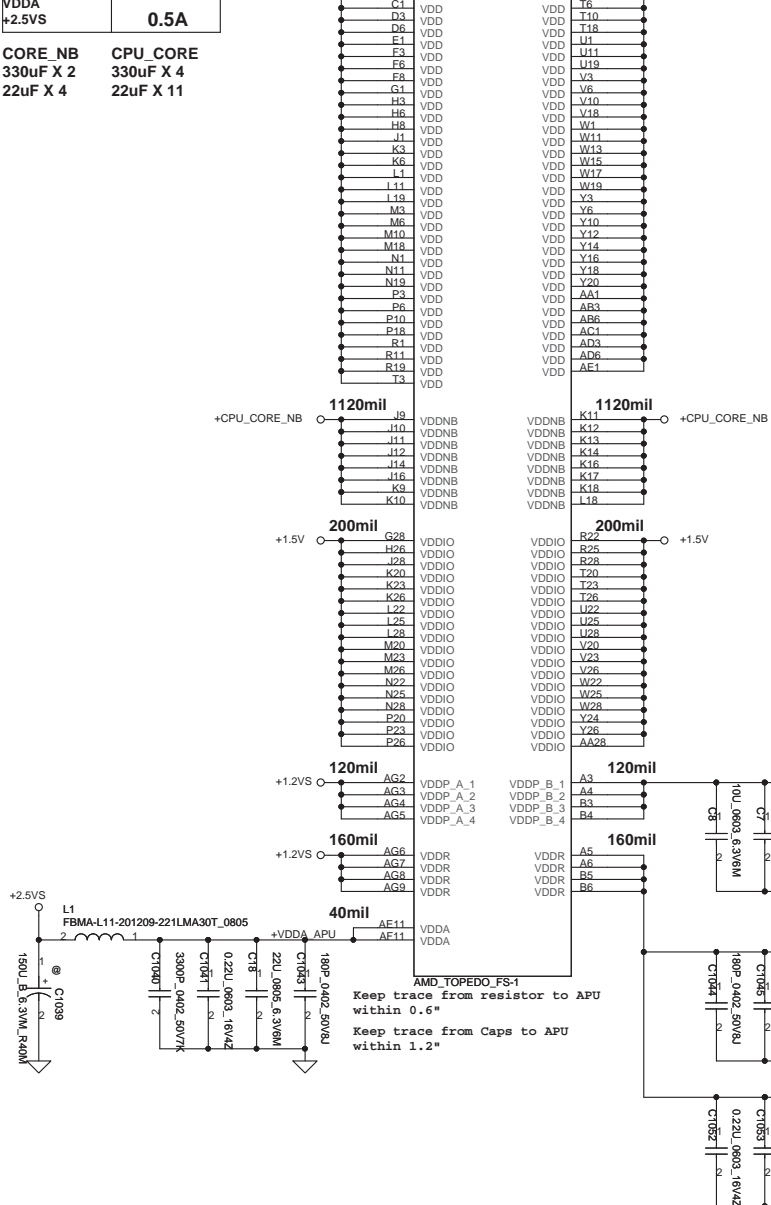




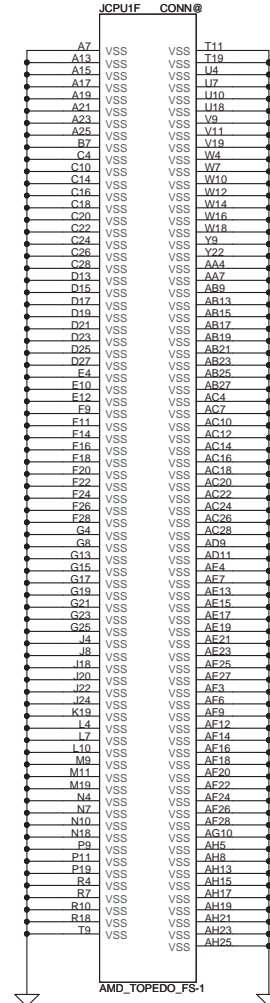
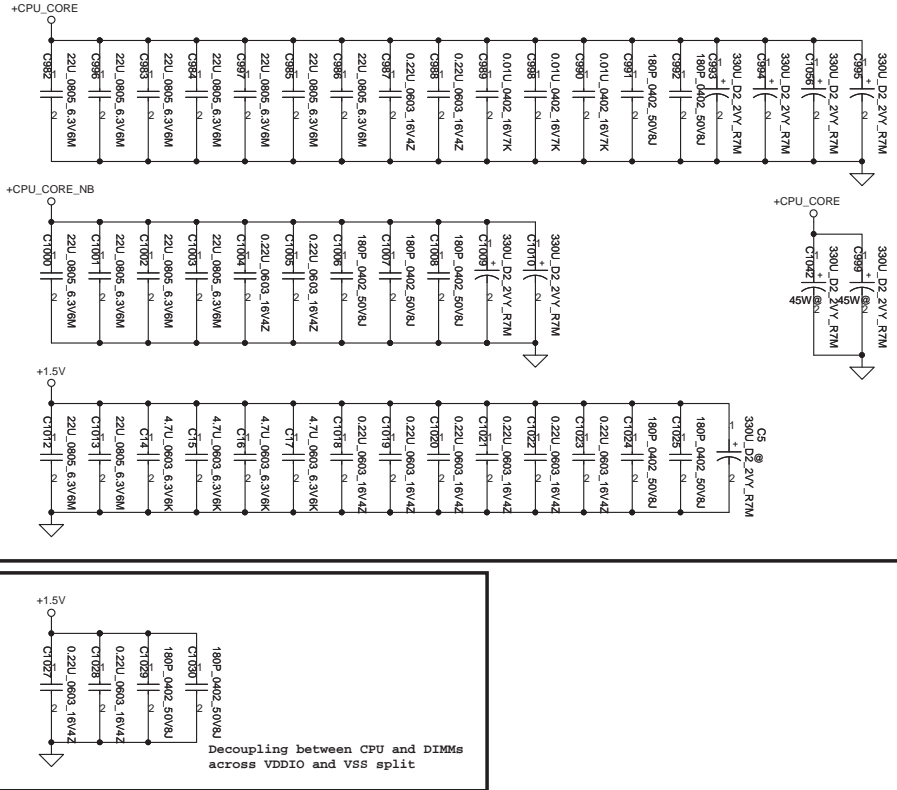


| Power Name            | Consumption |
|-----------------------|-------------|
| VDD<br>+CPU_CORE      | 54A         |
| VDDNB<br>+CPU_CORE_NB | 27.5A       |
| VDDIO<br>+1.5V        | 4.6A        |
| VDDP / VDDR<br>+1.2VS | 3A / 3.7A   |
| VDDA<br>+2.5VS        | 0.5A        |

|           |           |
|-----------|-----------|
| CORE_NB   | CPU_CORE  |
| 330uF X 2 | 330uF X 4 |
| 22uF X 4  | 22uF X 11 |



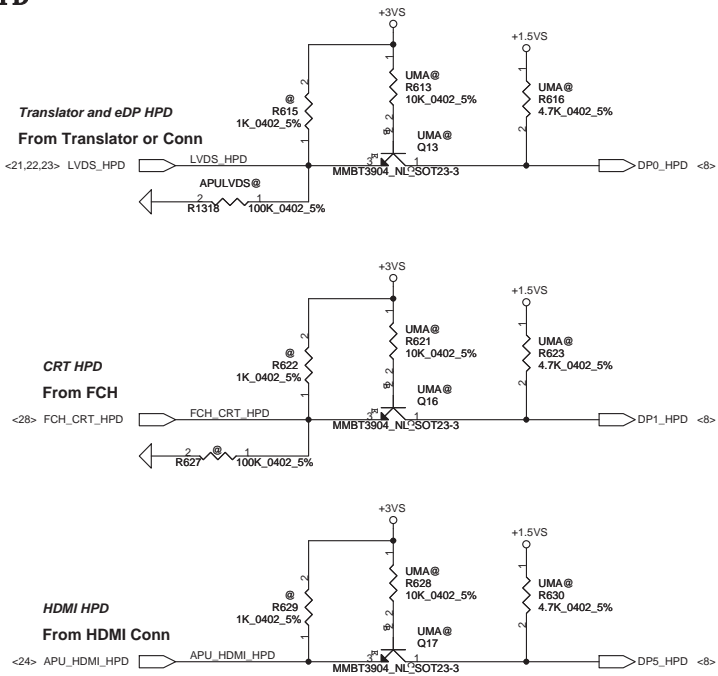
## CPU BOTTOM SIDE DECOUPLING



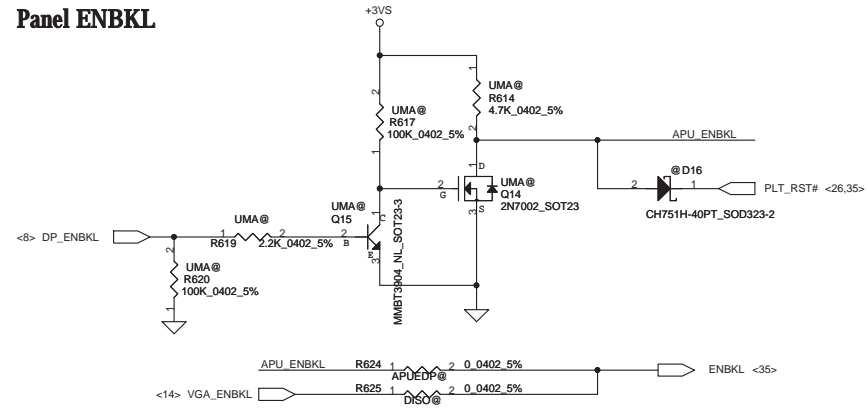
| Demo Board Capacitor (include PWM side) |            |                         |                        |            |            |            |
|-----------------------------------------|------------|-------------------------|------------------------|------------|------------|------------|
| CPU_CORE                                | CORE_NB    | VDDIO_SUS<br>(CPU side) | VDDIO_SUS<br>(DIMM x2) | VDDP/R_PWM | VDDP       | VDDR       |
| 470uF x 6                               | 470uF x 4  |                         |                        | 470uF x 2  | 10uF x 3   | 4.7uF x 4  |
| 22uF x 9                                | 22uF x 6   | 680uF x 1               | 100uF x 4              | 10uF x 1   | 0.22uF x 2 | 0.22uF x 4 |
| 0.22uF x 2                              | 0.22uF x 2 | 330uF x 1               | 0.1uF                  |            | 180pF x 2  | 1nF x 4    |
| 180uF x 2                               | 180uF x 3  | 22uF x 3                |                        |            |            | 180pF x 4  |
| 10nF x 3                                |            | 4.7uF x 4               |                        |            |            |            |
|                                         |            | 0.22uF x 6              |                        |            |            |            |
|                                         |            | 180pF x 4               |                        |            |            |            |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                             |            |                          |                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------|------------|--------------------------|-------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data          |            | Compal Electronics, Inc. |                   |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                             |            | 4019BN                   |                   |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            | Thursday, February 24, 2011 |            | Sheet                    | 9 of 50           |

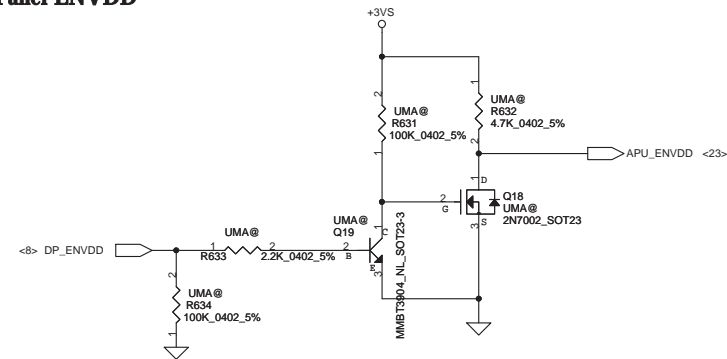
## HPD



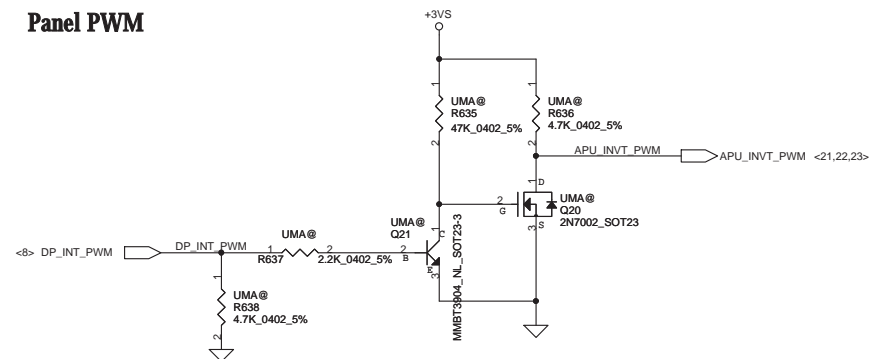
## Panel ENBKL



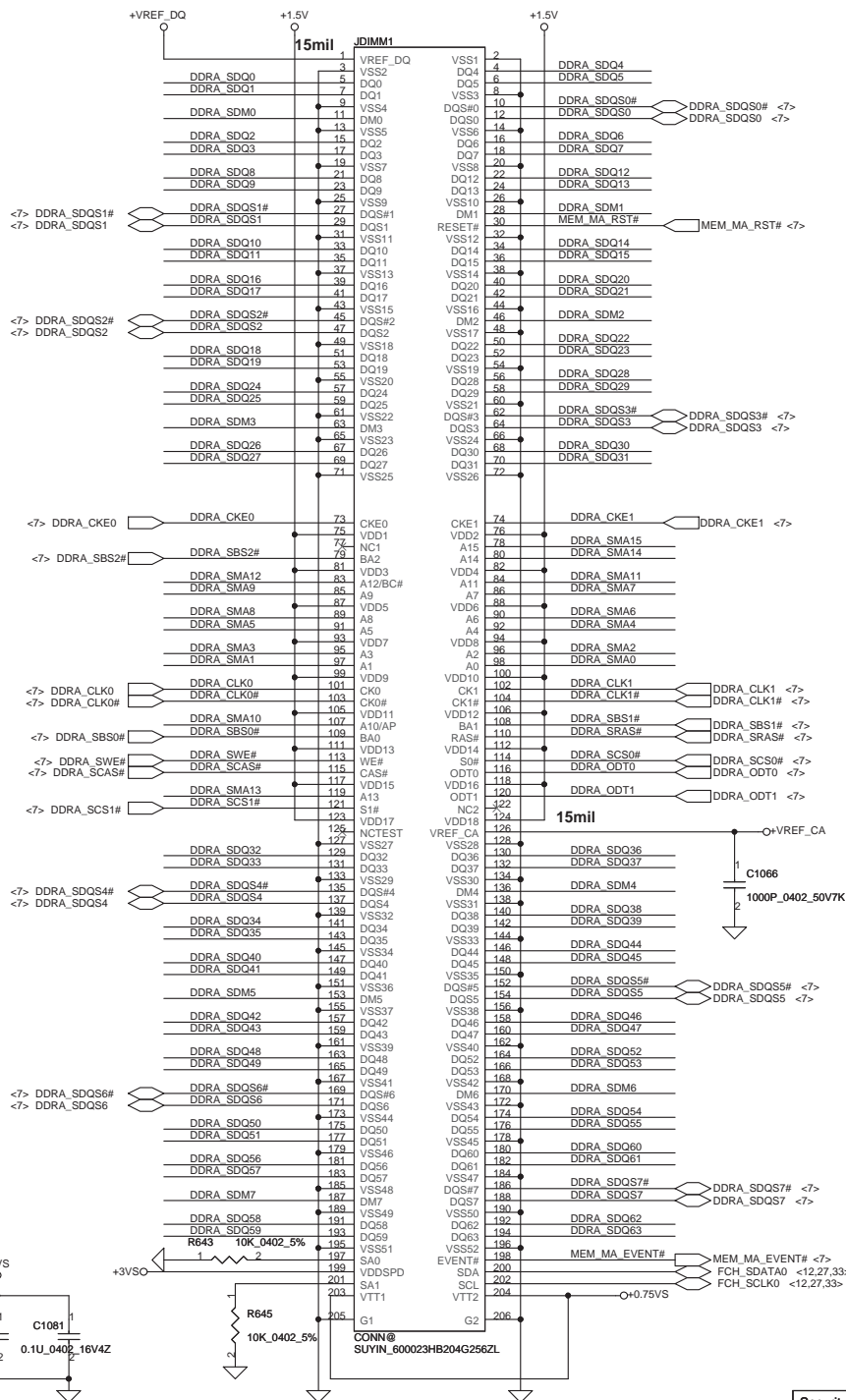
## Panel ENVDD



## Panel PWM



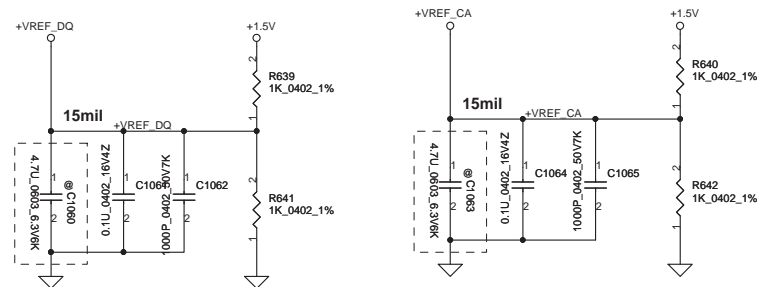
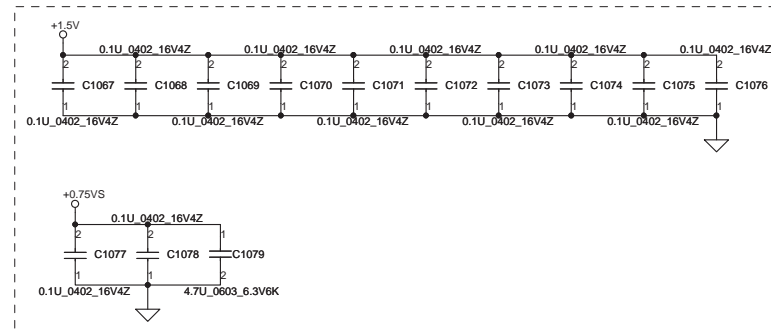
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Sheet | 10 of 50                    |



**DIMM\_A STD H:8mm** Change to SUYIN  
**<Address: 00>** SP07000N500

DDR\_A\_SDQ[0.63] DDR\_A\_SDQ[0.63] <7>  
 DDR\_A\_SDM[0.71] DDR\_A\_SDM[0.71] <7>  
 DDR\_A\_SMA[0.15] DDR\_A\_SMA[0.15] <7>

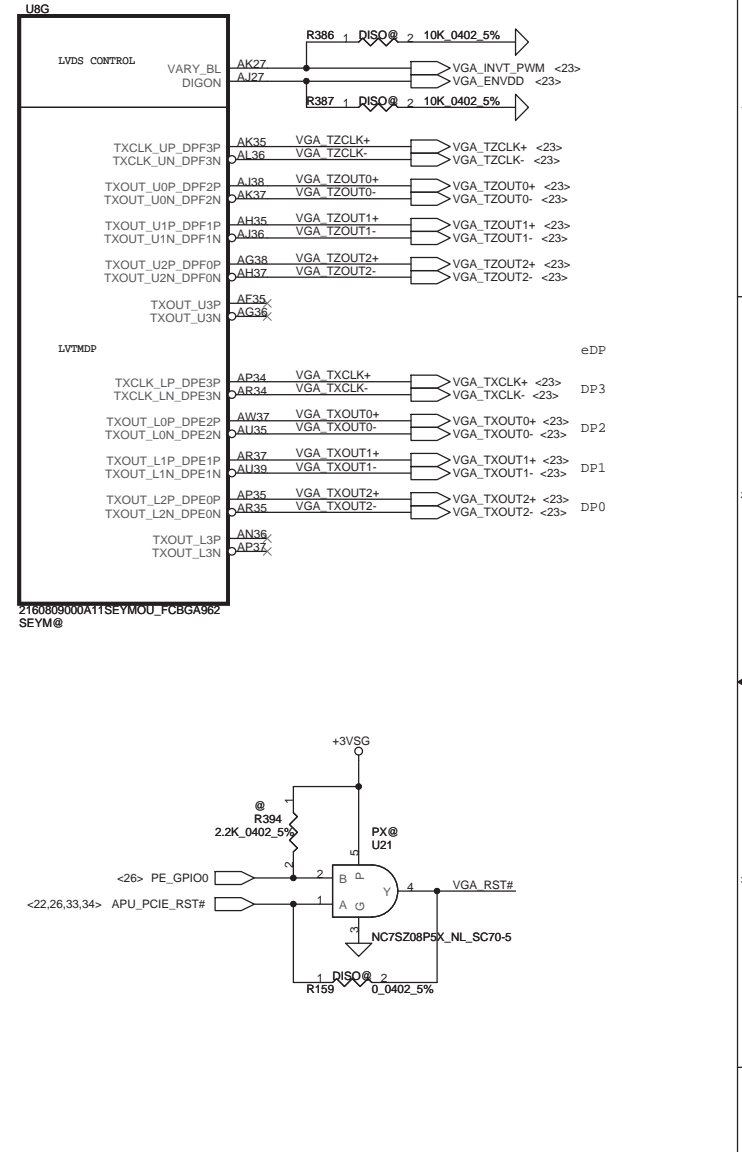
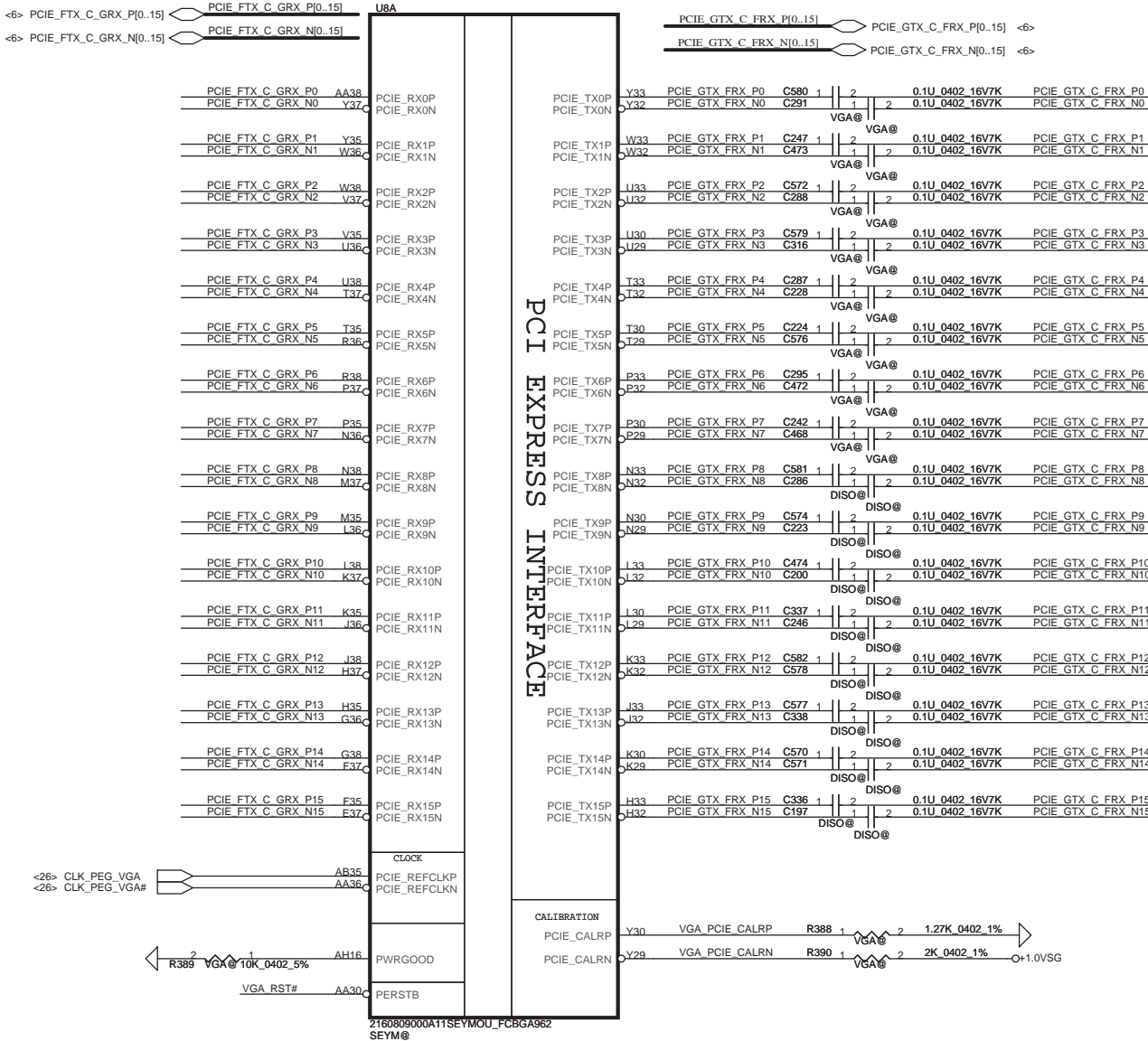
Place near DIMM1



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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 11 of 50                    |



# GFX PCIE LANE REVERSAL



216-0810005 A11  
WHISTLER PRO M2 A11:  
SA00004C720(S IC 216-0810005 A11 WHISTLER PRO FCBGA 962P ABO !)

| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                             |  | Compal Secret Data |  |            |  | Compal Electronics, Inc. |  |  |  |
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| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | Thursday, February 24, 2011 |  | Sheet              |  | 13         |  | of 50                    |  |  |  |



| Strap Name    |                                          | Pin Straps description <all internal PD>                                                                                                                                                              | Setting |
|---------------|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| VIP_DEVICE_EN | V2SYNC<br>(GENLK_VSYN)                   | VIP Device Strap Enable indicates to the software driver (Internal PD)<br>0: Driver would ignore the value sampled on VHAD_0 during reset<br>1: VHAD_0 to determine whether or not a VIP slave device | 0       |
| VGA_DIS       | GPIO9                                    | VGA Disable determines (Internal PD)<br>0: VGA Controller capacity enabled<br>1: The device will not be recognized as the system's VGA controller                                                     | 0       |
| TX_PWRS_ENB   | GPIO0                                    | Transmitter Power Saving Enable (Internal PD)<br>0: 50% Tx output swing<br>1: full Tx output swing                                                                                                    | 1       |
| TX_DEEMPH_EN  | GPIO1                                    | PCI Express Transmitter De-emphasis Enable (Internal PD)<br>0: Tx de-emphasis disabled<br>1: Tx de-emphasis enabled                                                                                   | 1       |
| CONFIG[2]     | GPIO13                                   | memory apertures<br>a) If BIOS_ROM_EN = 1, then Config[2:0] defines the ROM type.                                                                                                                     | 001     |
| CONFIG[1]     | GPIO12                                   | b) If BIOS_ROM_EN = 0, then Config[2:0] defines 256 MB 001 *                                                                                                                                          |         |
| CONFIG[0]     | GPIO11                                   | c) primary memory aperture size. 64 MB 010                                                                                                                                                            |         |
| BIOS_ROM_EN   | GPIO22                                   | Enable external BIOS ROM device (Internal PD)<br>0: Disable, 1: Enable                                                                                                                                | 0       |
| AUD[1]        | HSYNC                                    | 00: No audio function;<br>01: Audio for DisplayPort and HDMI if adapter is detected;                                                                                                                  | 11      |
| AUD[0]        | VSYNC                                    | 11: Audio for both DisplayPort and HDMI                                                                                                                                                               |         |
| BIF_GEN2_EN   | GPIO2                                    | 0= Advertises the PCI-E device as 2.5 GT/s capable at power-on<br>1= Advertises the PCI-E device as 5.0 GT/s capable at power-on<br>5.0 GT/s capability will be controlled by software                | 0       |
| RESERVED      | H2SYNC<br>(GENLK_CLK)<br>GPIO8<br>GPIO21 | Internal use only. THIS PAD HAS AN INTERNAL PULL-DOWN AND MUST BE 0 V AT RESET. The pad may be left unconnected                                                                                       | DNI     |

Don't have this strap on Whistler and Seymour

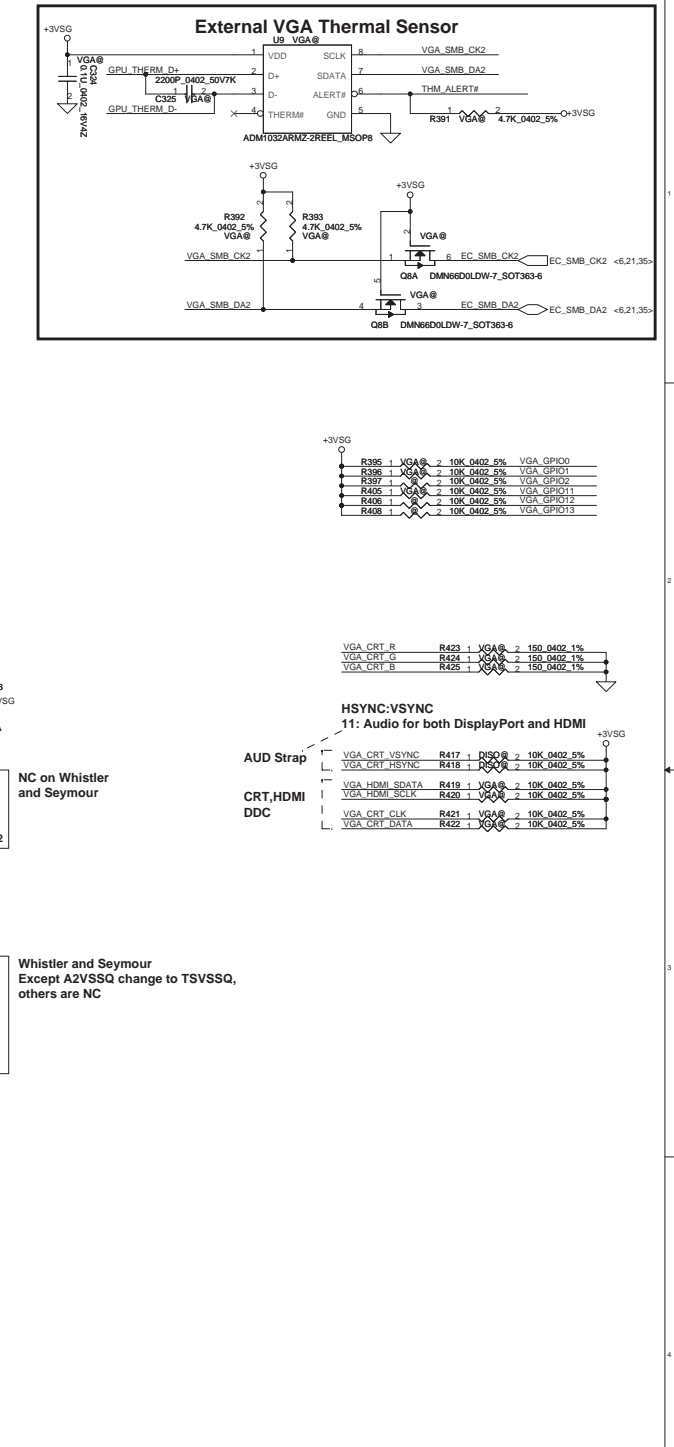
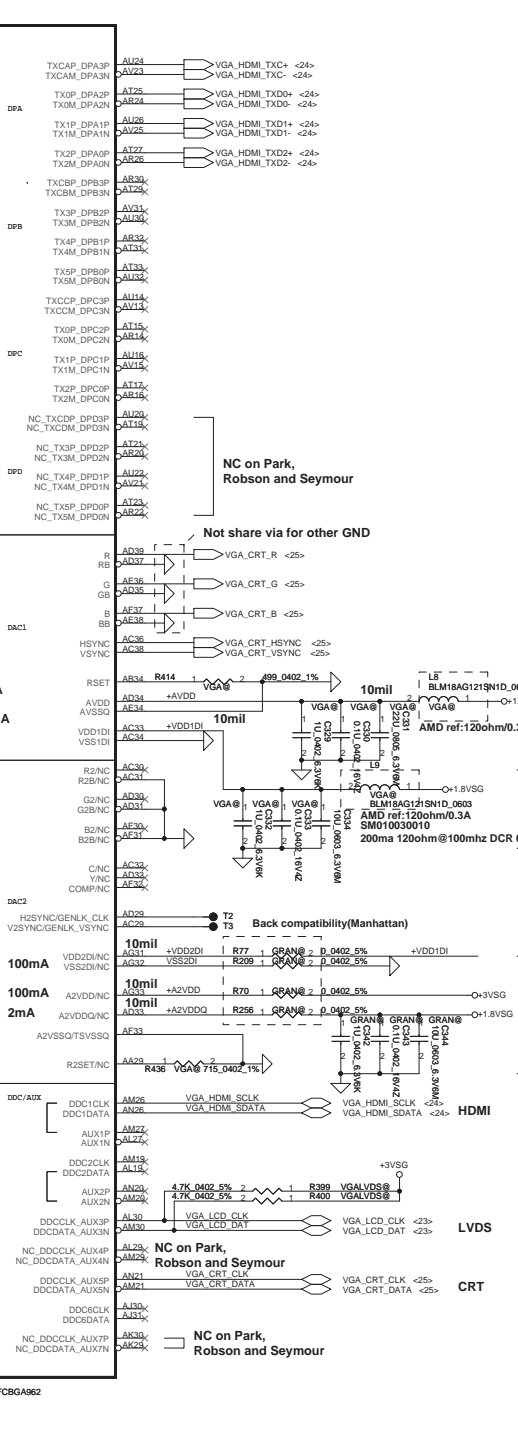
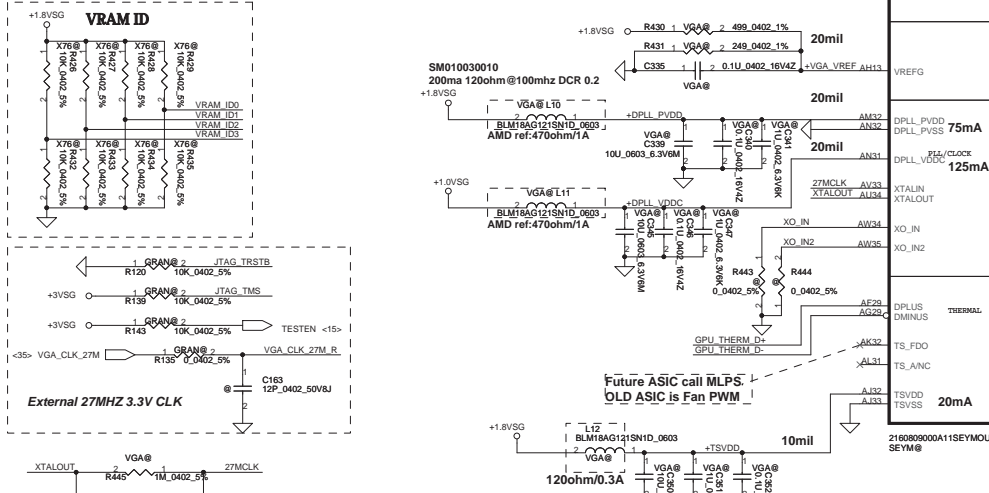
NC on Park, Robson and Seymour  
NC on Park, Robson

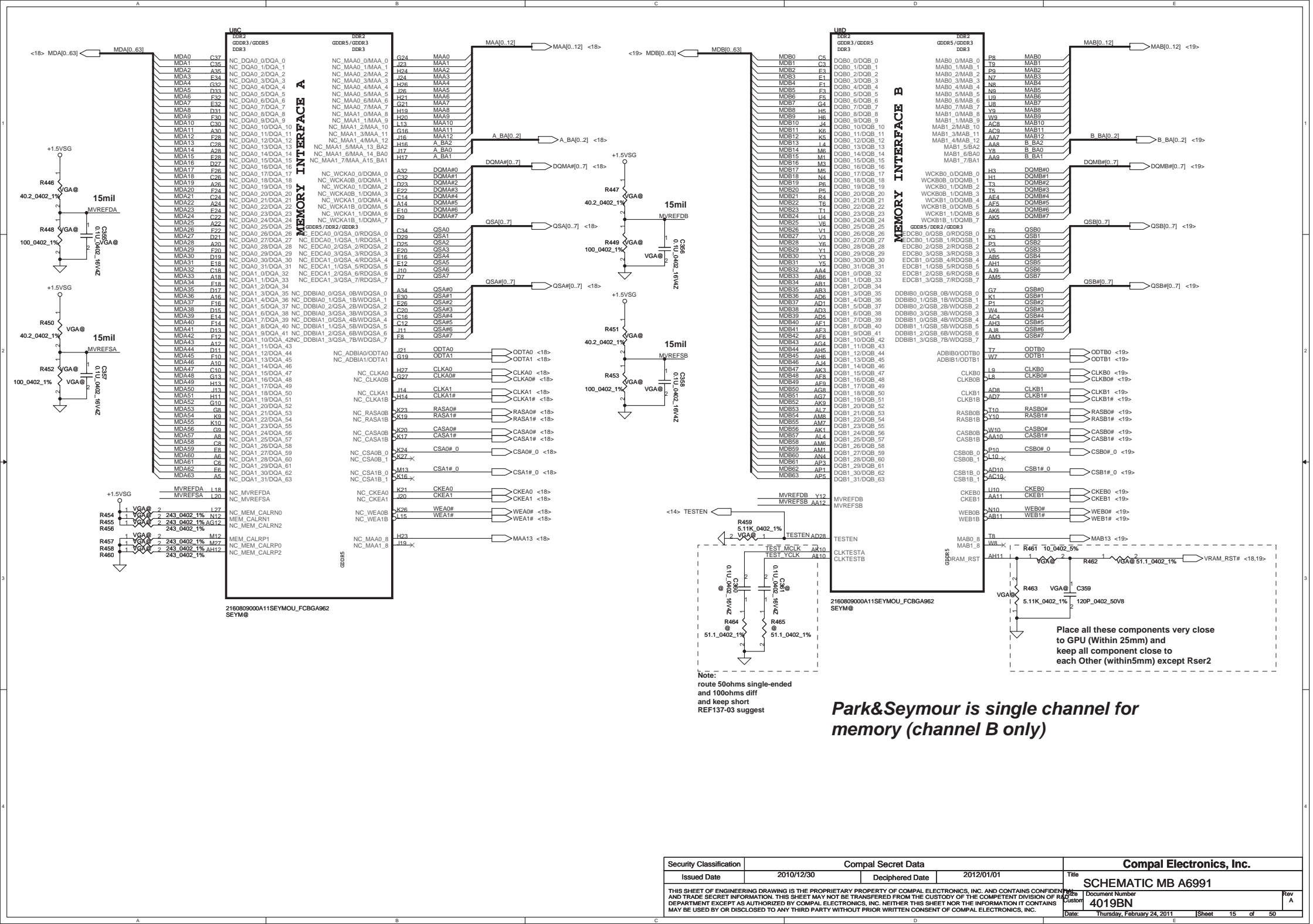
NC on Park, Robson and Seymour

Global Swap Lock on Multiple GPUs

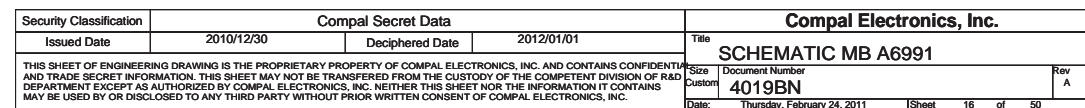
| SEYMOUR-XT |        |                 |        |             |                 |         |
|------------|--------|-----------------|--------|-------------|-----------------|---------|
| ID3-0      | Vendor | Size            | Freq   | P/N         | Description     | Quality |
| 0000       |        |                 |        |             |                 |         |
| 0001       |        |                 |        |             |                 |         |
| 0010       | SAM    | C-die 128*16    | 933MHz | SA000047020 | K4W2G16446-HC11 | V       |
| 0011       | SAM    | C-die 64*16     | 933MHz | SA000046510 | K4W1G16446-BC11 | V       |
| 0100       | SAM    | E-die 64*16     | 800MHz | SA000035720 | K4W1G16446-HC12 | V       |
| 0101       | SAM    | C-die 128*16    | 800MHz | SA00003M600 | K4W2G16446-HC12 | V       |
| 1000       |        |                 |        |             |                 |         |
| 1001       |        |                 |        |             |                 |         |
| 1010       | HYN    | Vega-die 64*16  | 800MHz | SA000032420 | H5TQ1G63BFR-12C | V       |
| 1100       | HYN    | Orion-die 64*16 | 800MHz | SA000032420 | H5TQ1G63BFR-12C | V       |
| 1101       | HYN    | Vega-die 128*16 | 800MHz | SA00003V510 | H5TQ2G63BFR-12C | V       |
| 1110       | HYN    | Vega-die 64*16  | 900MHz | SA000041S40 | H5TQ1G63BFR-11C | V       |
| 1111       | HYN    | Vega-die 128*16 | 900MHz | SA00003Y020 | H5TQ2G63BFR-11C | V       |

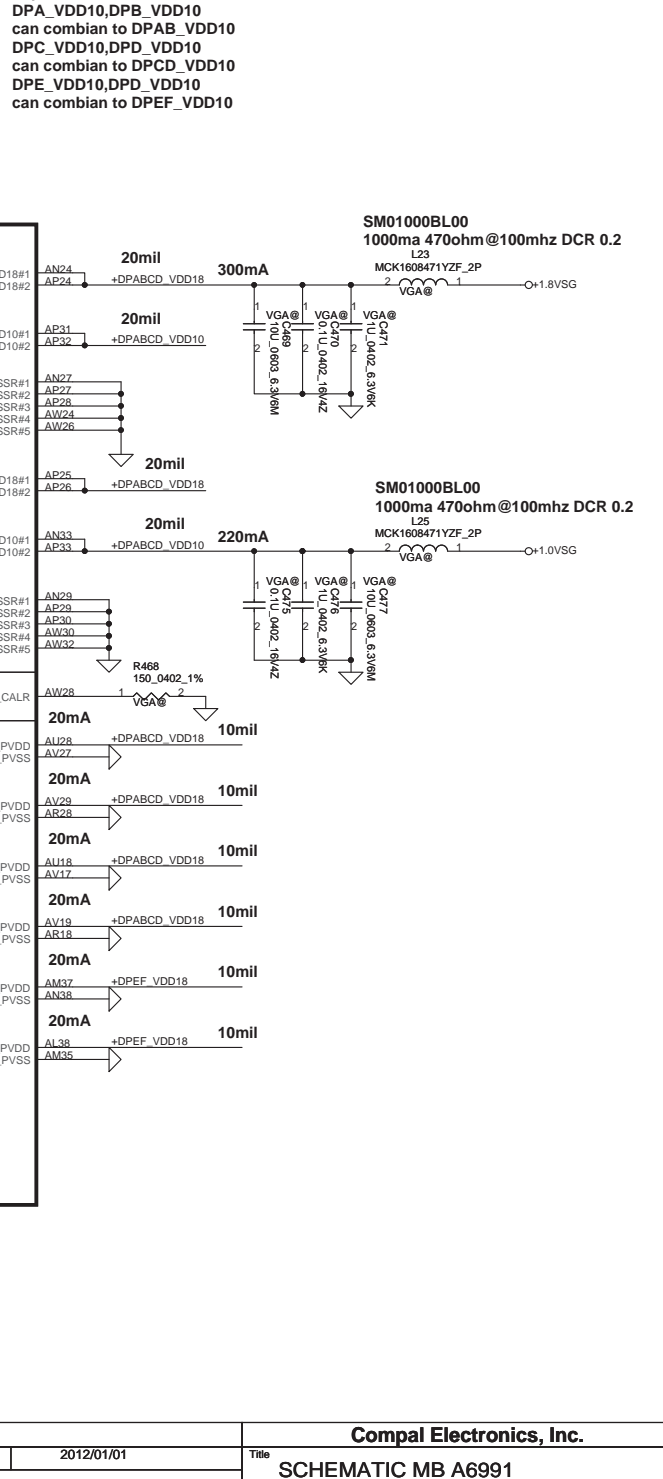
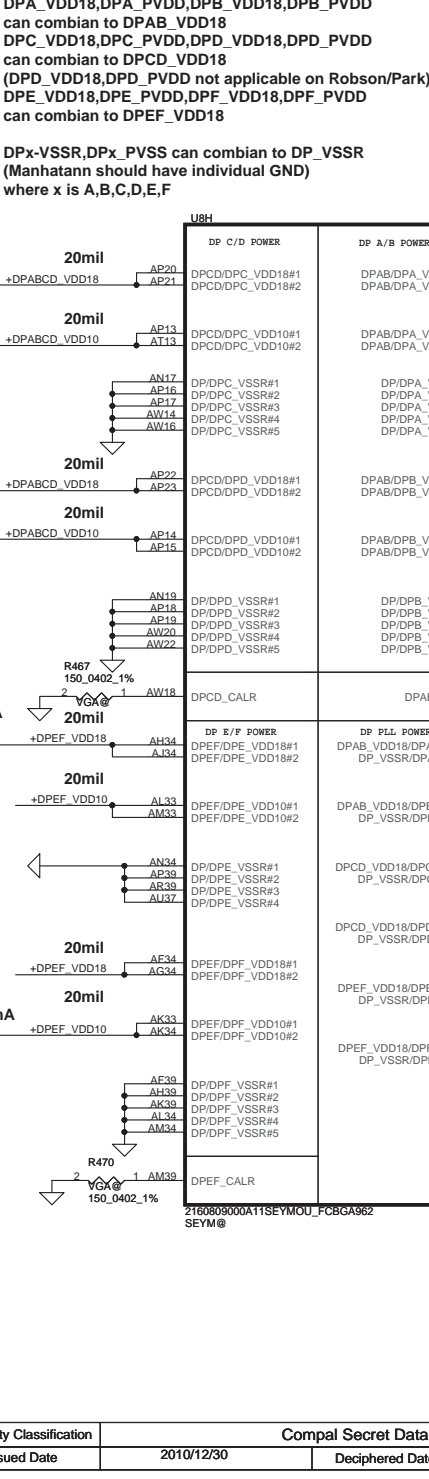
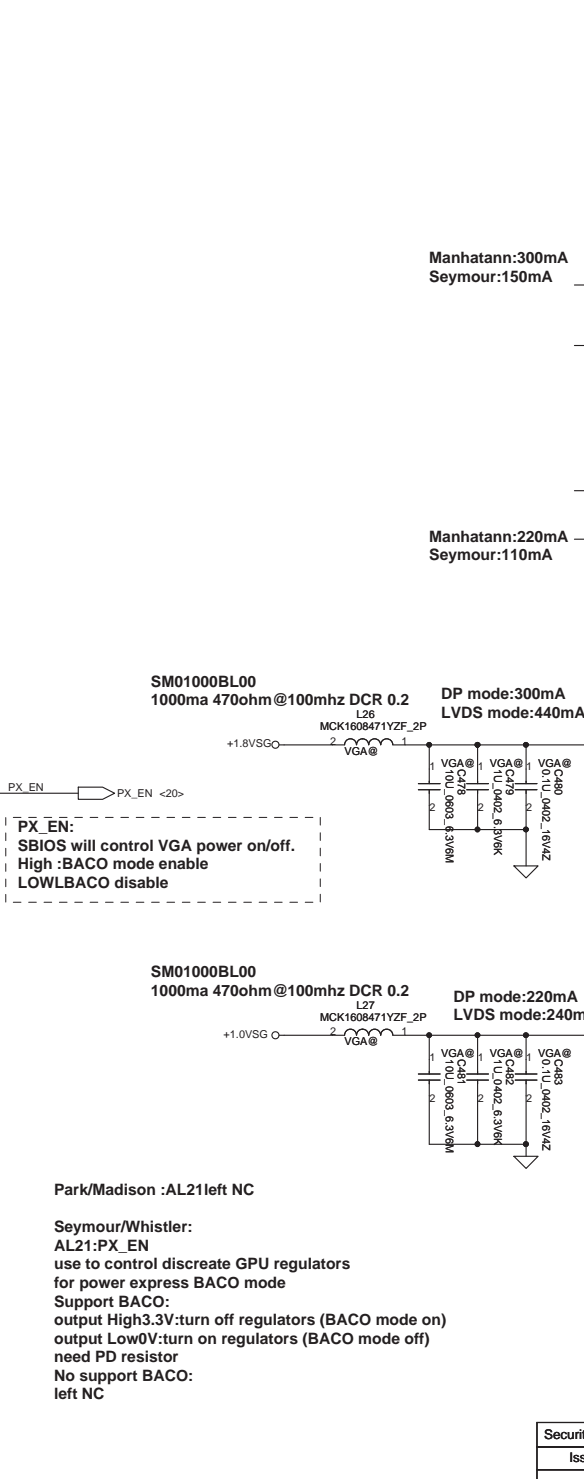
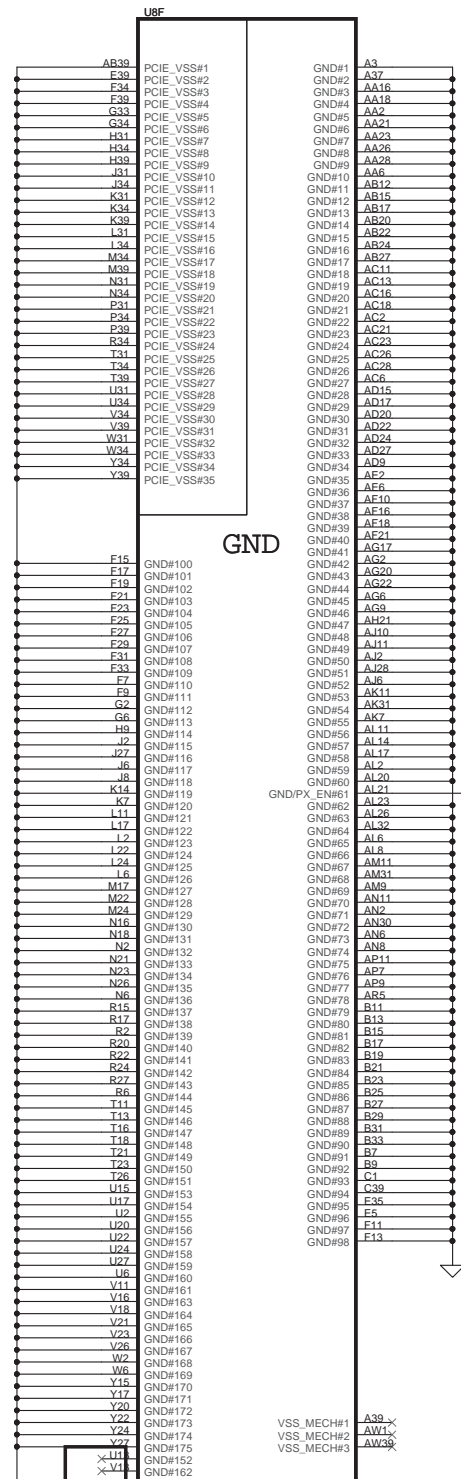
| WHISTLER-PRO |        |                 |        |             |                 |         |
|--------------|--------|-----------------|--------|-------------|-----------------|---------|
| ID3-0        | Vendor | Size            | Freq   | P/N         | Description     | Quality |
| 0000         | SAM    | E-die 64*16     | 800MHz | SA000035720 | K4W1G16446-HC12 | V       |
| 0001         | SAM    | C-die 128*16    | 800MHz | SA00003M600 | K4W2G16446-HC12 | V       |
| 0010         | SAM    | E-die 64*16     | 933MHz | SA00004G510 | K4W1G16446-BC11 | V       |
| 0011         | SAM    | C-die 128*16    | 933MHz | SA000047020 | K4W2G16446-HC11 | V       |
| 0100         |        |                 |        |             |                 |         |
| 0101         |        |                 |        |             |                 |         |
| 1000         | HYN    | Orion-die 64*16 | 800MHz | SA000032420 | H5TQ1G63BFR-12C | V       |
| 1001         | HYN    | Vega-die 128*16 | 800MHz | SA00003V510 | H5TQ2G63BFR-12C | V       |
| 1010         | HYN    | Vega-die 64*16  | 900MHz | SA000041S40 | H5TQ1G63BFR-11C | V       |
| 1011         | HYN    | Vega-die 64*16  | 800MHz | SA000032420 | H5TQ1G63BFR-12C | V       |
| 1100         | HYN    | Vega-die 128*16 | 900MHz | SA00003Y020 | H5TQ2G63BFR-11C | V       |
| 1101         |        |                 |        |             |                 |         |
| 1111         |        |                 |        |             |                 |         |





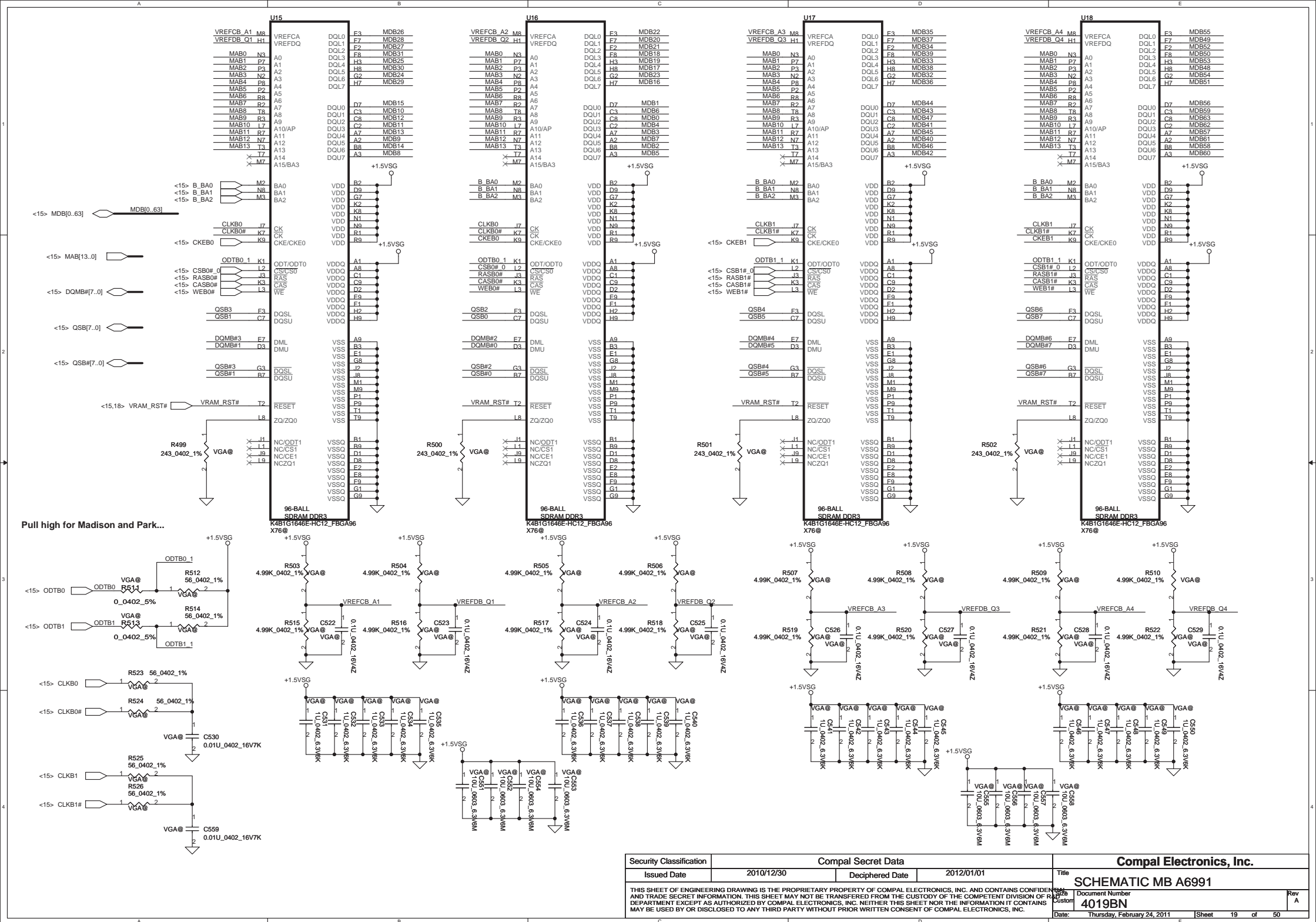






| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            | Compal Secret Data |            | Title           |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|-----------------|-----------------------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2010/12/30 | Deciphered Date    | 2012/01/01 | Document Number | 4019BN                      |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |            | Sheet           | 17 of 50                    |











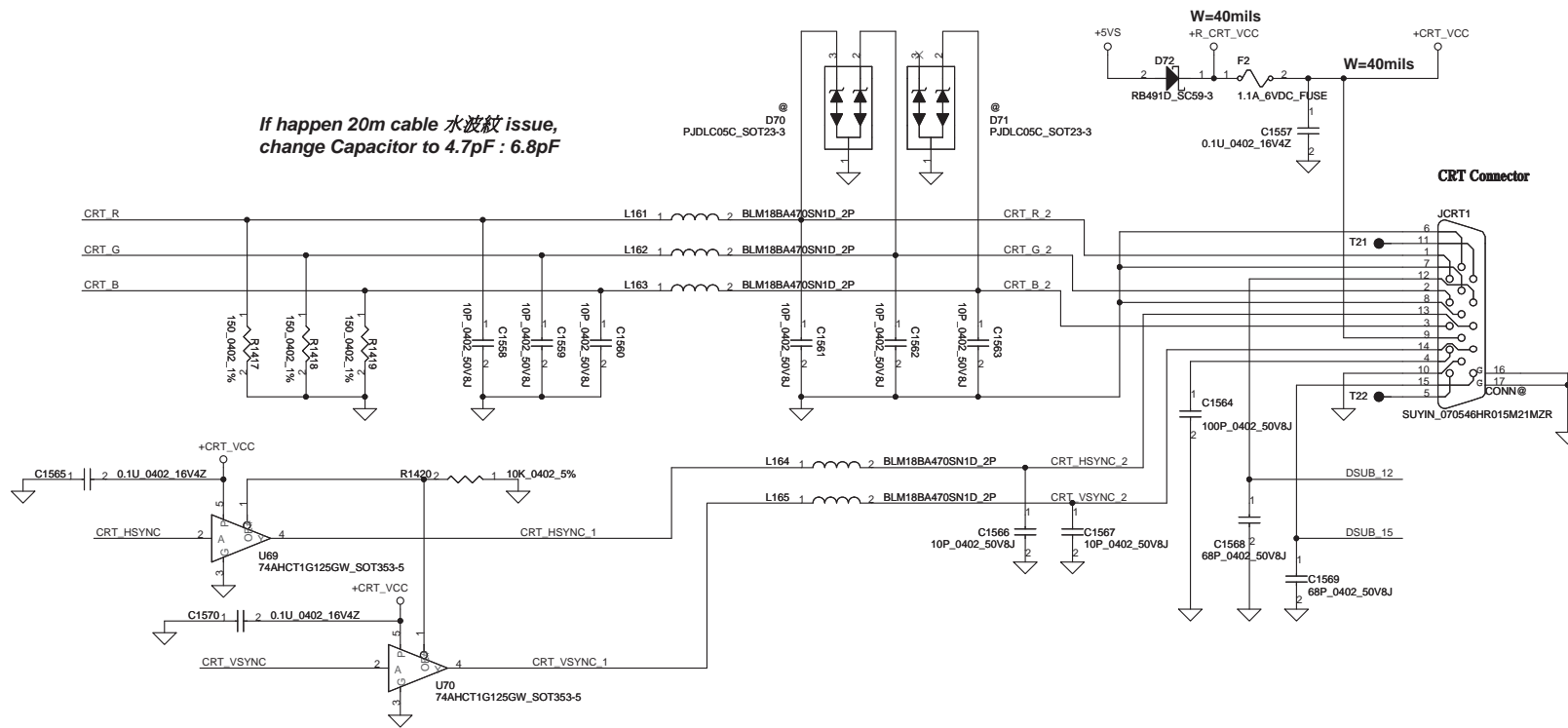


**WWW.AliSaler.Com**









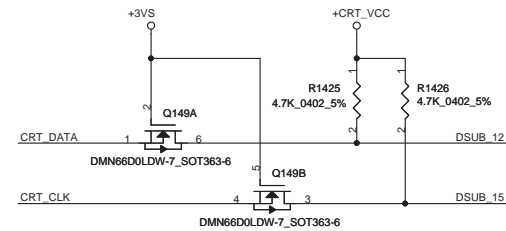
Use common via

|                      |                 |       |     |   |           |           |
|----------------------|-----------------|-------|-----|---|-----------|-----------|
| <28> FCH_CRT_R       | FCH_CRT_R       | R1421 | UMA | 1 | 0.0402_5% | CRT_R     |
| <28> FCH_CRT_G       | FCH_CRT_G       | R1422 | UMA | 1 | 0.0402_5% | CRT_G     |
| <28> FCH_CRT_B       | FCH_CRT_B       | R1423 | UMA | 1 | 0.0402_5% | CRT_B     |
| <28> FCH_CRT_HSYNC   | FCH_CRT_HSYNC   | R1424 | UMA | 1 | 0.0402_5% | CRT_HSYNC |
| <28> FCH_CRT_VSYNC   | FCH_CRT_VSYNC   | R1427 | UMA | 1 | 0.0402_5% | CRT_VSYNC |
| <28> FCH_CRT_DDC_SDA | FCH_CRT_DDC_SDA | R1428 | UMA | 1 | 0.0402_5% | CRT_DATA  |
| <28> FCH_CRT_DDC_SCL | FCH_CRT_DDC_SCL | R1429 | UMA | 1 | 0.0402_5% | CRT_CLK   |

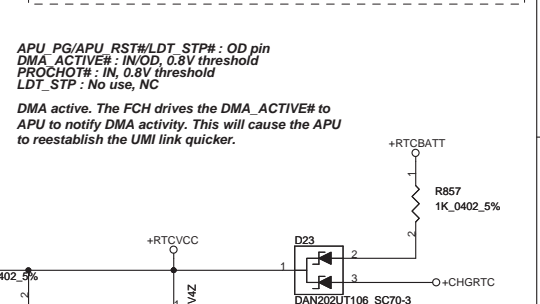
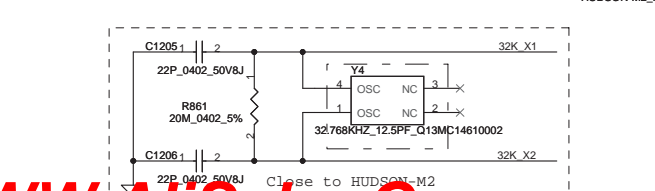
From VGA

|                    |               |       |      |   |           |           |
|--------------------|---------------|-------|------|---|-----------|-----------|
| <14> VGA_CRT_R     | VGA_CRT_R     | R1430 | DISO | 1 | 0.0402_5% | CRT_R     |
| <14> VGA_CRT_G     | VGA_CRT_G     | R1431 | DISO | 1 | 0.0402_5% | CRT_G     |
| <14> VGA_CRT_B     | VGA_CRT_B     | R1432 | DISO | 1 | 0.0402_5% | CRT_B     |
| <14> VGA_CRT_HSYNC | VGA_CRT_HSYNC | R1433 | DISO | 1 | 0.0402_5% | CRT_HSYNC |
| <14> VGA_CRT_VSYNC | VGA_CRT_VSYNC | R1434 | DISO | 1 | 0.0402_5% | CRT_VSYNC |
| <14> VGA_CRT_DATA  | VGA_CRT_DATA  | R1435 | DISO | 1 | 0.0402_5% | CRT_DATA  |
| <14> VGA_CRT_CLK   | VGA_CRT_CLK   | R1436 | DISO | 1 | 0.0402_5% | CRT_CLK   |

Close to Conn side

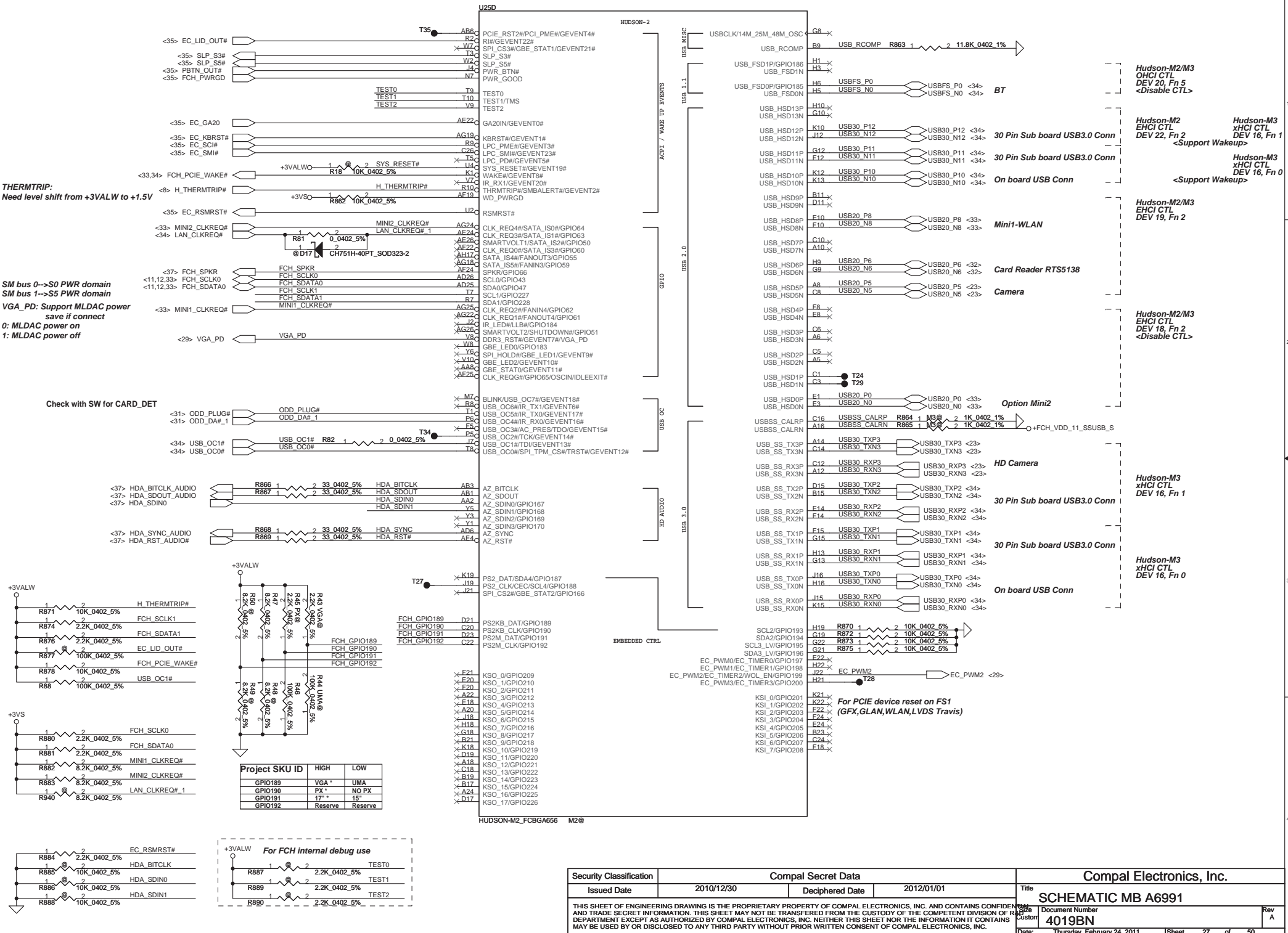


| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                             |
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| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2010/12/30         | Deciphered Date | 2012/01/01 | Title                    | SCHEMATIC MB A6991          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Sheet                    | 25 of 50                    |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                    |  |                 |  |                          |  |                             |  |     |  |       |  |          |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|--|-----------------|--|--------------------------|--|-----------------------------|--|-----|--|-------|--|----------|--|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | Compal Secret Data |  |                 |  | Compal Electronics, Inc. |  |                             |  |     |  |       |  |          |  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | 2010/12/30         |  | Deciphered Date |  | 2012/01/01               |  | Title                       |  |     |  |       |  |          |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                    |  |                 |  |                          |  | 4019BN                      |  | A   |  |       |  |          |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                    |  |                 |  | Date:                    |  | Thursday, February 24, 2011 |  |     |  | Sheet |  | 26 of 50 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                    |  |                 |  |                          |  |                             |  |     |  |       |  |          |  |

# PCIE\_RST2 : Reset PCIE device on Hudson2

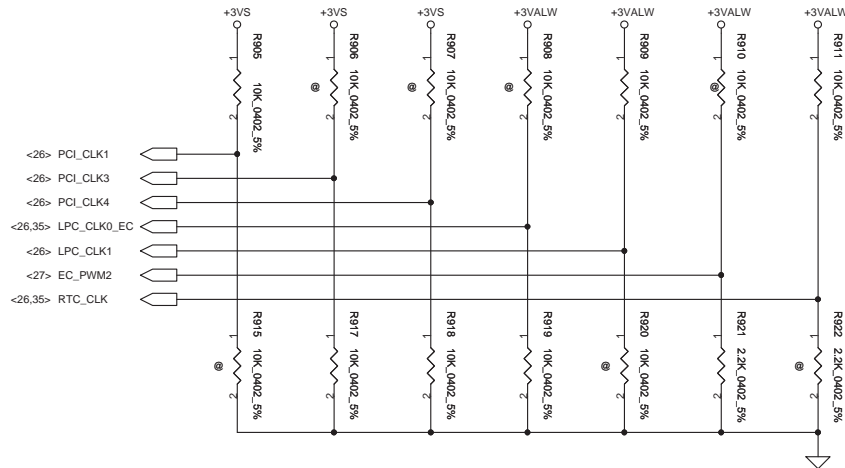






## STRAP PINS

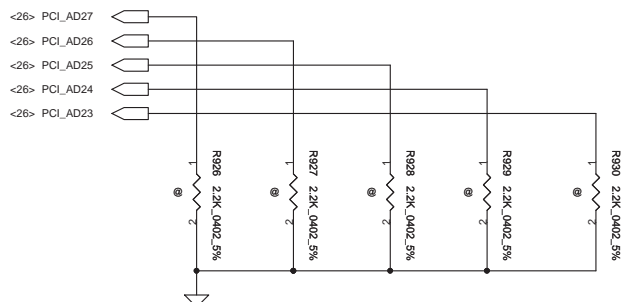
|           | PCI_CLK1                      | PCI_CLK3                            | PCI_CLK4                           | LPC_CLK0       | LPC_CLK1          | EC_PWM2 | RTC_CLK                                |
|-----------|-------------------------------|-------------------------------------|------------------------------------|----------------|-------------------|---------|----------------------------------------|
| PULL HIGH | ALLOW<br>PCIE GEN2<br>DEFAULT | USE<br>DEBUG<br>STRAPS              | NON_FUSION<br>CLOCK MODE           | EC<br>ENABLED  | CLKGEN<br>ENABLED | LPC ROM | S5 PLUS<br>MODE<br>DISABLED<br>DEFAULT |
| PULL LOW  | FORCE<br>PCIE GEN1            | IGNORE<br>DEBUG<br>STRAP<br>DEFAULT | FUSION<br>CLOCK<br>MODE<br>DEFAULT | EC<br>DISABLED | CLKGEN<br>DISABLE | SPI ROM | S5 PLUS<br>MODE<br>ENABLED             |



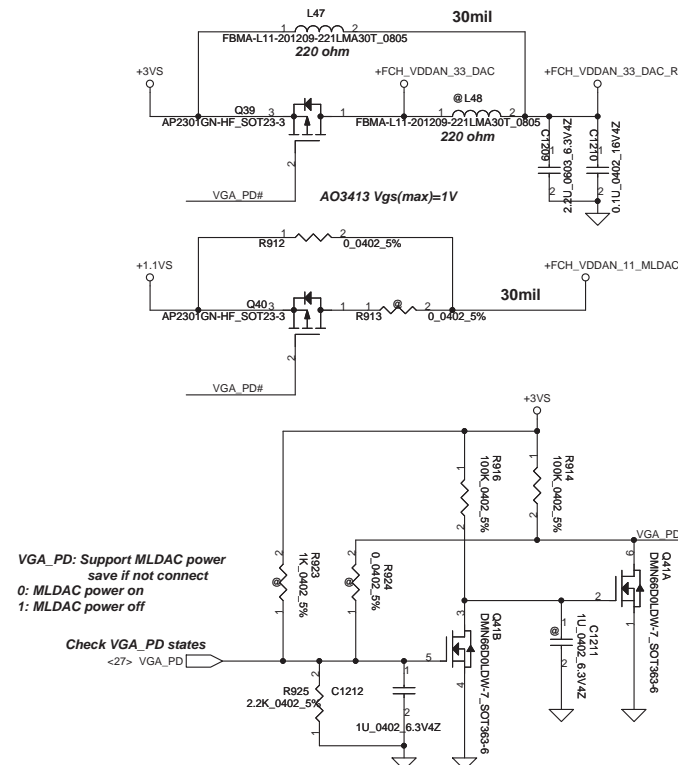
## DEBUG STRAPS

FCH HAS 15K INTERNAL PU FOR PCI\_AD[27:23]

| PCI_AD26  | PCI_AD27                  |                                      | PCI_AD25                 | PCI_AD24                              | PCI_AD23                           |
|-----------|---------------------------|--------------------------------------|--------------------------|---------------------------------------|------------------------------------|
| PULL HIGH | USE PCI<br>PLL<br>DEFAULT | DISABLE<br>ILA<br>AUTORUN<br>DEFAULT | USE FC<br>PLL<br>DEFAULT | USE DEFAULT<br>PCIE STRAPS<br>DEFAULT | DISABLE PCI<br>MEM BOOT<br>DEFAULT |
| PULL LOW  | BYPASS<br>PCI PLL         | ENABLE<br>ILA<br>AUTORUN             | BYPASS<br>FC PLL         | USE EEPROM<br>PCIE STRAPS             | ENABLE PCI<br>MEM BOOT             |



If support ML DAC power down when no VGA plug

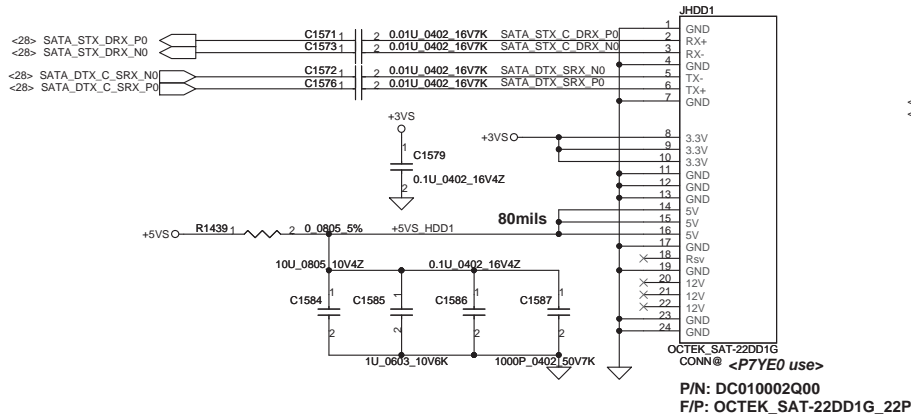


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                          |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|-----------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                             |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Sheet                    | 29 of 50                    |

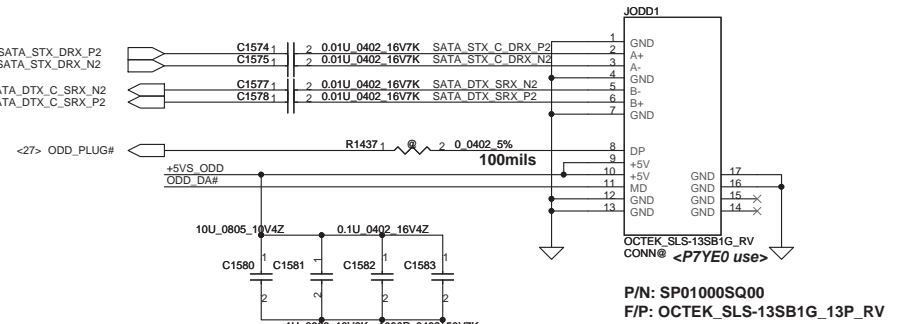




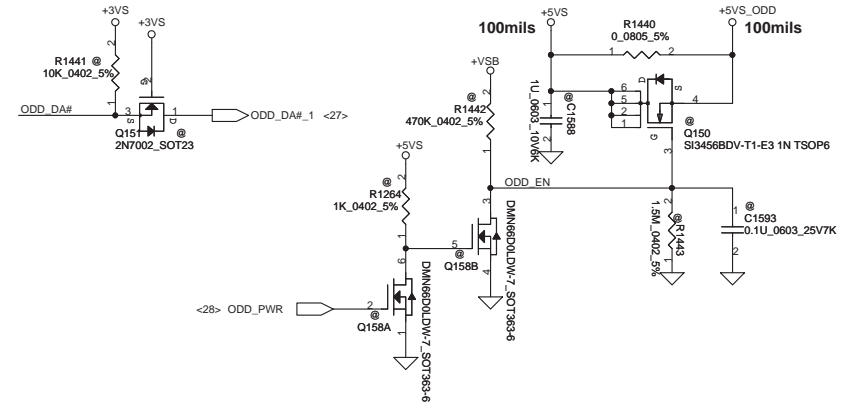
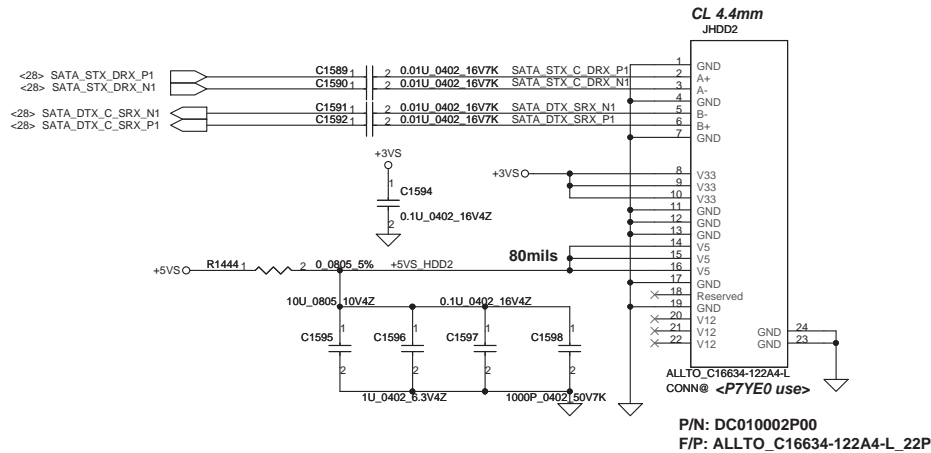
## SATA HDD1 Conn.



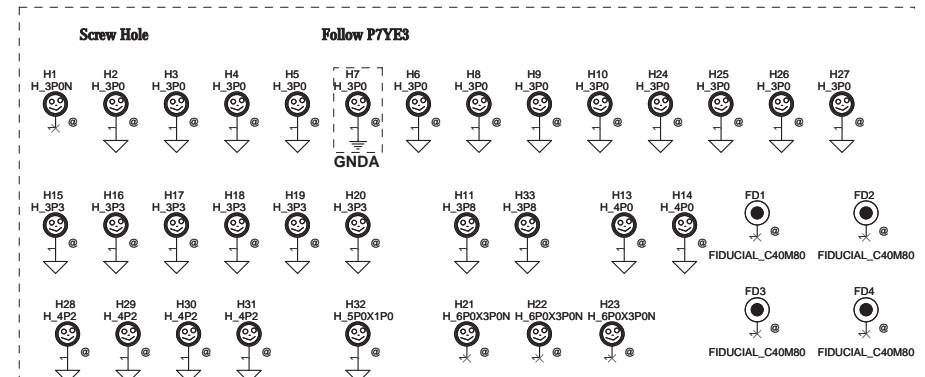
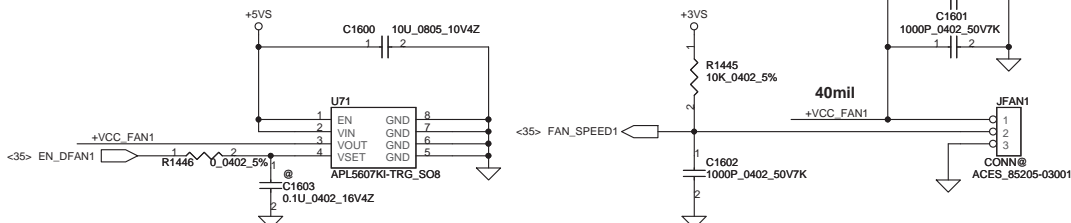
## SATA ODD Conn.



## SATA HDD2 Conn.



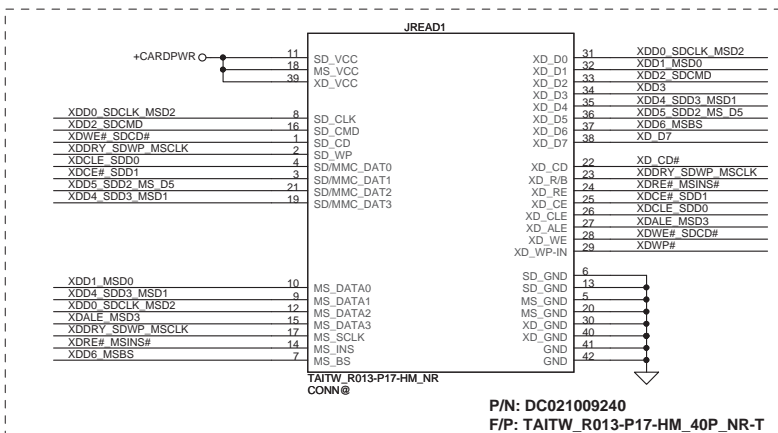
## FAN



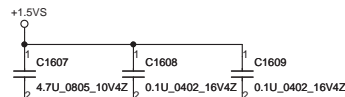
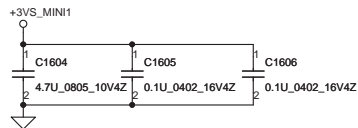
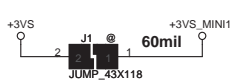
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|-----------------------------|
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 31 of 50                    |



## Share Pin

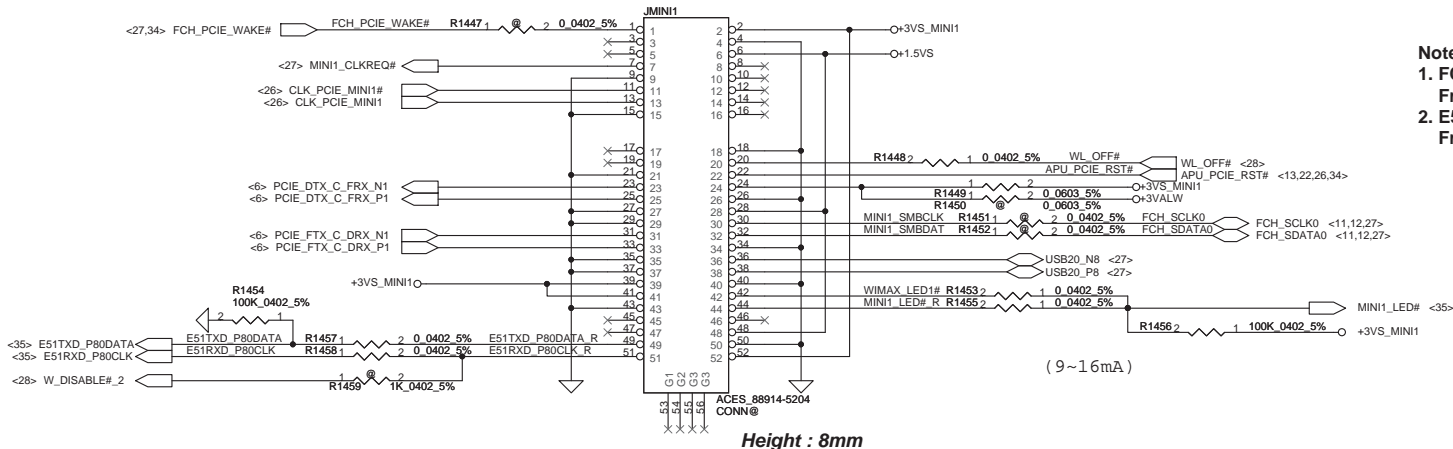


# Mini-Express Card for WLAN



| 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)  |

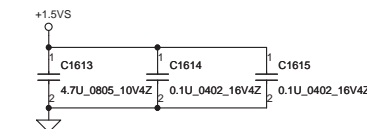
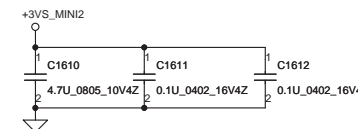
P/N: SP01000P700  
F/P: ACES\_88914-5204\_52P



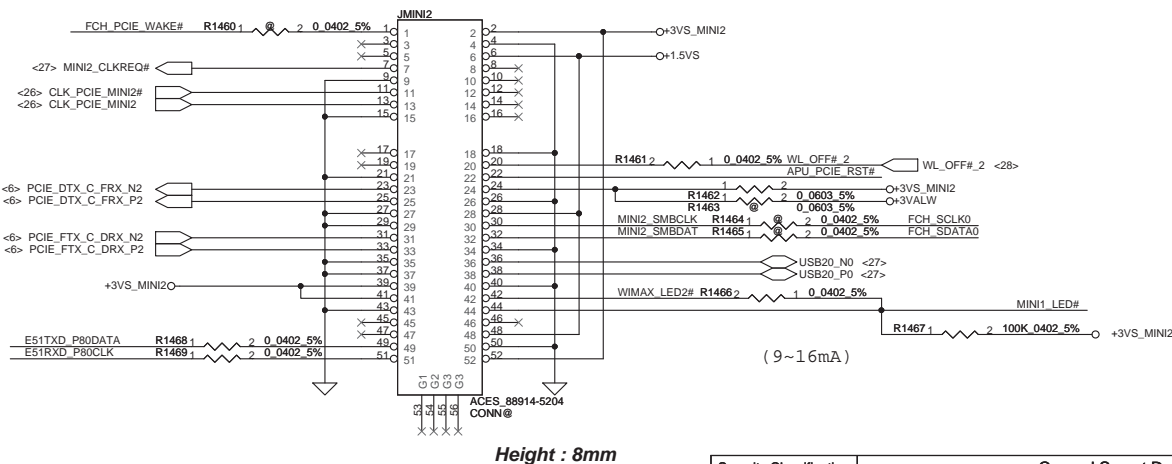
- Note:
1. FCH\_SCLK0 and FCH\_SDAT0 route as daisy chain.  
From FCH->JMINI2->DDR SOCKET->JMINI1
  2. E51RXD\_P80CLK and E51TXD\_P80DATA route as daisy chain.  
From EC->JMINI2->JMINI1

Height : 8mm

<P7WE0 use>



P/N: SP01000P700  
F/P: ACES\_88914-5204\_52P

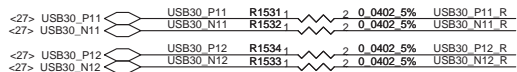
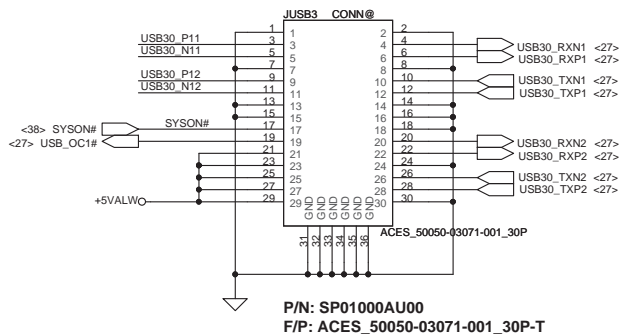


Height : 8mm

<P7WE0 use>

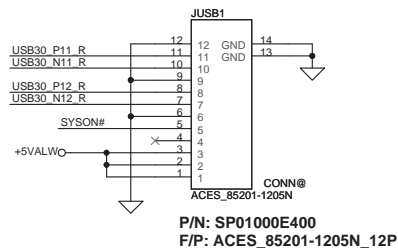
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|-----------------------------|
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev                      | A                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                    | Thursday, February 24, 2011 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 33 of 50                    |

## 30 Pin USB/B Conn.

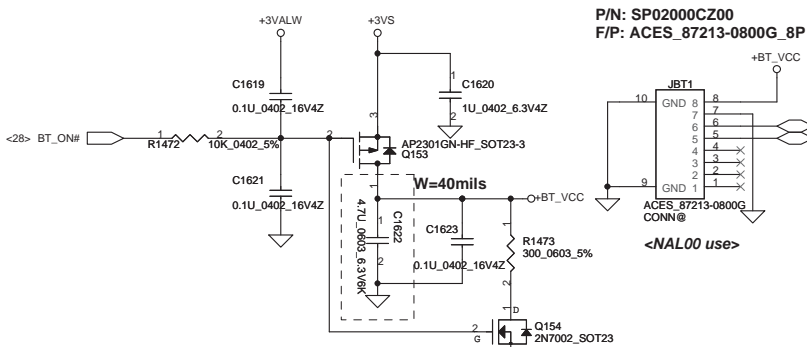


When use FPC, these four resistors not pop.

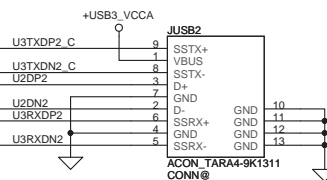
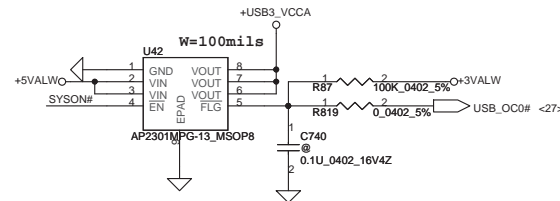
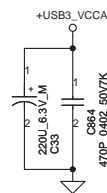
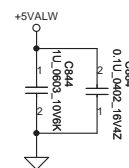
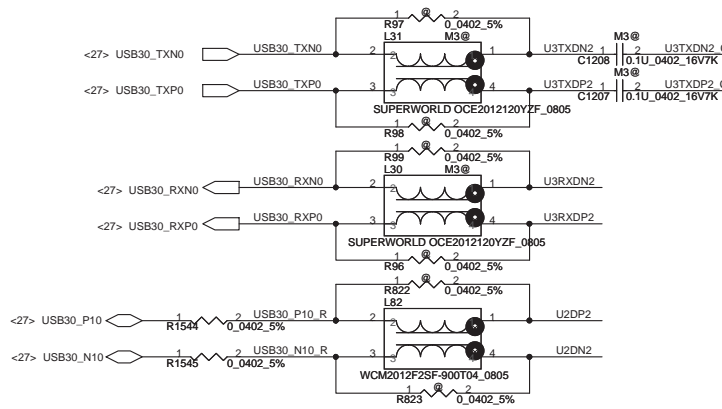
## 12 Pin USB/B Conn.



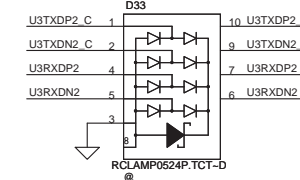
## Bluetooth Conn.



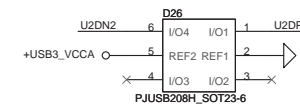
## On Board USB3.0 Conn.



### For USB3.0 ESD diode

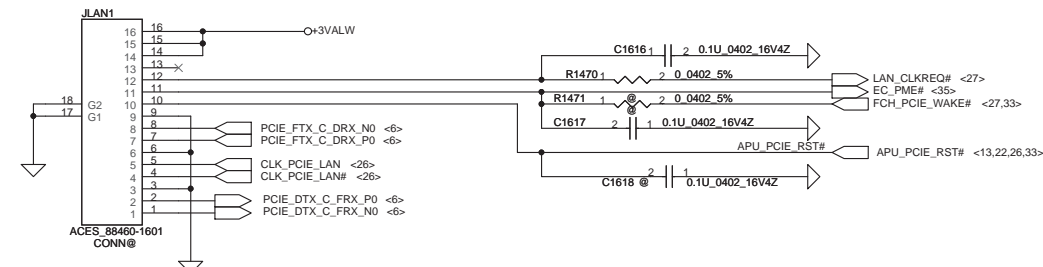


### For USB2.0 ESD diode



## LAN/B Conn.

P/N: DC020911300  
F/P: ACES\_88460-1601\_16P-T

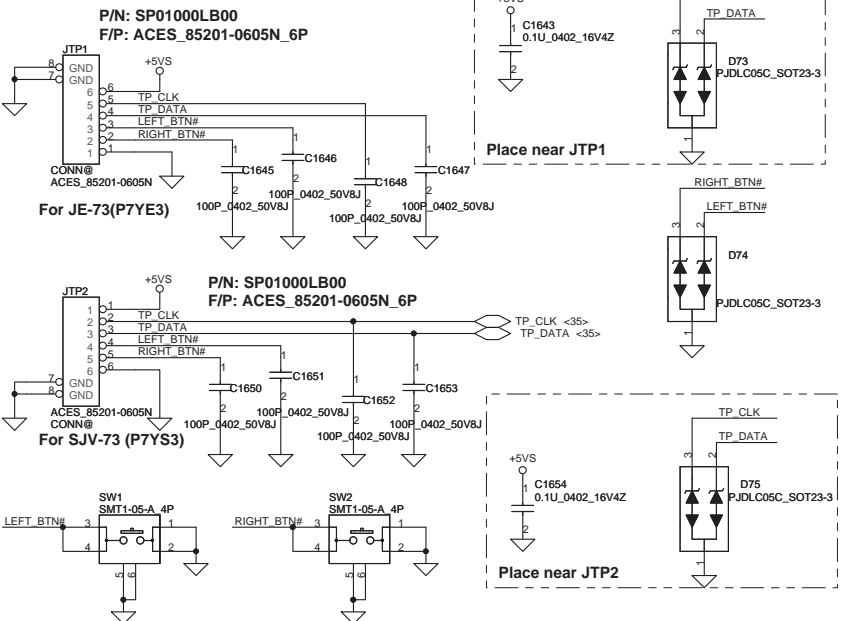


| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  | Compal Secret Data |  |  |  | Compal Electronics, Inc.    |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--------------------|--|--|--|-----------------------------|--|--|--|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  | 2010/12/30         |  |  |  | Deciphered Date             |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |                    |  |  |  | 2012/01/01                  |  |  |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  | B                  |  |  |  | SCHEMATIC MB A6991          |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |                    |  |  |  | Document Number             |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |                    |  |  |  | 4019BN                      |  |  |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |                    |  |  |  | Date:                       |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |                    |  |  |  | Thursday, February 24, 2011 |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |                    |  |  |  | Sheet                       |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |                    |  |  |  | 34                          |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |                    |  |  |  | of                          |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |                    |  |  |  | 50                          |  |  |  |

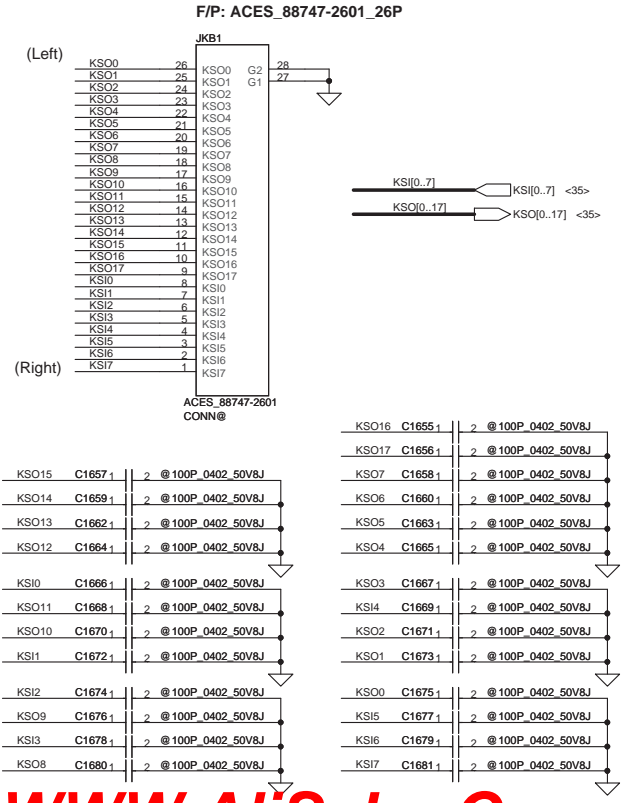
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                             |                    |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|-----------------------------|--------------------|----------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc.    |                    |          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2010/12/30 | Deciphered Date    | 2012/01/01 | Title                       | SCHEMATIC MB A6991 |          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | 4019BN                      |                    |          |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |            | Thursday, February 24, 2011 | Sheet              | 35 of 50 |



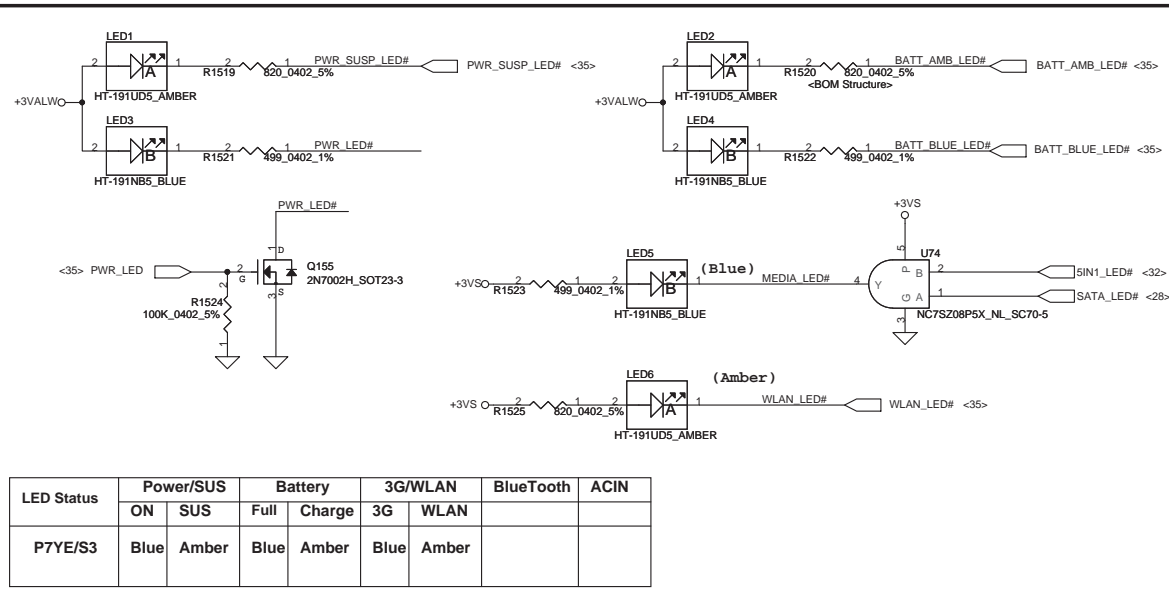
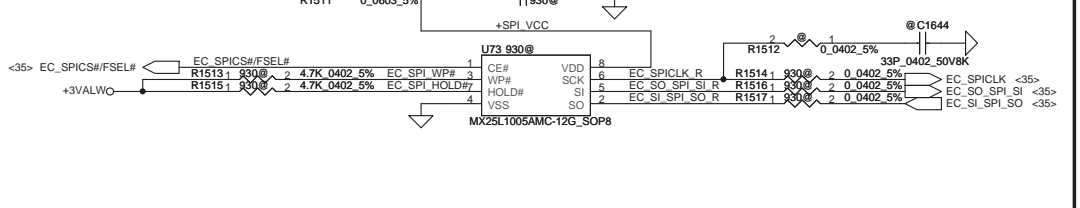
TP Conn.



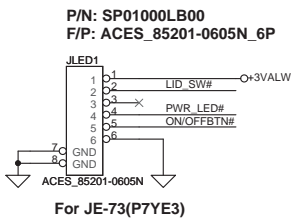
KB Conn.



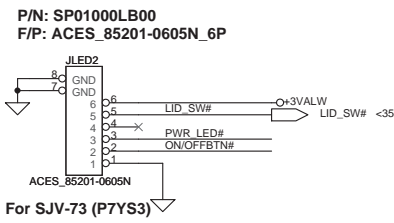
BIOS ROM



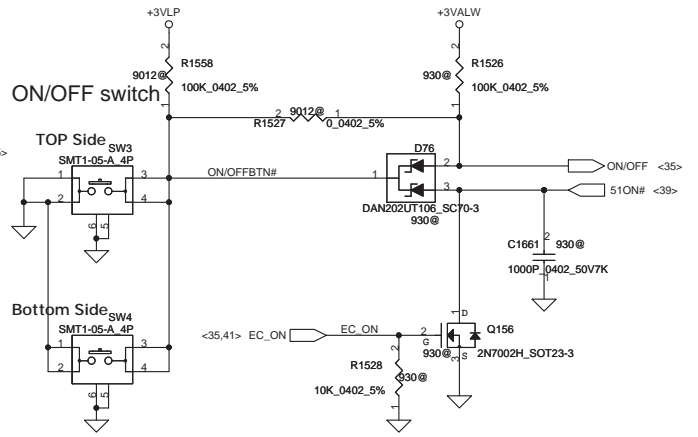
LS-6913P



LS-6913P

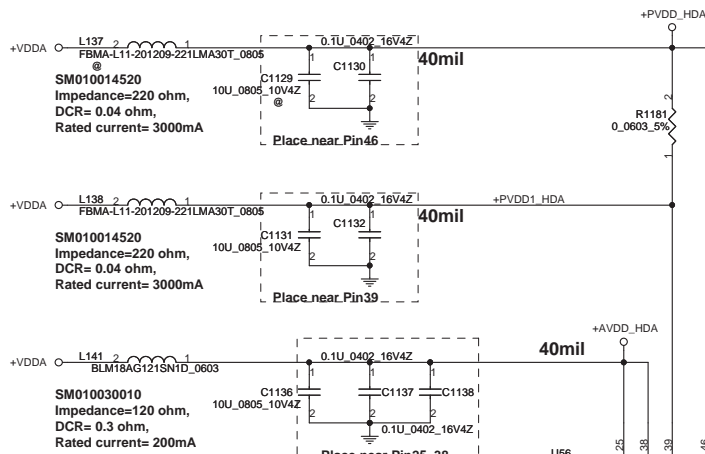
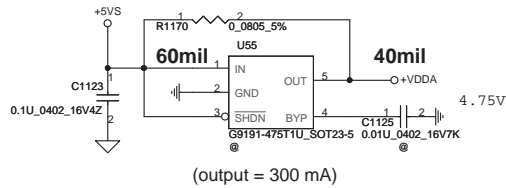


Power Button

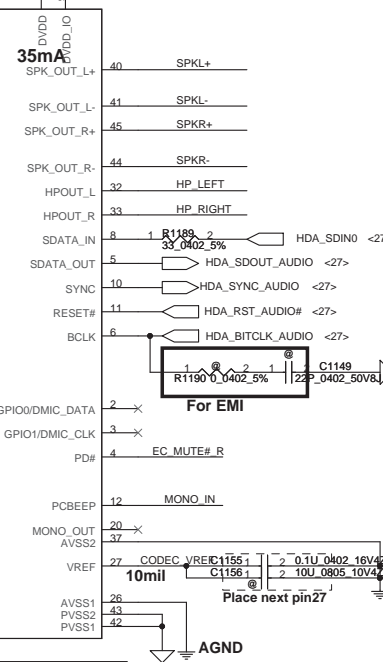
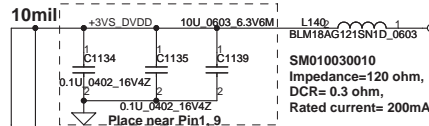


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                          |                             |                |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                             |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date:                    | Thursday, February 24, 2011 | Sheet 36 of 50 |

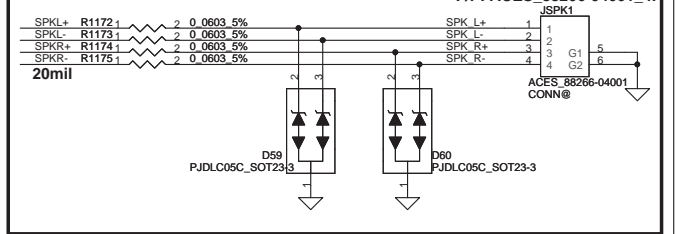




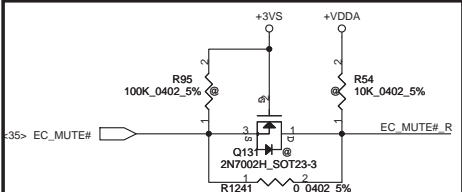
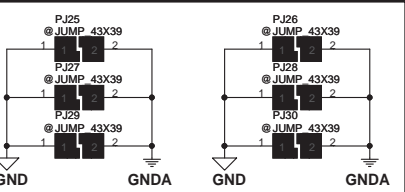
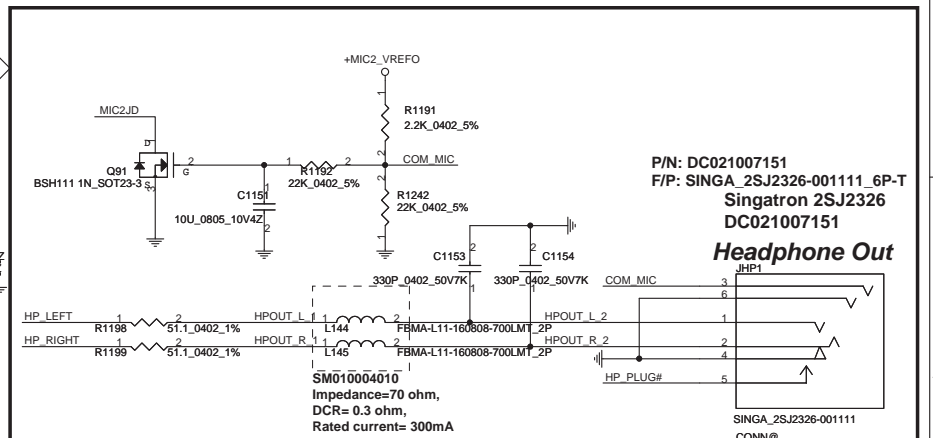
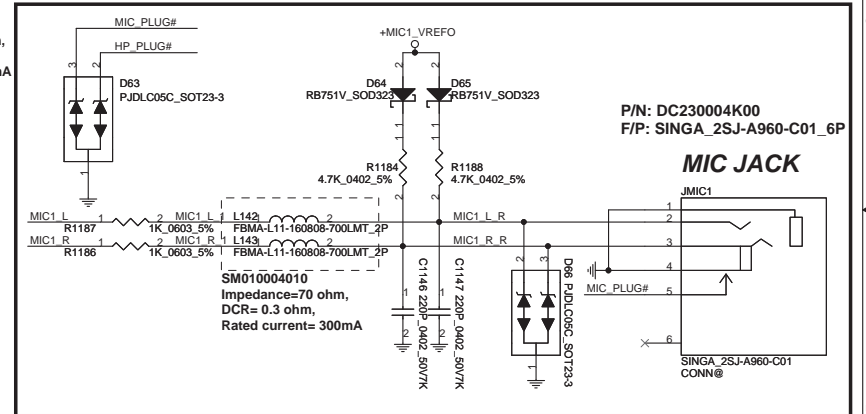
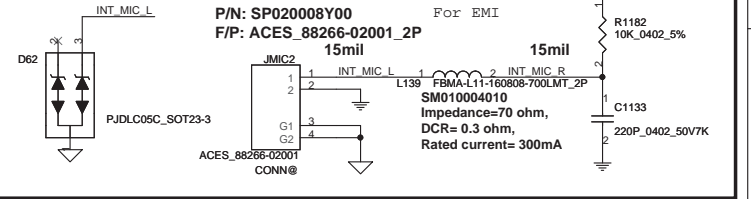
## HD Audio Codec



## Int. Speaker Conn.

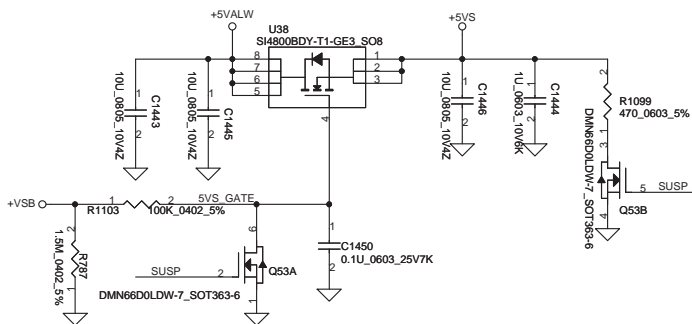


## Int. MIC Conn.

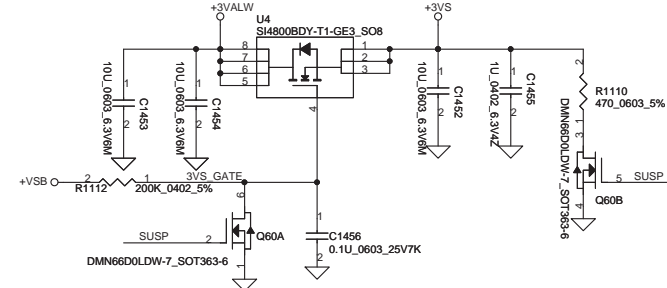


| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Title                             |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | 4019BN                            |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date: Thursday, February 24, 2011 | Sheet 37 of 50 |

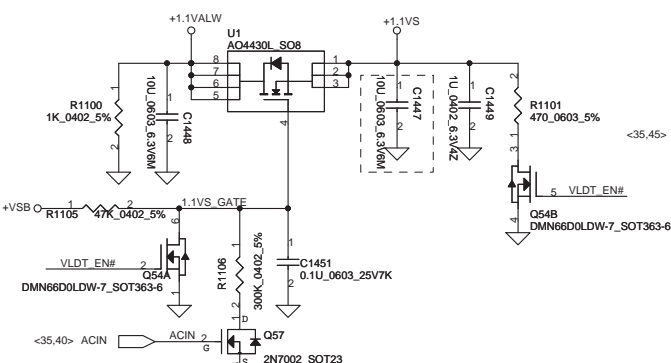
+VSB ○ —●—  $\frac{1}{R1103}$



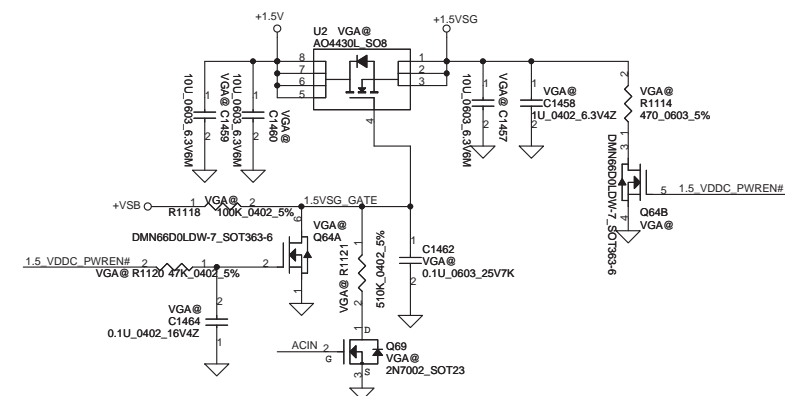
**+1.5V TO +1.5VS**



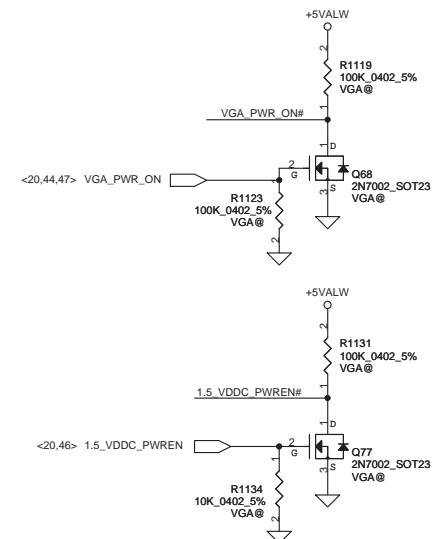
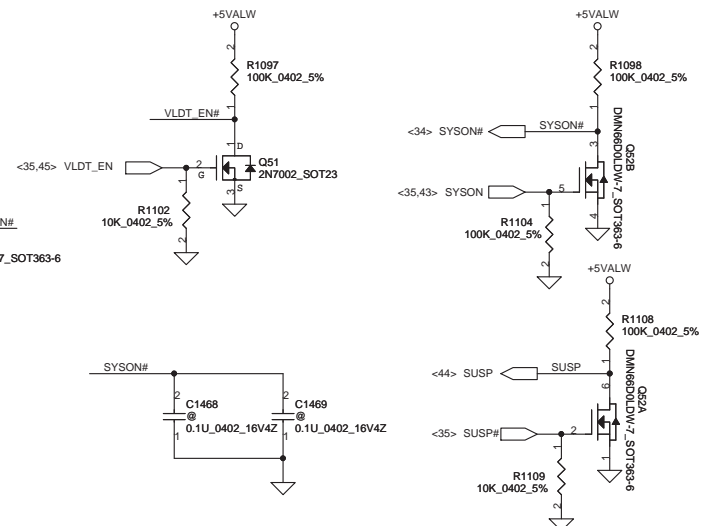
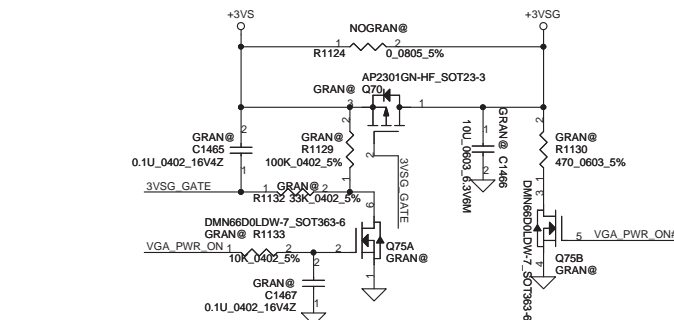
## +1.5V to +1.5VSG



**+3VS to +3VSG**

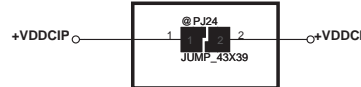
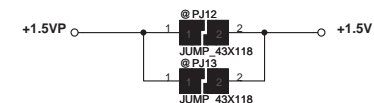
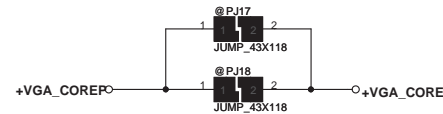
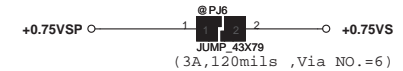
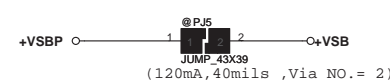
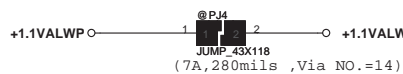
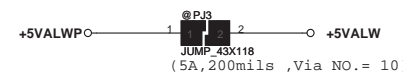
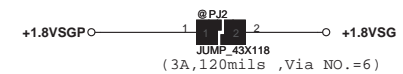
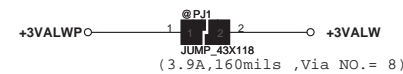
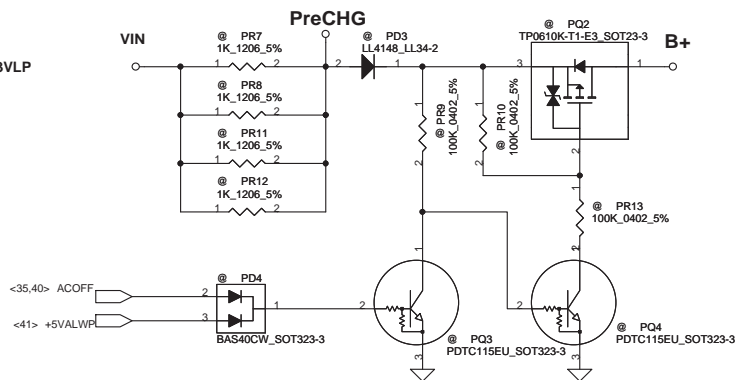
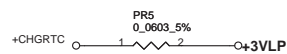
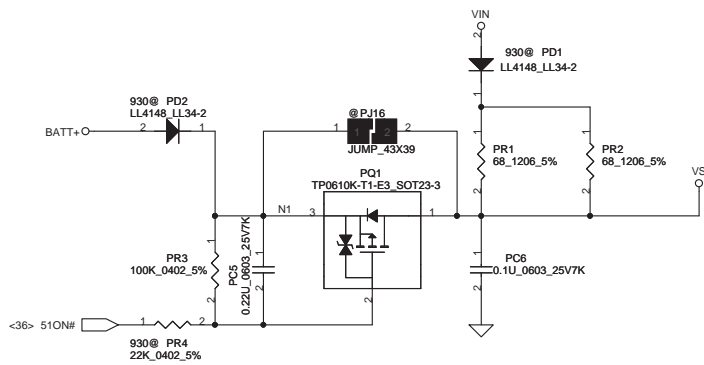
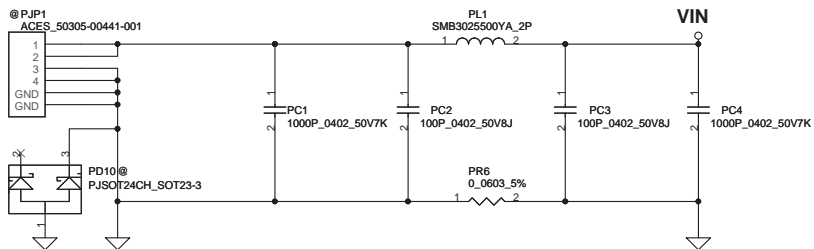


**+3VS to +3VSG**



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                             |                    |            |                          |                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------|------------|--------------------------|--------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                             | Compal Secret Data |            | Compal Electronics, Inc. |                    |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                             |                    |            | 4019BN                   |                    |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Thursday, February 24, 2011 | Sheet              | 38         | of                       | 50                 |

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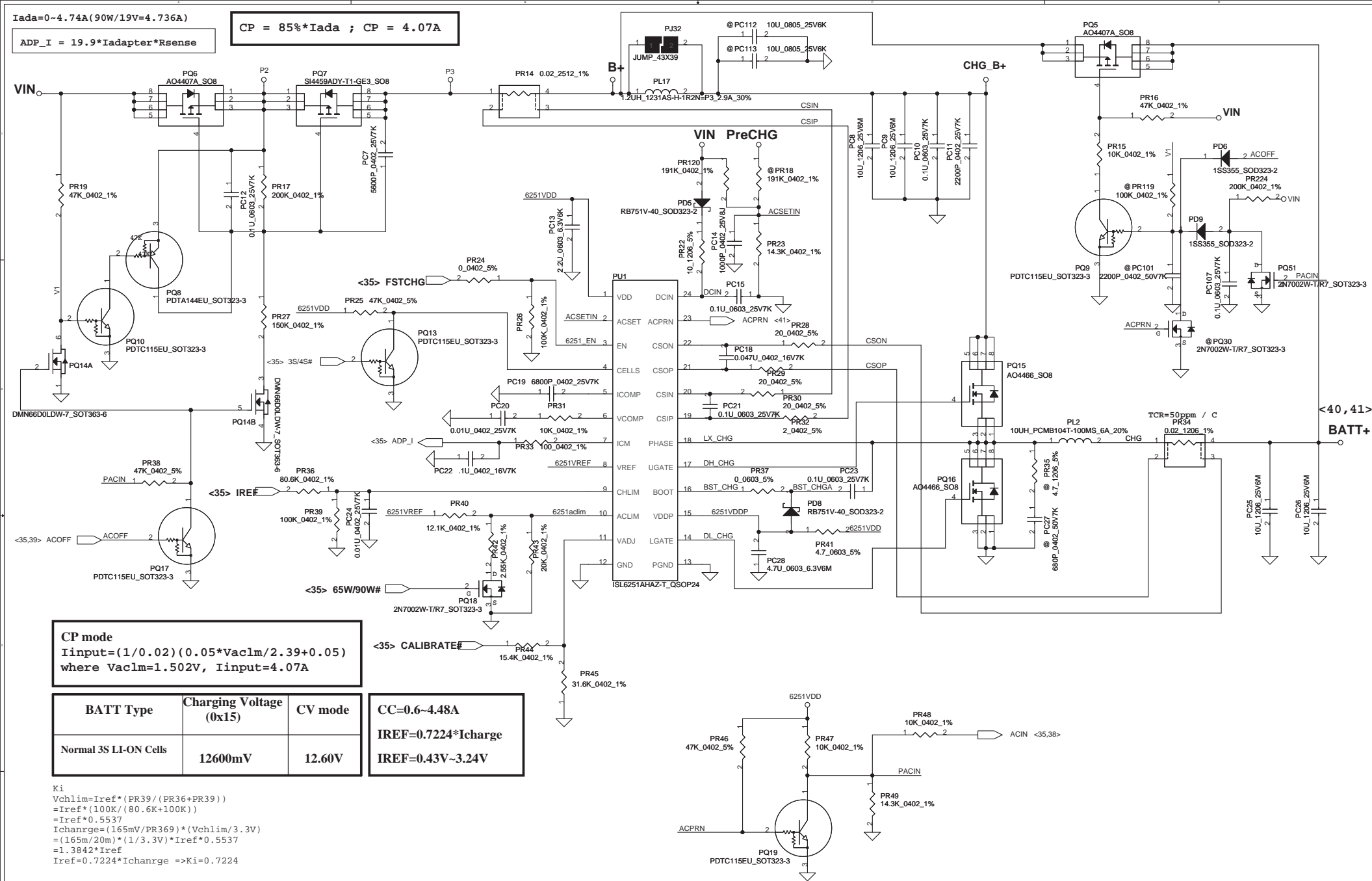
When use Granville, short PJ24

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|-----|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Title                    |     |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | 4019BN                   | A   |
| Date: Thursday, February 24, 2011                                                                                                                                                                                                                                                                                                                                                                                                                             |            | Sheet 39 of 50     |            |                          |     |

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

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

ADP\_I = 19.9\*Iadapter\*Rsense



#### CP mode

$I_{input} = (1/0.02) (0.05 * V_{ac1m} / 2.39 + 0.05)$   
where  $V_{ac1m} = 1.502V$ ,  $I_{input} = 4.07A$

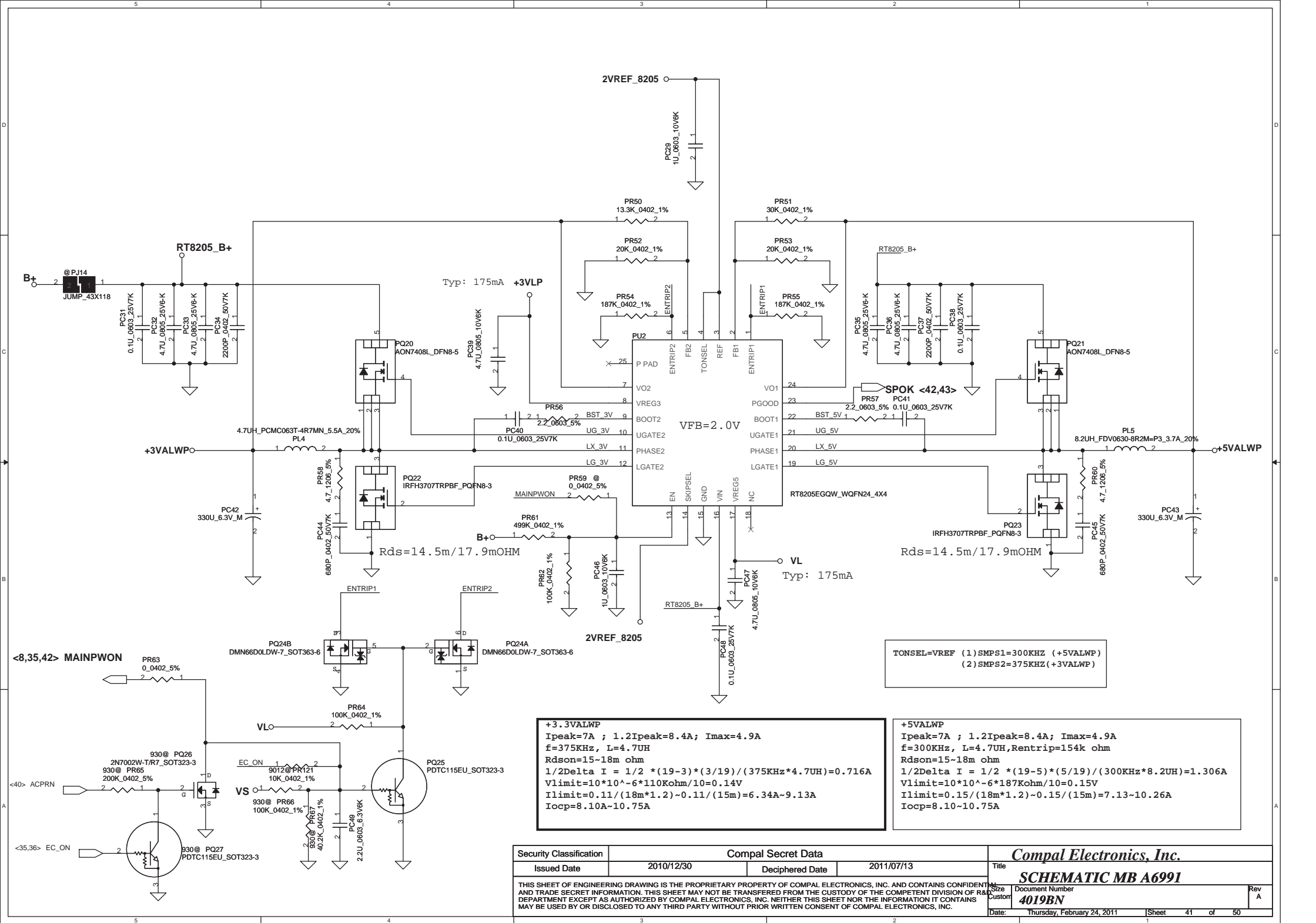
| BATT Type             | Charging Voltage (0x15) | CV mode |
|-----------------------|-------------------------|---------|
| Normal 3S LI-ON Cells | 12600mV                 | 12.60V  |

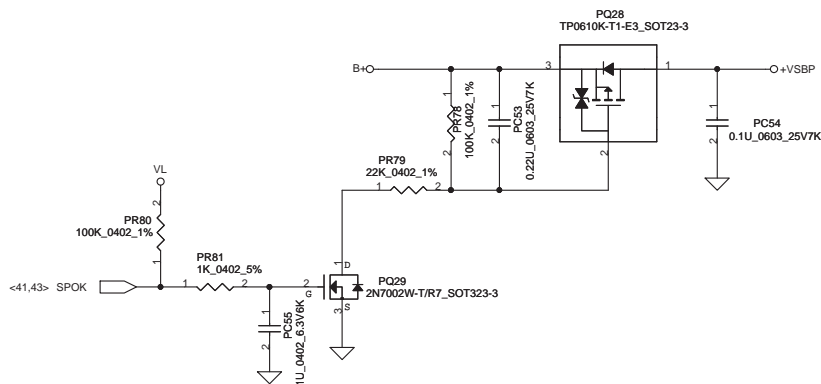
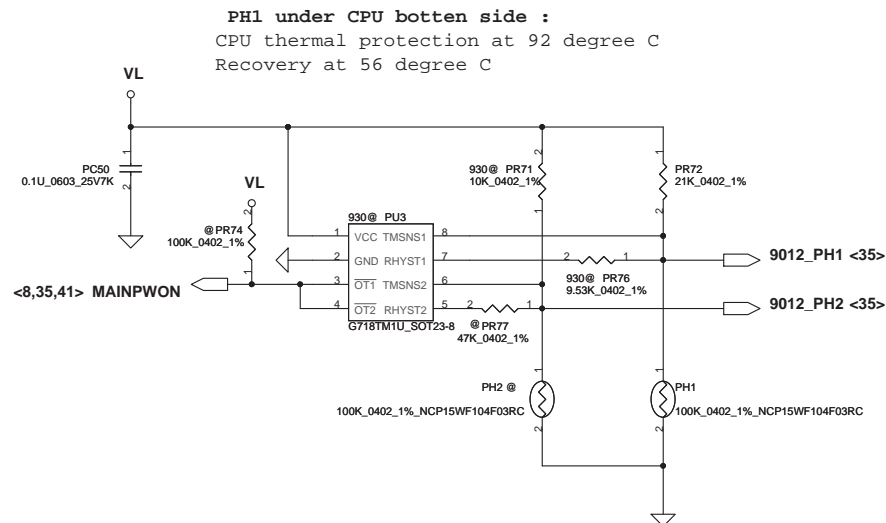
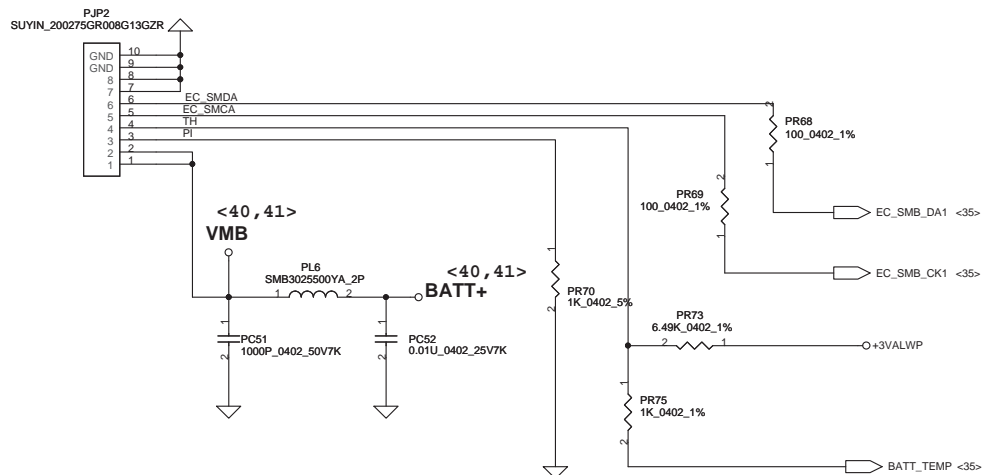
|                     |
|---------------------|
| CC=0.6~4.48A        |
| IREF=0.7224*Icharge |
| IREF=0.43V~3.24V    |

Ki  
 $V_{chlim} = I_{ref} * (PR39 / (PR36 + PR39))$   
 $= I_{ref} * (100K / (80.6K + 100K))$   
 $= I_{ref} * 0.5537$   
 $I_{charge} = (165mV / PR369) * (V_{chlim} / 3.3V)$   
 $= (165m / 20m) * (1 / 3.3V) * I_{ref} * 0.5537$   
 $= 1.3842 * I_{ref}$   
 $I_{ref} = 0.7224 * I_{charge} \Rightarrow Ki = 0.7224$

Kv  
Internal  $i_c = 514K$   $R_{ec} = 3K$   $R_1 = PR44 = 15.4K$   $R_2 = PR45 = 31.6K$   
 $R = 514K // 31.6K // (15.4K + 3K) = 11.372K$   
 $r = 514K // 514K // 31.6K = 28.14K$   
 $V_{cell} = 0.175 * V_{adj} + 3.99V$   
 $4.2V = 0.175 * V_{adj} + 3.99V \Rightarrow V_{adj} = 1.2V$   
 $V_{adj} = V_{ref} * (R / (R + 514K)) + CALIBRATE * (r / (r + 514K))$   
 $1.1483 = CALIBRATE * 0.6046 \Rightarrow CALIBRATE = 1.899$   
 $1.899 = (4.2 - (V_{cell} + A * 0.175)) * Kv = (4.2 - (4.2 + A * 0.175)) * Kv$   
 $A = V_{ref} * (R / (R + 514K)) = 0.052$   
 $K = 4.14$

| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|-----------------------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2010/12/30 | Deciphered Date    | 2011/07/13 | Title                    | SCHEMATIC MB A6991          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                    | Thursday, February 24, 2011 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 40 of 50                    |

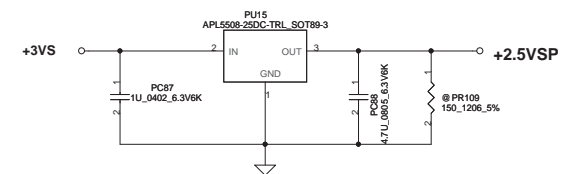
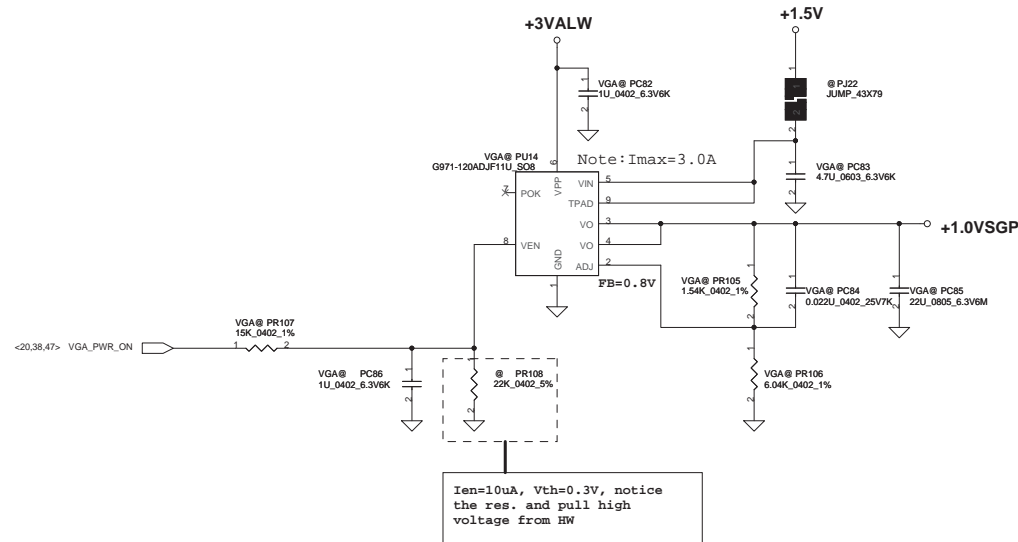
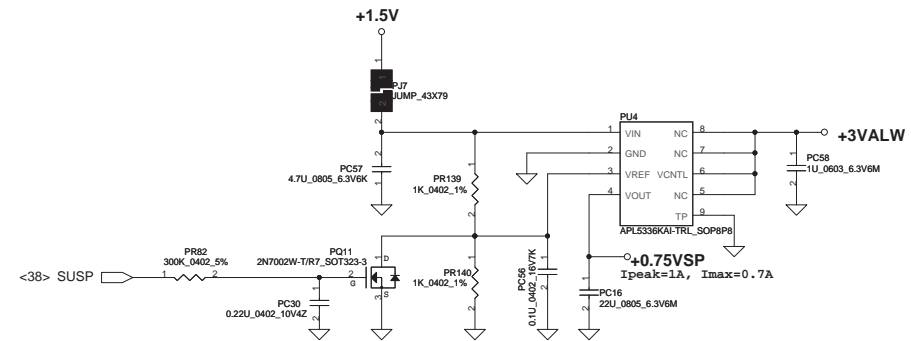
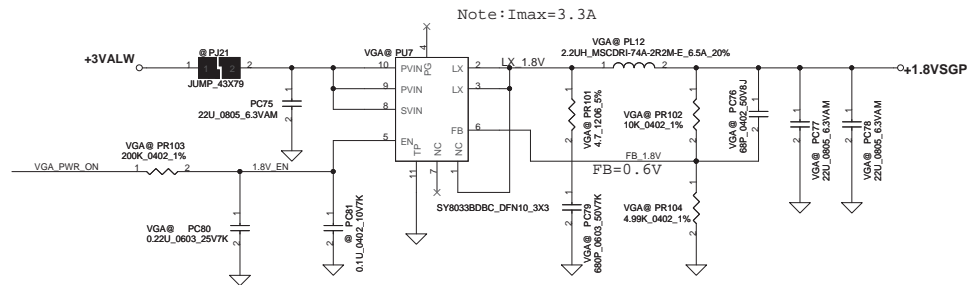




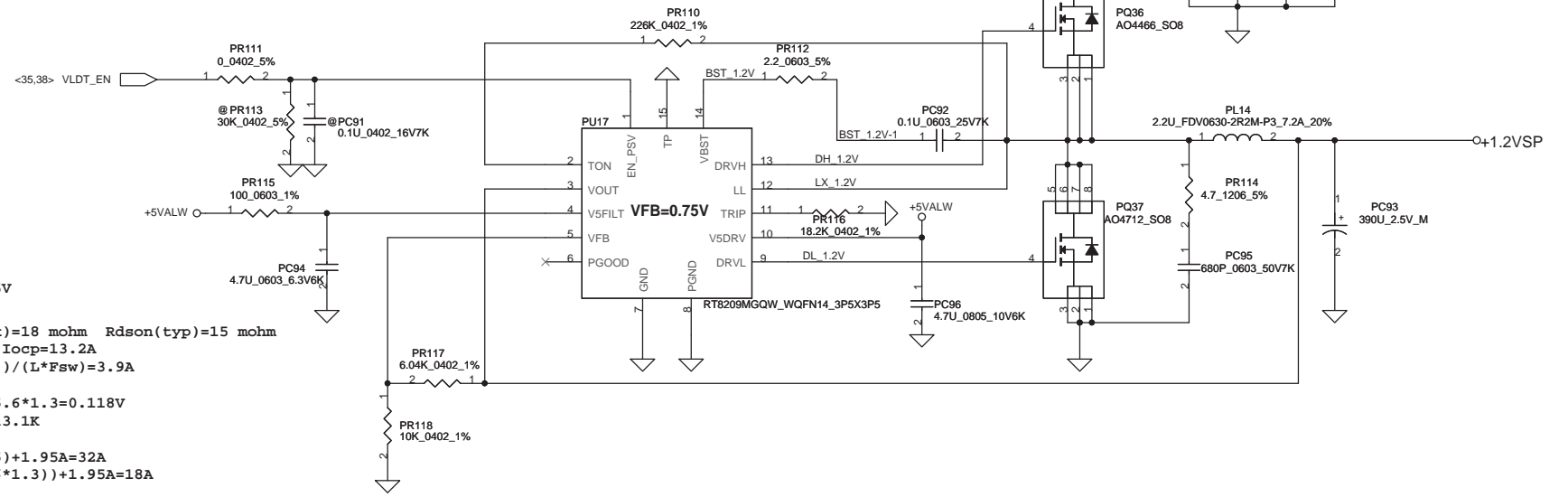
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                          |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|-----------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                             |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2010/12/30         | Deciphered Date | 2011/07/13 | Title                    | SCHEMATIC MB A6991          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date                     | Thursday, February 24, 2011 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Sheet                    | 42 of 50                    |
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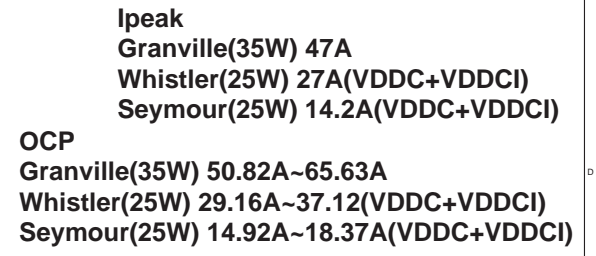



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          |                                   |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 | Compal Electronics, Inc. |                                   |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          | Rev A                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          | Date: Thursday, February 24, 2011 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          | Sheet 44 of 50                    |

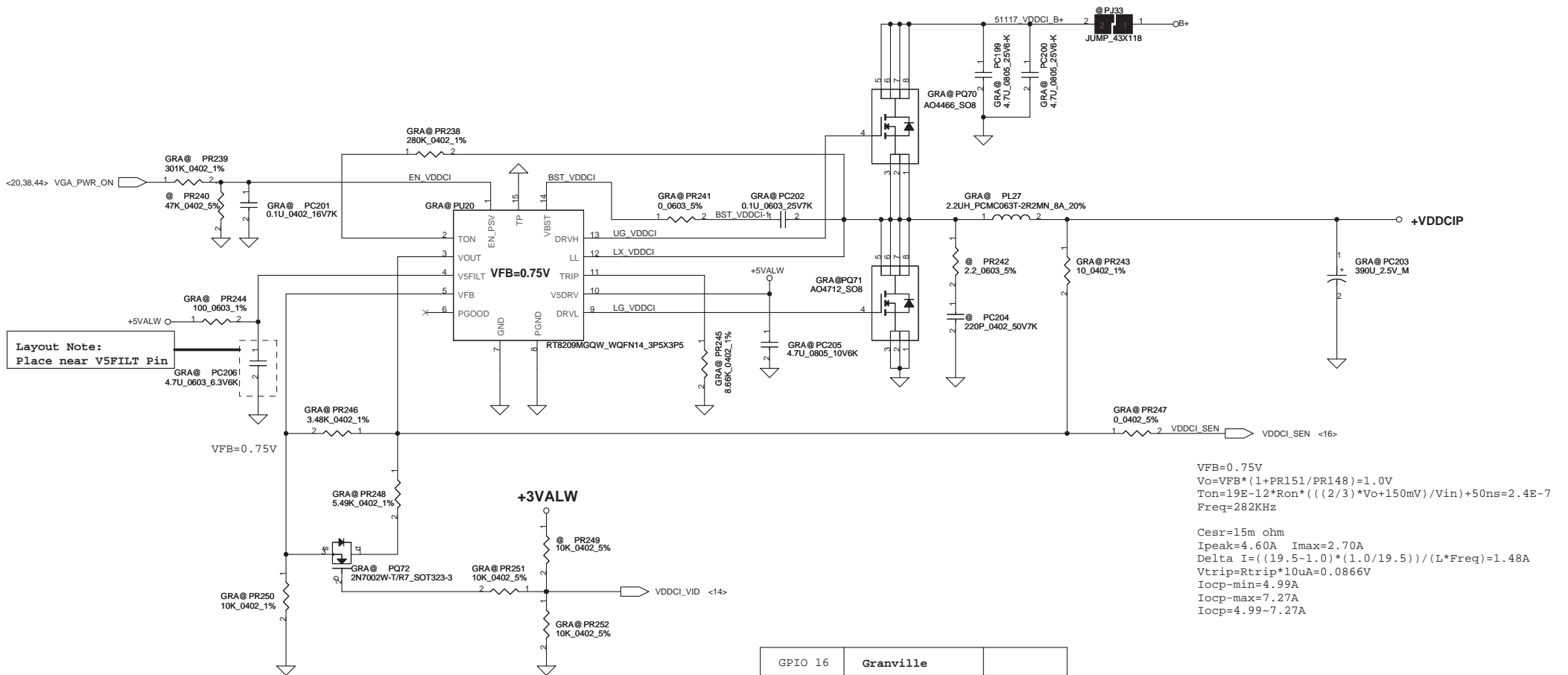


<Vo=1.5V> VFB=0.75V  
 Vo=0.75\*(1+5.9K/5.76K)=1.5V  
 Fsw=335KHz  
 Cout ESR=17 mohm Rdson(max)=18 mohm Rdson(typ)=15 mohm  
 Ipeak=27.7A, Imax=19.39A, Iocp=13.2A  
 Delta I=((19-1.5)\*(1.5/19))/(L\*Fsw)=3.9A  
 =>1/2Delta I=1.95A  
 Vtripmax=Iocp\*Rdson=16.2\*5.6\*1.3=0.118V  
 Rcs=Vtrip/9uA=0.118V/9uA=13.1K  
 choose Rcs=13K  
 Iocpmax=((13K\*11uA)/0.0045)+1.95A=32A  
 Iocpmin=((13K\*9uA)/(0.0056\*1.3))+1.95A=18A  
 Iocp=9.4A~13.2A

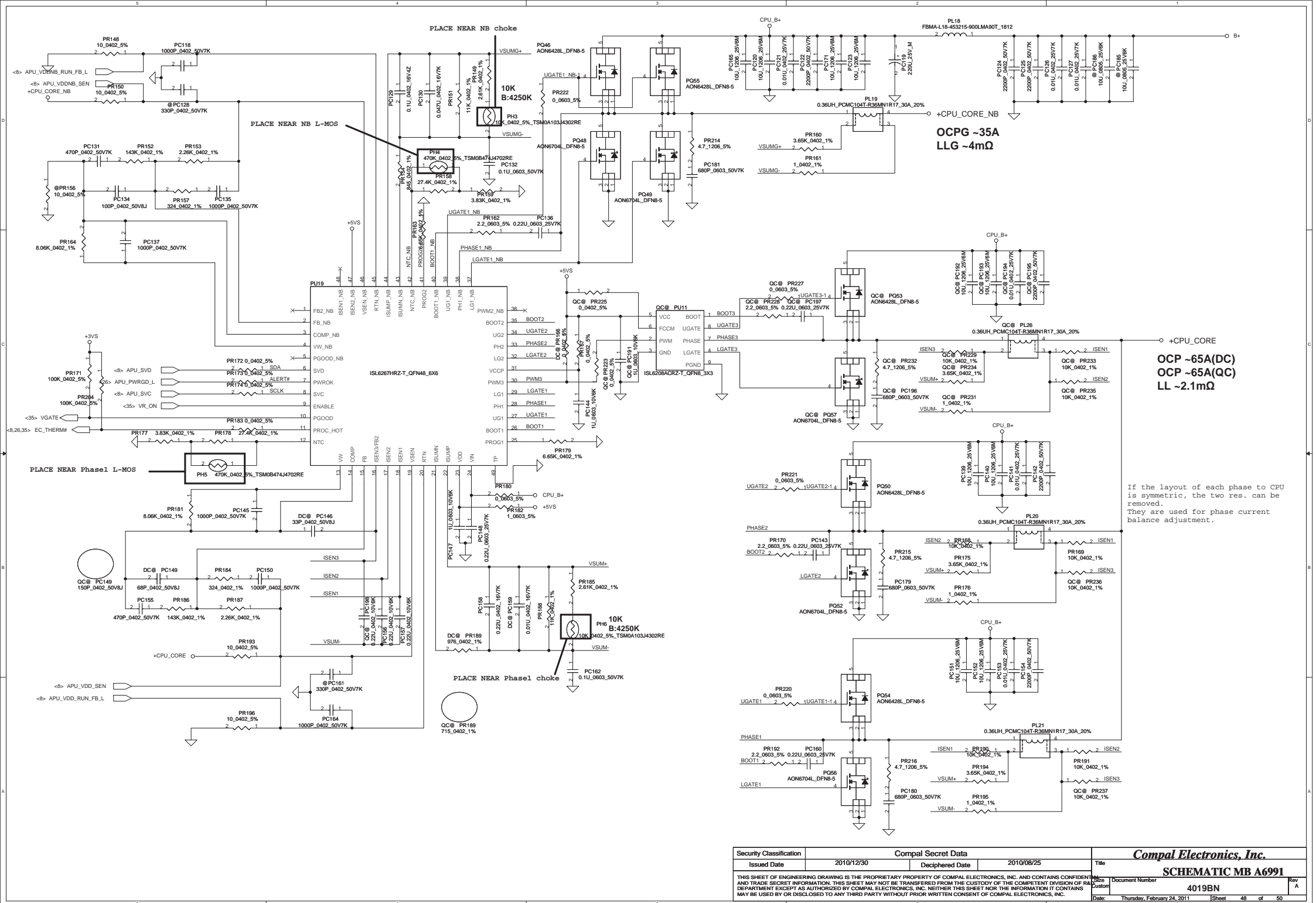
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc.          |                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|-----------------------------------|------------------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2010/12/30 | Deciphered Date    | 2010/10/12 | Title                             | SCHEMATIC MB A6991     |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |                    |            |                                                                                       |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|---------------------------------------------------------------------------------------|-----------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                        |            | Compal Secret Data |            |  |                             |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2010/12/30 | Deciphered Date    | 2011/07/13 | Title                                                                                 | SCHEMATIC MB A6991          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |                    |            | Custom                                                                                | A                           |
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|           |                     |         |
|-----------|---------------------|---------|
| GPIO 16   | Granville           |         |
| VDDCI_VID | VDDCI Voltage Level | Comment |
| 0         | 1.00 V              | Default |
| 1         | 0.90 V              |         |





| Item | Fixed Issue | Reason for change | Rev. | PG# | Modify List                       | Date          | Phase |
|------|-------------|-------------------|------|-----|-----------------------------------|---------------|-------|
| 1    |             | Prevent ESD       |      |     | Change SB000006800 to SB000009Q80 | 2011<br>02/09 | DVT   |
| 2    |             |                   |      |     |                                   |               |       |
| 3    |             |                   |      |     |                                   |               |       |
| 4    |             |                   |      |     |                                   |               |       |
| 5    |             |                   |      |     |                                   |               |       |
| 6    |             |                   |      |     |                                   |               |       |
| 7    |             |                   |      |     |                                   |               |       |
| 8    |             |                   |      |     |                                   |               |       |
| 9    |             |                   |      |     |                                   |               |       |
| 10   |             |                   |      |     |                                   |               |       |
| 11   |             |                   |      |     |                                   |               |       |
| 12   |             |                   |      |     |                                   |               |       |
| 13   |             |                   |      |     |                                   |               |       |
| 14   |             |                   |      |     |                                   |               |       |
| 15   |             |                   |      |     |                                   |               |       |
| 16   |             |                   |      |     |                                   |               |       |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                             |  |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Compal Secret Data |  | Title                       |  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | Deciphered Date    |  | Schematic MB A6991          |  |
| 2010/12/30                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | 2010/10/12         |  | 4019BN                      |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  | Rev A                       |  |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                    |  | Thursday, February 24, 2011 |  |
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Version change list (P.I.R. List)

- 0.1 -> 0.2
1. R1244 change to BACO@; Q136, Q139, R1262, R1259, R1260, R1261 change to @.
  2. Change TEST35 to PU (pop R558; unpopR559).
  3. EC\_PME# PU (Pop R1503).
  4. Change U56 pin 42,43 to DGND.
  5. Change U6, R1537, R1538, R1539, R1540 to @.
  6. ALLOW\_STOP, APU\_SVC, APU\_SVD PU to +1.5V (add R604, R607, R618).
  7. Reserve +1.2VS to replace U6 SW power (add R948 pad).
  8. Unpop R25, add Q145.
  9. Add component for KBC930 and KBC9012 colay:  
R1518 (9012@), R1546 (@), R1547 (930@), R1548 (@), R1549 (930@), R1550 (9012@),  
R1551 (@), R1552 (9012@), R1553 (9012@), R1556 (930@), R1557 (9012@),  
R1558 (9012@).
  10. Add Net for KBC930 and KBC9012 colay:  
9012\_PH2, GPXO06, GPXO07, GPXO10, 9012\_PH1, GPXID7, +EC\_VCC.
  11. Reserve R1554, R1555 for FFC USB/B.
  12. Delete RTS5209 PCIE port (del C1376, C1377, C158, C248); delete CLK req (del R55);  
delete Card det (del R144).
  13. For RTS5138, add USB port 6 and one 48MHz clock from FCH.
  14. Add R88 for USB/B oc pin.
  15. Change D33 to @.
  16. Change R1529, R1530, C1682 to @.
  17. For DVT board ID, change R1475 to 18K.
  18. Change R1526 to 930@.
  19. Change C1486 to PX@.
  20. Reserve R360, R403, C1 and C26 for EMI.
  21. Del R1554, R1555 for FFC USB/B.
  22. Change mini2 USB port from port 9 to port 0 (del R1542, R1543).
  23. Change R1289, R1290 to RT@.
  24. Add C1468, C1469 on SYSON# for ESD reserve.
  25. Change R417, R148 to DISO@.
  26. Add TP on JCRT1.5, JCRT1.11, USB port2.
  27. Add all EMI solution on TP Conn(include JE and SJV).
  28. Change U25 from A12 to A13 (unpop Q145, pop R25).
  29. Change U73, R1513, R1515, R1514, R1516, R1517, R1511, C1642 to 930@.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                             |                 |  |                          |                 |       |          |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Compal Secret Data          |                 |  | Compal Electronics, Inc. |                 |       |          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                             |                 |  | 4019BN                   |                 |       |          |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Thursday, February 24, 2011 |                 |  | Sheet                    | 50 of 50        |       |          |