

# Compal Confidential

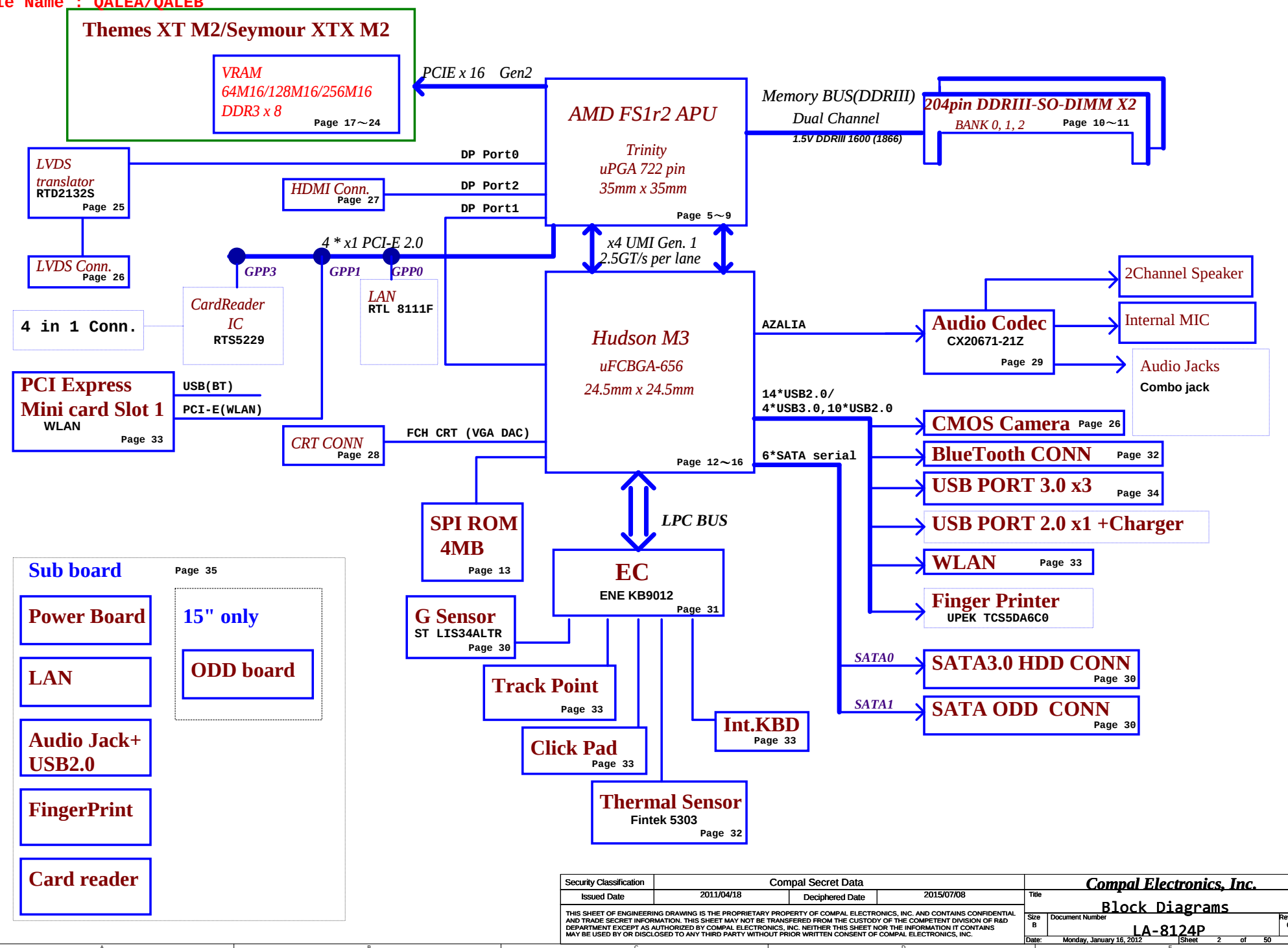
## QALEA/QALEB Schematics Document

AMD APU Trinity FS1r2 + FCH Hudson-M3 + GPU Seymour XTX/Thames XT

2012-01-16

REV: 0.4

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                                |                          |         |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc.       |                          |         |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date: Monday, January 16, 2012 | Sheet 1                  | of 50   |



Voltage Rails

| Power Plane  | Description                                   | S0  | 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 |
| +APU_CORE    | Core voltage for APU                          | ON  | OFF | OFF |
| +APU_CORE_NB | Voltage for On-die VGA of APU                 | ON  | OFF | OFF |
| +1.5V        | 1.5V power rail for APU VDDIO and DDR         | ON  | ON  | OFF |
| +0.75VS      | 0.75V switched power rail for DDR terminator  | ON  | OFF | OFF |
| +1.2VS       | 1.2V (VDDR, VDDP) switched power rail for APU | ON  | OFF | OFF |
| +2.5VS       | 2.5V for APU VDDA                             | ON  | OFF | OFF |
| +1.1VALW     | 1.1V switched power rail for FCH              | ON  | ON  | ON* |
| +1.1VS       | 1.1V switched power rail for FCH              | ON  | OFF | OFF |
| +1.5VS       | 1.5V switched power rail                      | ON  | OFF | OFF |
| +VGA_CORE    | 0.95-1.2V switched power rail                 | ON  | OFF | OFF |
| +1.5VGS      | 1.5V switched power rail                      | ON  | OFF | OFF |
| +1.8VGS      | 1.8V switched power rail                      | ON  | OFF | OFF |
| +1.0VGS      | 1.0V switched power rail for VGA              | ON  | OFF | OFF |
| +3VALW       | 3.3V always on power rail                     | ON  | ON  | ON* |
| +3VS_WLAN    | 3.3V power rail for WLAN                      | ON  | OFF | OFF |
| +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.

FCH Hudson-M2/3  
SATA Port List

|       |     |
|-------|-----|
| SATA0 | HDD |
| SATA1 | ODD |
| SATA2 | NC  |
| SATA3 | NC  |
| SATA4 | NC  |
| SATA5 | NC  |

Comal  
PCIE Port List

|     |       |             |
|-----|-------|-------------|
| APU | PCIE0 | LAN         |
|     | PCIE1 | WLAN        |
|     | PCIE2 | NC          |
|     | PCIE3 | Card Reader |
| FCH | PCIE0 | NC          |
|     | PCIE1 | NC          |
|     | PCIE2 | NC          |
|     | PCIE3 | NC          |

FCH Hudson-M2/3  
USB Port List

|        |             |
|--------|-------------|
| USB1.1 |             |
| Port0  | NC          |
| Port1  | NC          |
| USB2.0 |             |
| Port0  | USB2.0 Port |
| Port1  | NC          |
| Port2  | NC          |
| Port3  | NC          |
| Port4  | NC          |
| Port5  | WLAN        |
| Port6  | CMOS        |
| Port7  | FP          |
| Port8  | BT          |
| Port9  | NC          |
| Port10 | USB 3.0     |
| Port11 | USB 3.0     |
| Port12 | USB 3.0     |
| Port13 | NC          |

EC SM Bus1 address                      EC SM Bus2 address

| Device        | Address    | HEX | Device                    | Address    | HEX |
|---------------|------------|-----|---------------------------|------------|-----|
| Smart Battery | 0001-011xb | 15H | F75303 (DDR.VRAM,CPUCORE) | 1001-101xb | 9AH |
|               |            |     | SB-TSI                    | 1001-100xb | 98H |
|               |            |     | Seymour XTX               | 1000-0010b | 82H |
|               |            |     | LVDS translator           |            |     |

BOM Structure

UMA@ : UMA only  
DIS@ : DIS muxluss  
PX40@ : PX4.0 Support  
PX50@ : PX5.0 Support  
CMOS@ : USB camera

CONN@ : ME components  
X76@, H2G@, S2G@ : VRAM

Tha@: Thames VGA  
Sey@: Seymour VGA

BOM option and stencil

SDV:  
CMOS@/DIS@/PX40@/SEY@ + X76@

PJ201, PJ401, PJ502, PJ503, PJ504, PJ601, PJ603, PJ604,  
PJ701, PJ702, PJ703, PJ704, J1, J2301, J2401, J2402, J2403  
PJ402, PJ403, PJ501, PJ602, PJ801, PJ802, PJ803, PJ804, PJ805

FCH SMB0 (FCH\_SMB0)

| Device               | Address    | HEX |
|----------------------|------------|-----|
| DDR DIMM1 (FCH_SMB0) | 1001-000xb | 90  |
| DDR DIMM2 (FCH_SMB0) | 1001-001xb | 92  |
| WLAN (FCH_SMB0)      |            |     |
| Security ROM         |            |     |

Stencil Memo

| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                             |               |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date:                    | Monday, January 16, 2012    | Sheet 3 of 50 |

## Power-Up/Down Sequence

- All the ASIC supplies, except for VDDR3, must fully reach their respective nominal voltages within 20 ms of the start of the ramp-up sequence, though a shorter ramp-up duration is preferred. There is no timing requirement on the ramp up of VDDR3 relative to other power rails.
- The external pull-up resistors on the DDC/AUX signals (if applicable) should ramp up before or after both VDDC and VDD\_CT have ramped up.
- VDDC and VDD\_CT should not ramp up simultaneously. For example, VDDC should reach 90% before VDD\_CT starts to ramp up (or vice versa).
- For power down, reversing the ramp-up sequence is recommended.

VDDR3(3.3VGS)

PCIE\_VDDC(1.0V)

VDDR1(1.5VGS)

VDDC/VDDCI(1.12V)

VDD\_CT(1.8V)

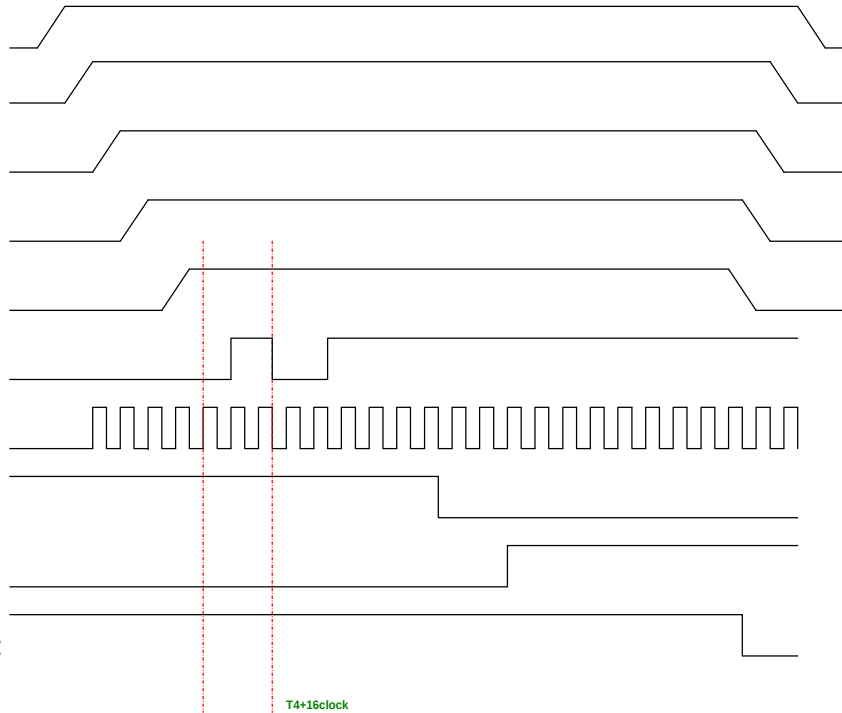
PERSTb

REFCLK

Straps Reset

Straps Valid

Global ASIC Reset



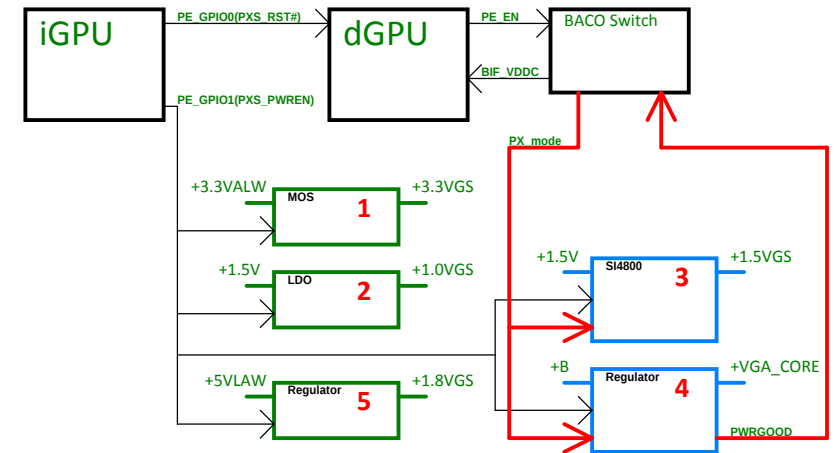
## Without BACO option :

PE\_GPIO0 : Low -> Reset dGPU ; High ->Normal operation  
PE\_GPIO1 : Low -> dGPU Power OFF ; High -> dGPU Power ON

## BACO option :

PE\_GPIO0 : High ->Normal operation (dGPU is not reset on BACO mode)  
PE\_GPIO1 : Low -> dGPU Power OFF ; High -> dGPU Power ON (always High)

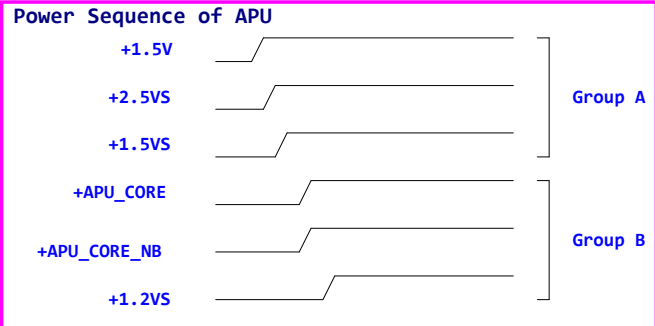
| dGPU Power Pins                                                                                                                                             | Voltage      | PX 3.0 | BACO Mode            | Max current |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------|----------------------|-------------|
| PCIE_PVDD, PCIE_VDDR, TSVDD, VDDR4, VDD_CT, DPE_PVDD, DP[F:E]_VDD18, DP[D:A]_PVDD, DP[D:A]_VDD18, AVDD, VDD1DI, A2VDDQ, VDD2DI, DPLL_PVDD, MPV18, and SPV18 | 1.8V         | OFF    | ON                   | 1679mA      |
| DP[F:E]_VDD10, DP[D:A]_VDD10, DPLL_VDDC, and SPV10                                                                                                          | 1.0V         | OFF    | ON                   | 775mA       |
| PCIE_VDDC                                                                                                                                                   | 1.0V         | OFF    | ON                   | 1.1A        |
| VDDR3                                                                                                                                                       | 3.3V         | OFF    | ON                   | 60mA        |
| BIF_VDDC (current consumption = 55mA@1.0V, in BACO mode)                                                                                                    | Same as VDDC | OFF    | ON Same as PCIE_VDDC | 70mA        |
| VDDR1                                                                                                                                                       | 1.5V         | OFF    | OFF                  | 1.2A        |
| VDDC/VDDCI                                                                                                                                                  | TBD          | OFF    | OFF                  | 28          |



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| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                            | 2011/04/18         | Deciphered Date | 2015/07/08 | Title                    | dGPU Block Diagram       |               |
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OTES\_ACA-ZIF-109-P12-A\_FS1R2 CONN@

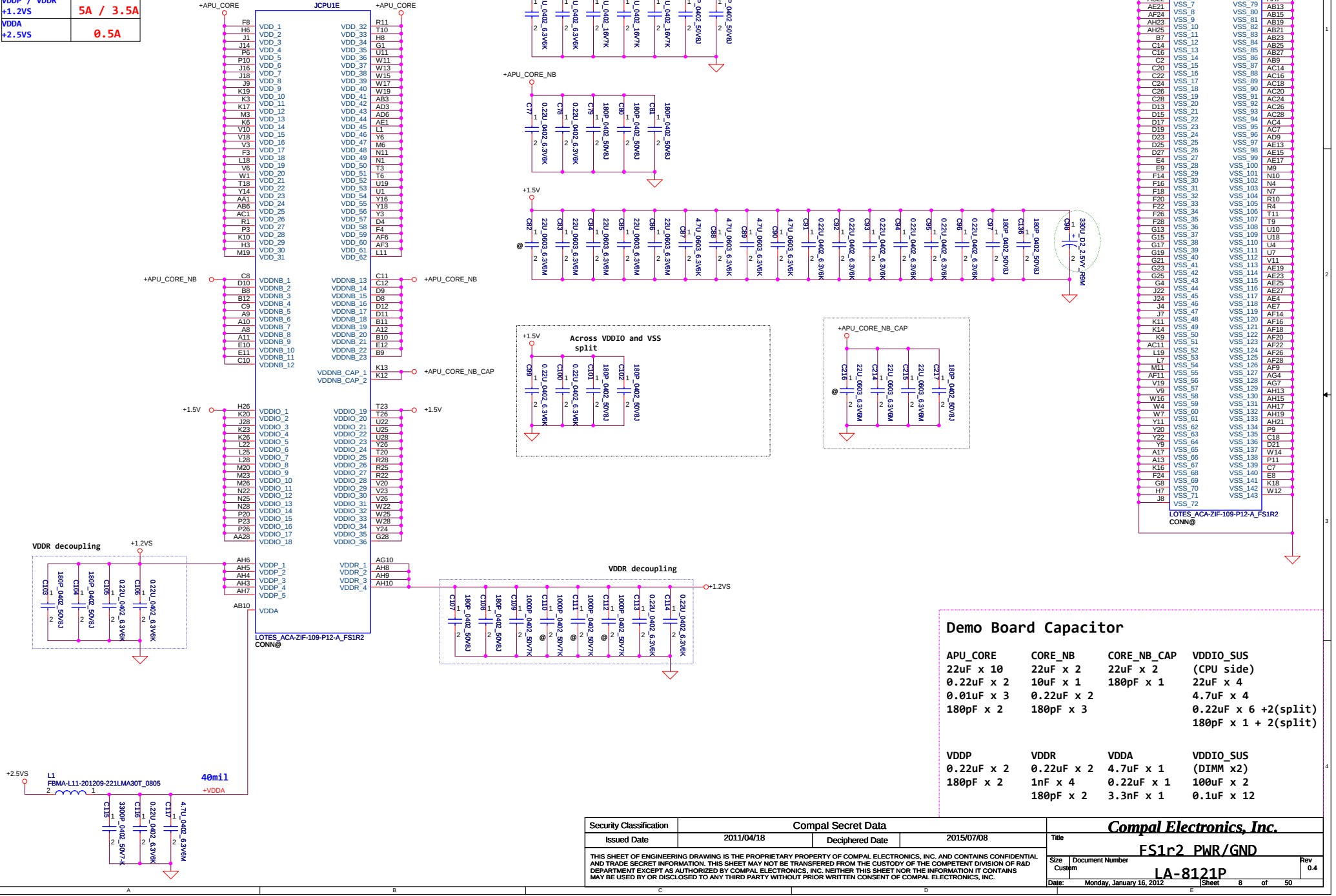


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| Power Name            | Consumption |
|-----------------------|-------------|
| VDD<br>+APU_CORE      | 60A         |
| VDDNB<br>+APU_CORE_NB | 44A         |
| VDDIO<br>+1.5V        | 3.2A        |
| VDDP / VDDR<br>+1.2VS | 5A / 3.5A   |
| VDDA<br>+2.5VS        | 0.5A        |

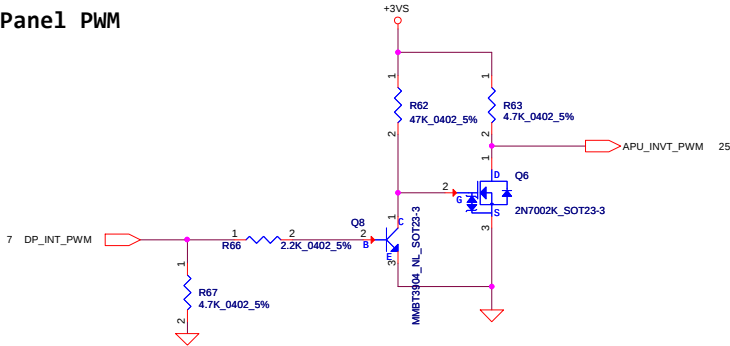


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HPD

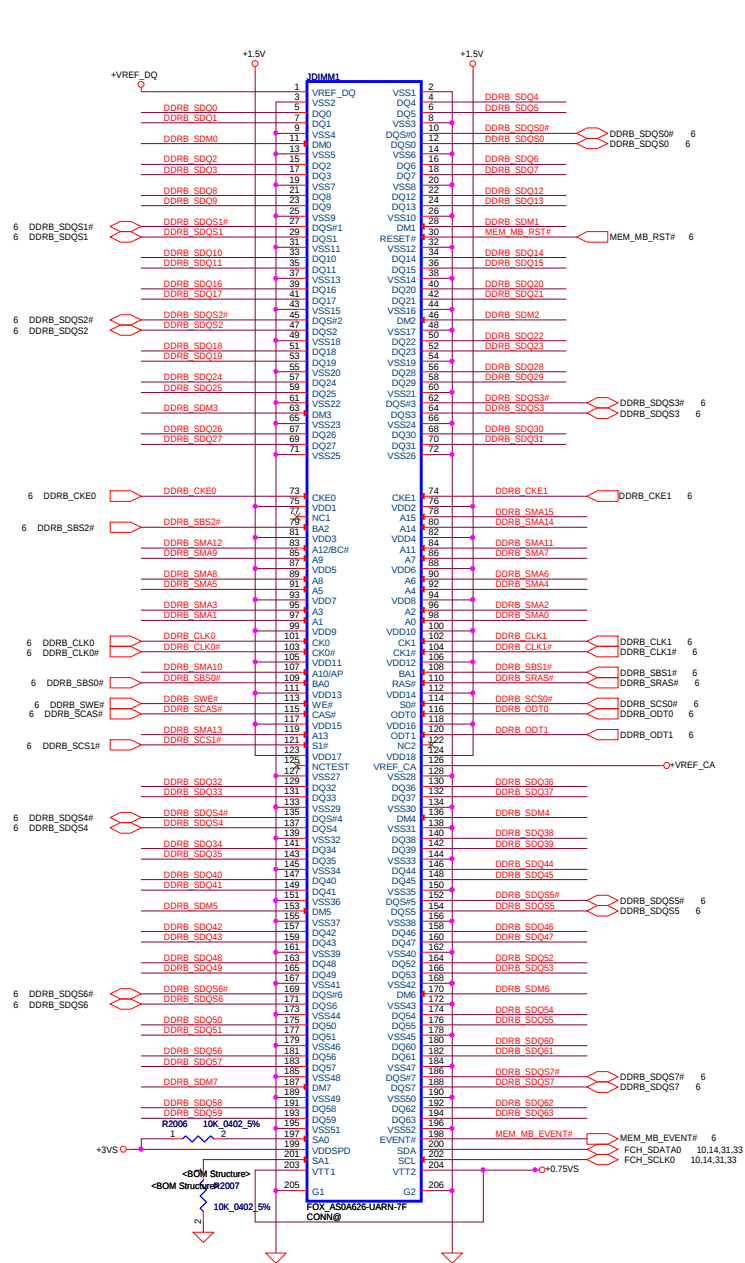
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Panel PWM



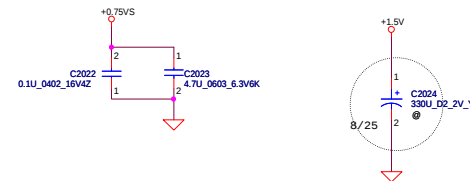
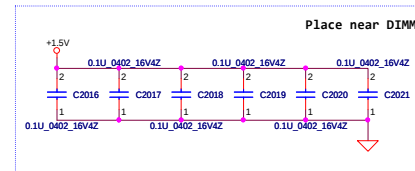
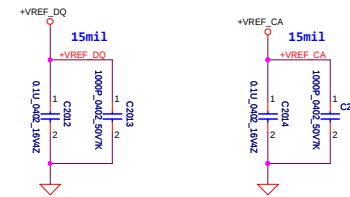
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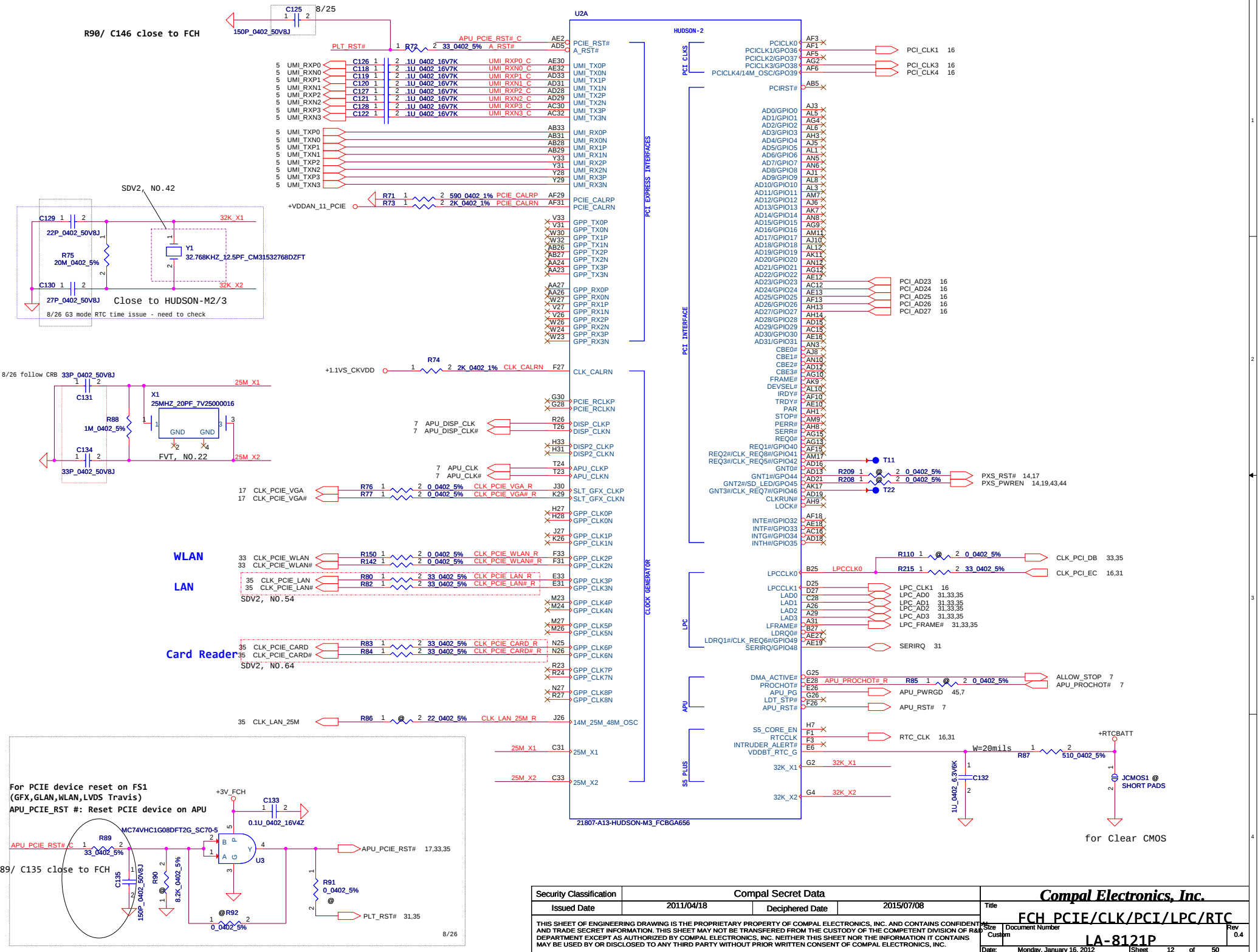


Reverse H:9.2mm

DDR8\_SDQ[0..63] 6  
DDR8\_SDM[0..7] 6  
DDR8\_SMA[0..15] 6

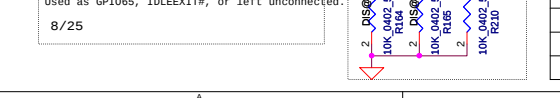
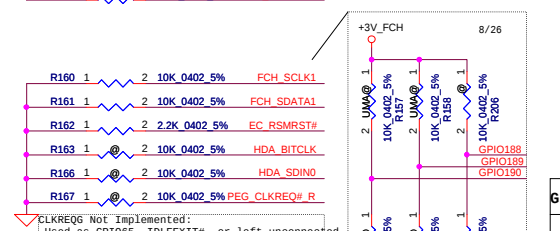
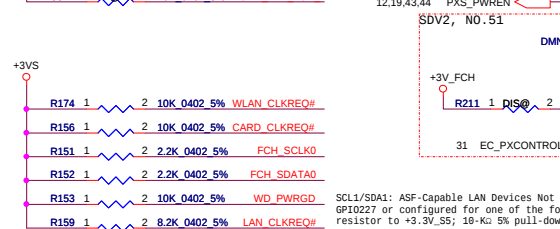
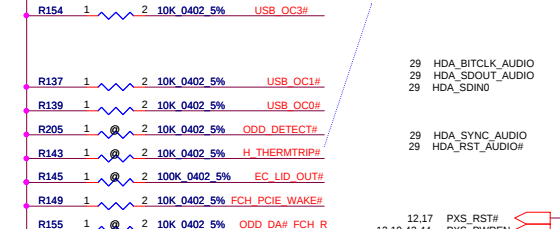
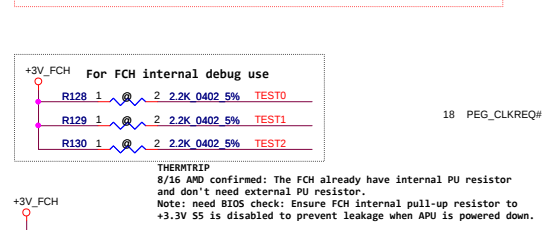
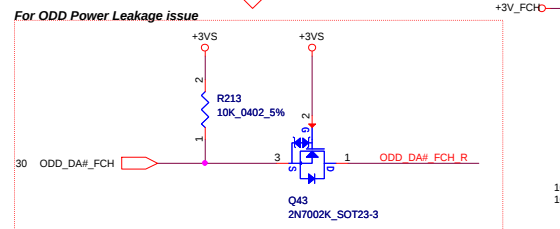
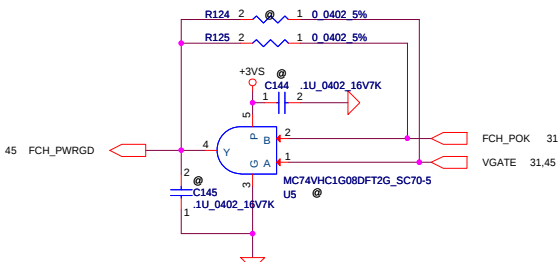


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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |                 |                          | Size C           | Document Number          | Rev 0.4  |       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |                 |                          | 1A-8121P         |                          |          |       |  |
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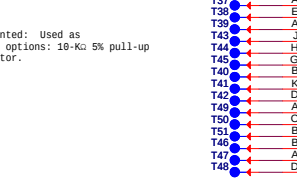
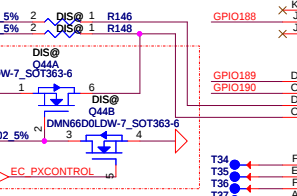
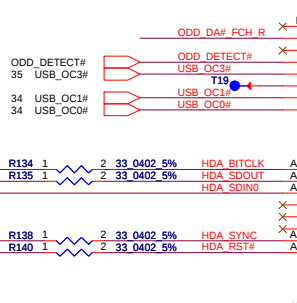
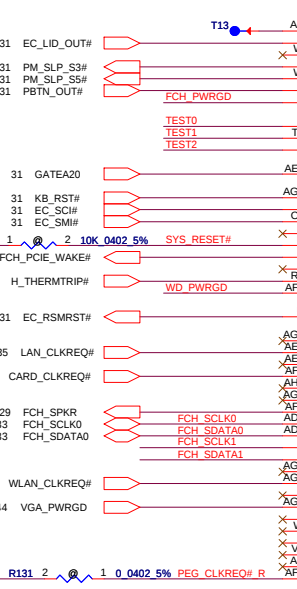


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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                          |            | Size                            | Document Number | Rev |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                          |            | Custom                          | LA-8121P        | 0.4 |
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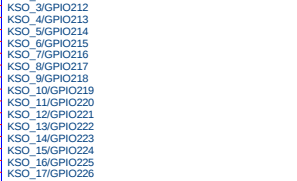
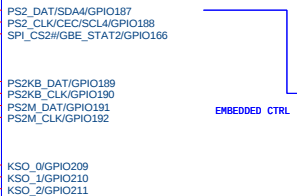
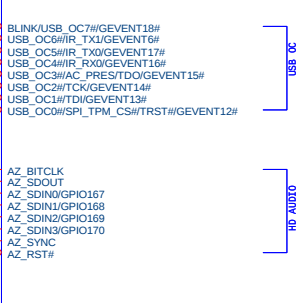
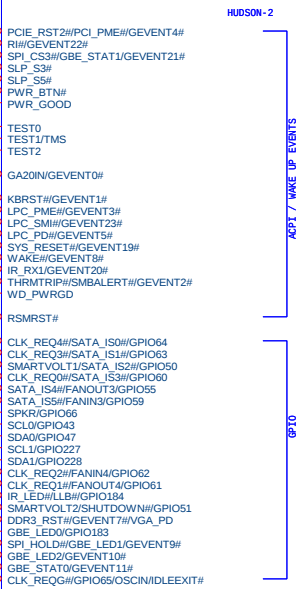


PCIE\_RST2 : Reset PCIE device on Hudson2/3



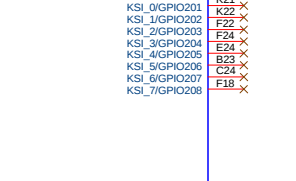
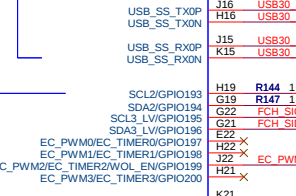
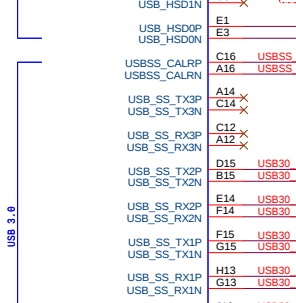
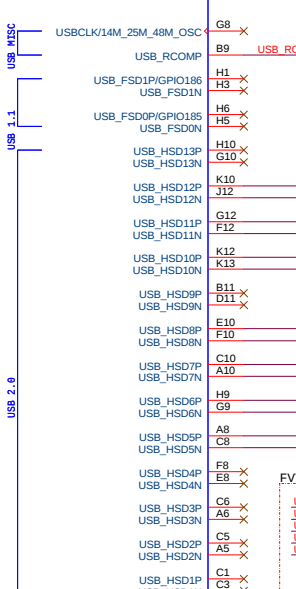
| GPI0188 | GPI0189 | GPI0190 | Function |
|---------|---------|---------|----------|
| 0       | 0       | 0       | PX       |
| 0       | 0       | 1       | Reserved |
| 0       | 1       | 0       | DISCRET  |
| 0       | 1       | 1       | UMA      |

U2D



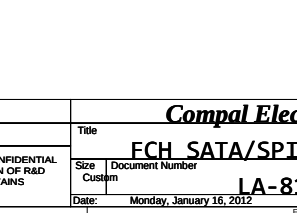
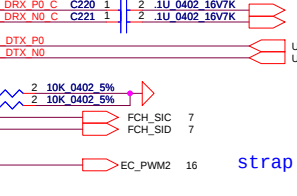
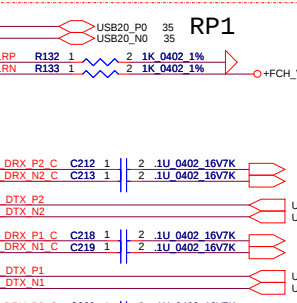
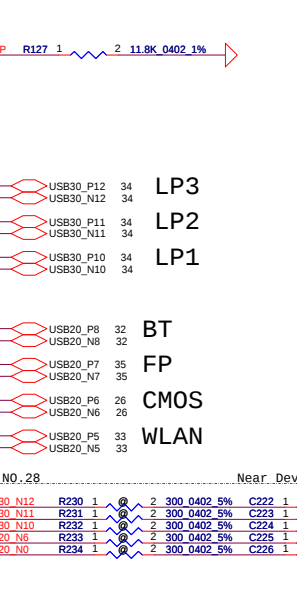
| GPI0188 | GPI0189 | GPI0190 | Function |
|---------|---------|---------|----------|
| 0       | 0       | 0       | PX       |
| 0       | 0       | 1       | Reserved |
| 0       | 1       | 0       | DISCRET  |
| 0       | 1       | 1       | UMA      |

HUDSON-2

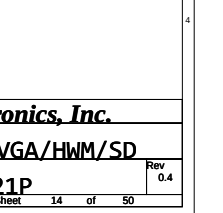
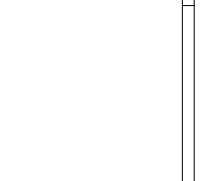
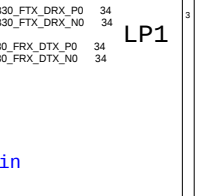
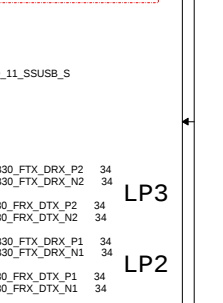
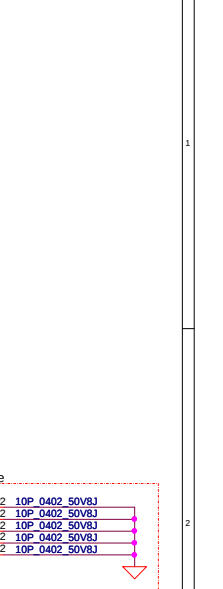


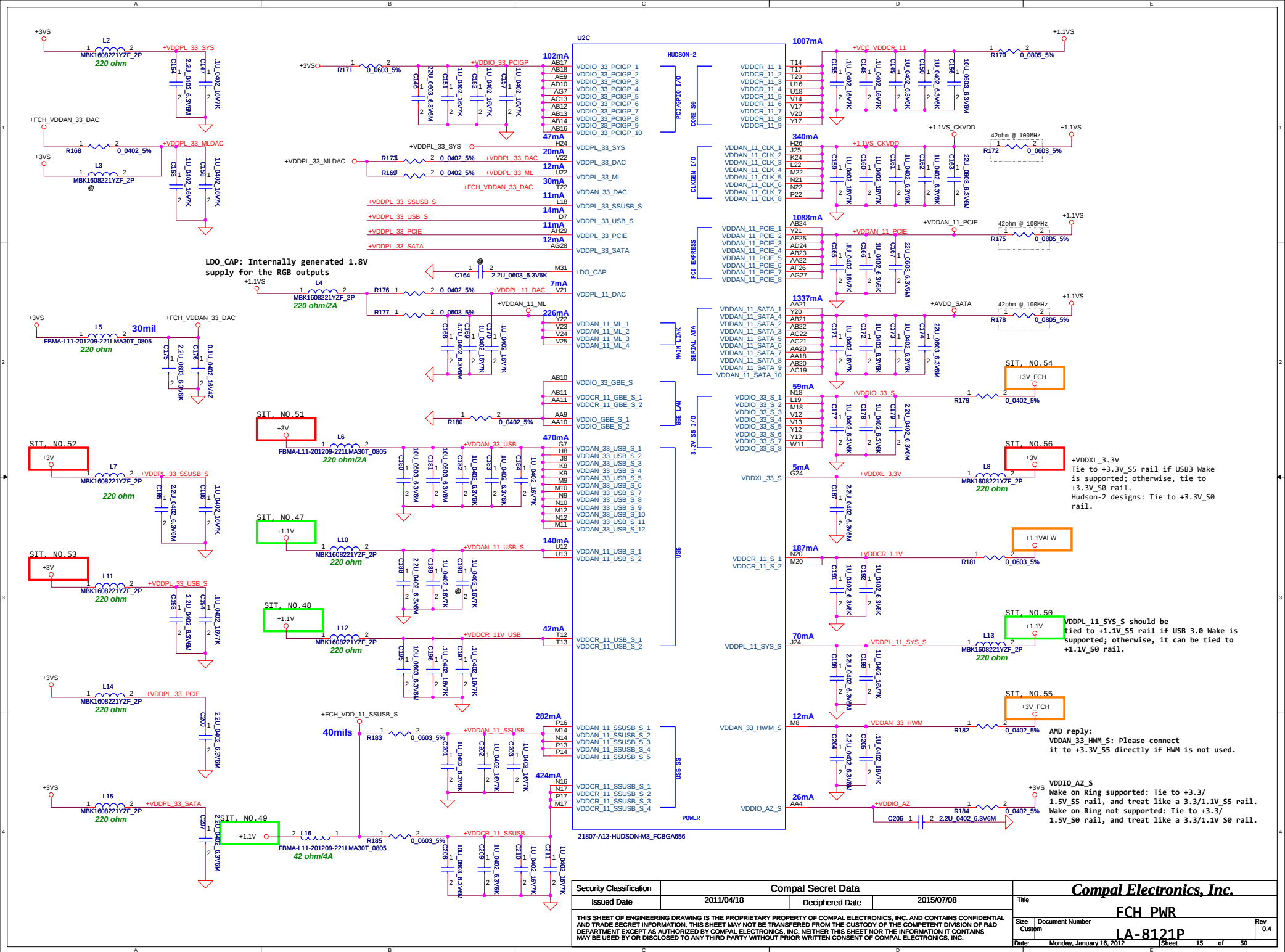
| GPI0188 | GPI0189 | GPI0190 | Function |
|---------|---------|---------|----------|
| 0       | 0       | 0       | PX       |
| 0       | 0       | 1       | Reserved |
| 0       | 1       | 0       | DISCRET  |
| 0       | 1       | 1       | UMA      |

LP3



CMOS





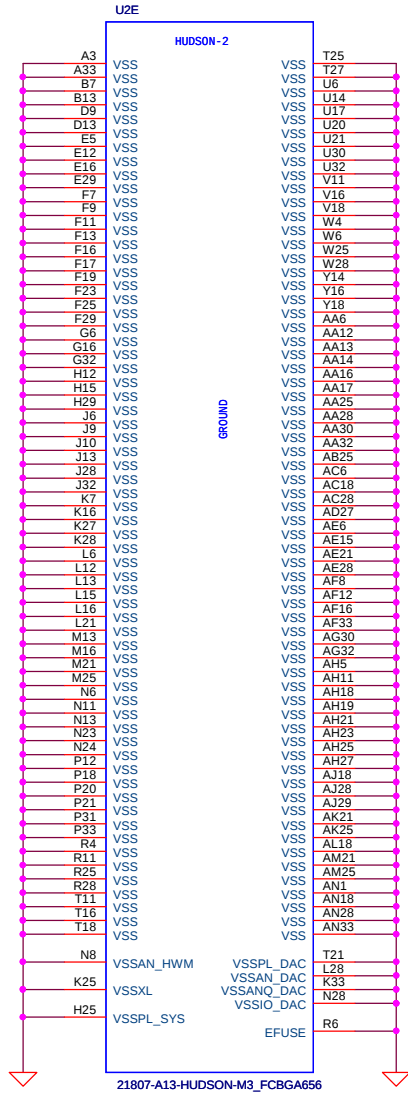
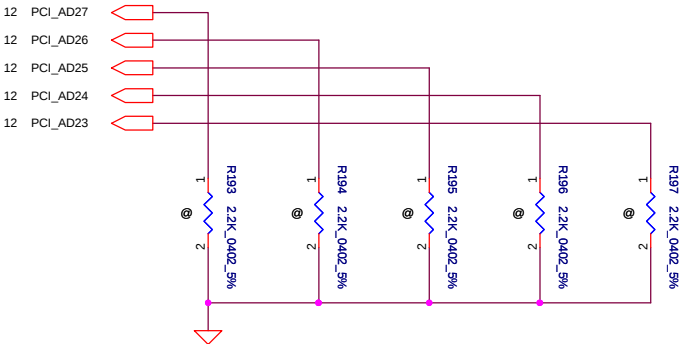
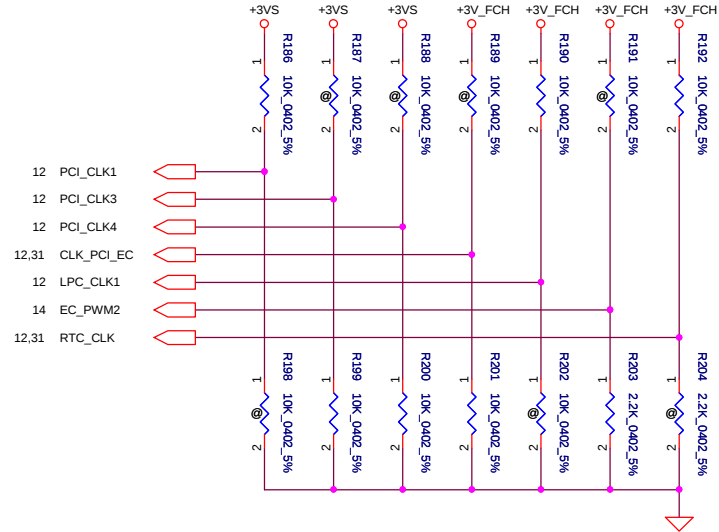
STRAP PINS

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

DEBUG STRAPS

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

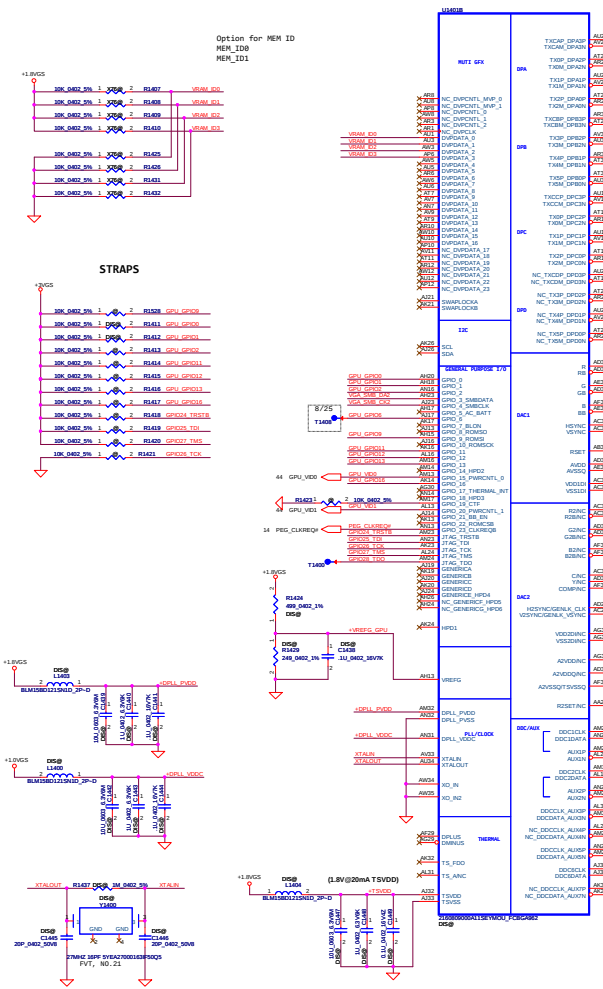
|           | PCI_AD27               | PCI_AD26                       | PCI_AD25              | PCI_AD24                           | PCI_AD23                        |
|-----------|------------------------|--------------------------------|-----------------------|------------------------------------|---------------------------------|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



|                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                 |            |                          |                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|--------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                | Compal Secret Data |                 |            | Compal Electronics, Inc. |                          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                            | 2011/04/18         | Deciphered Date | 2015/07/08 | Title                    | FCH-VSS/Strap            |
| THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. |                    |                 |            | Document Number          | LA-8121P                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                 |            | Date                     | Monday, January 16, 2012 |
|                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                 |            | Sheet                    | 16 of 50                 |

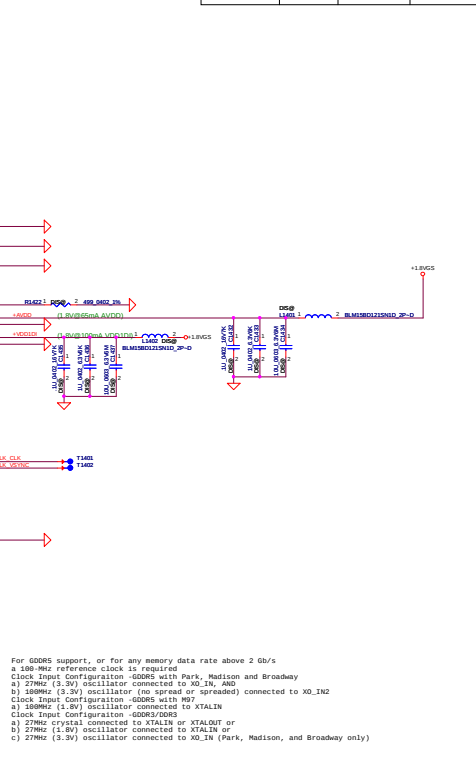


Option for MEM ID  
MEM\_ID0  
MEM\_ID1

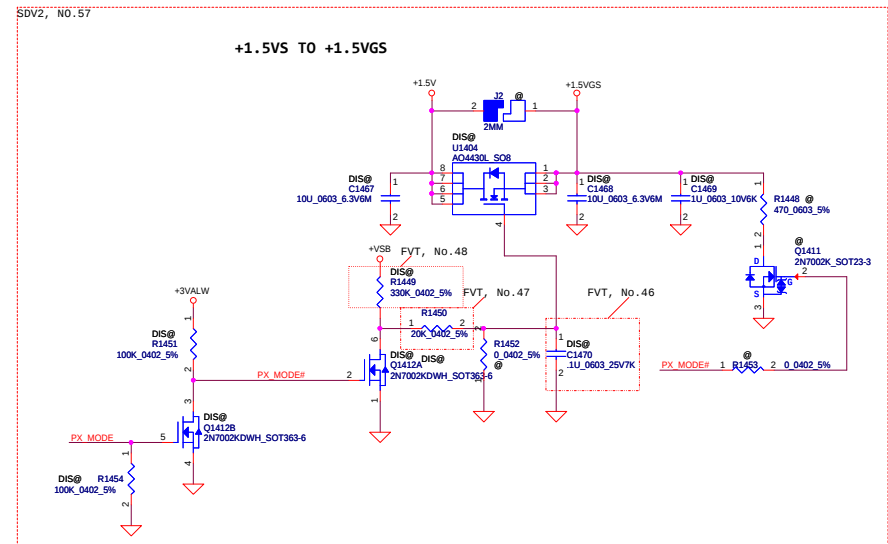
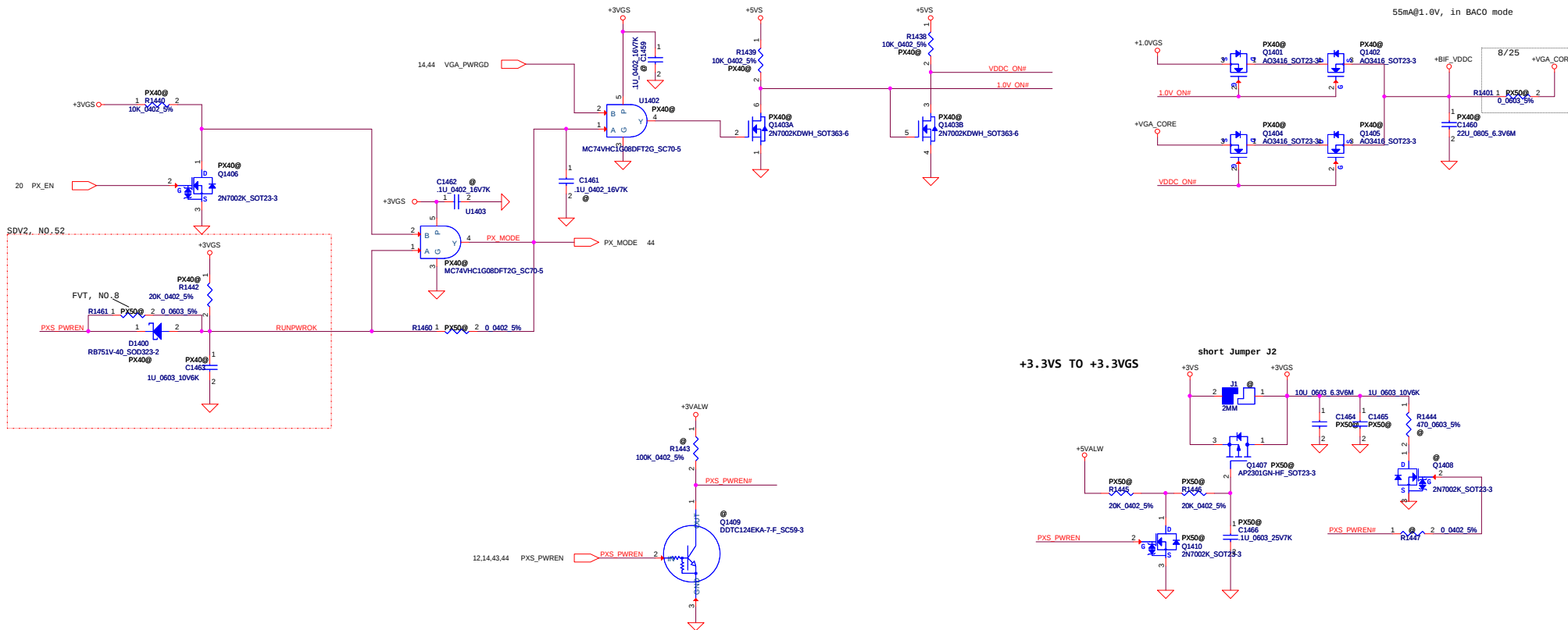


Seymour XT / Themes XT

| Vendor         | VRAM_ID0 | VRAM_ID1 | VRAM_ID2 |
|----------------|----------|----------|----------|
| HYUNDAI        | 0        | 1        | 0        |
| PN-SA00003Y000 |          |          |          |
| SAMSUNG        | 1        | 1        | 0        |
| PN-SA000047Q00 |          |          |          |



| CONFIGURATION STRAPS -- SEE EACH STRAP FOR STRAP DETAILS           |        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOs ARE USED |        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| THEY MUST NOT CONFLICT DURING RESET                                |        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| STRAPS                                                             | NA/PS  | PN          | DESCRIPTION OF DEFAULT SETTINGS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| NA/PS_DISABLE                                                      | NA     | GPIO_28_F0D | Enable NA/PS, NA for Themes/Abolition/Seymour<br>1: Enable NA/PS, enable GPIO F0D0F0F0<br>2: Enable NA/PS, enable GPIO F0D0F0F0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| TX_PWRST_EN                                                        | PS_D0E | GPIO0       | Transmitter Power Settings Enable<br>0: 100 Tx output swing<br>1: Fail to output swing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| TX_DISABLE_EN                                                      | PS_D0E | GPIO0       | TX Disable Enable<br>0: TX de-emphasis disabled<br>1: TX de-emphasis enabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| RF_GENCL_EN_A                                                      | PS_D0E | GPIO2       | RF GENCL Enable<br>0: RF GENCL enabled at power-on<br>1: RF GENCL disabled at power-on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| RF_VCA_DIS                                                         | PS_D0E | GPIO2       | VGA Control<br>0: VGA controller capacity enabled<br>1: VGA controller capacity disabled (for multi-GPU)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| ROMCFG0000                                                         | PS_D0E | GPIO13[13]  | Serial ROM type or memory aperture size select<br>0: GPIO13 = 0, memory aperture size<br>1: GPIO13 = 1, memory ROM type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | XXX               |
| ROMCFG0000                                                         | PS_D0E | GPIO13[13]  | 000 - 000000 ROM type (000)<br>001 - 00001 ROM type (001)<br>002 - 00010 ROM type (002)<br>003 - 00011 ROM type (003)<br>004 - 00100 ROM type (004)<br>005 - 00101 ROM type (005)<br>006 - 00110 ROM type (006)<br>007 - 00111 ROM type (007)<br>008 - 01000 ROM type (010)<br>009 - 01001 ROM type (011)<br>010 - 01010 ROM type (012)<br>011 - 01011 ROM type (013)<br>012 - 01100 ROM type (014)<br>013 - 01101 ROM type (015)<br>014 - 01110 ROM type (016)<br>015 - 01111 ROM type (017)<br>016 - 01200 ROM type (018)<br>017 - 01201 ROM type (019)<br>018 - 01210 ROM type (020)<br>019 - 01211 ROM type (021)<br>020 - 01300 ROM type (022)<br>021 - 01301 ROM type (023)<br>022 - 01310 ROM type (024)<br>023 - 01311 ROM type (025)<br>024 - 01400 ROM type (026)<br>025 - 01401 ROM type (027)<br>026 - 01410 ROM type (028)<br>027 - 01411 ROM type (029)<br>028 - 01500 ROM type (030)<br>029 - 01501 ROM type (031)<br>030 - 01510 ROM type (032)<br>031 - 01511 ROM type (033)<br>032 - 01600 ROM type (034)<br>033 - 01601 ROM type (035)<br>034 - 01610 ROM type (036)<br>035 - 01611 ROM type (037)<br>036 - 01700 ROM type (038)<br>037 - 01701 ROM type (039)<br>038 - 01710 ROM type (040)<br>039 - 01711 ROM type (041)<br>040 - 01800 ROM type (042)<br>041 - 01801 ROM type (043)<br>042 - 01810 ROM type (044)<br>043 - 01811 ROM type (045)<br>044 - 01900 ROM type (046)<br>045 - 01901 ROM type (047)<br>046 - 01910 ROM type (048)<br>047 - 01911 ROM type (049)<br>048 - 02000 ROM type (050)<br>049 - 02001 ROM type (051)<br>050 - 02010 ROM type (052)<br>051 - 02011 ROM type (053)<br>052 - 02100 ROM type (054)<br>053 - 02101 ROM type (055)<br>054 - 02110 ROM type (056)<br>055 - 02111 ROM type (057)<br>056 - 02200 ROM type (058)<br>057 - 02201 ROM type (059)<br>058 - 02210 ROM type (060)<br>059 - 02211 ROM type (061)<br>060 - 02300 ROM type (062)<br>061 - 02301 ROM type (063)<br>062 - 02310 ROM type (064)<br>063 - 02311 ROM type (065)<br>064 - 02400 ROM type (066)<br>065 - 02401 ROM type (067)<br>066 - 02410 ROM type (068)<br>067 - 02411 ROM type (069)<br>068 - 02500 ROM type (070)<br>069 - 02501 ROM type (071)<br>070 - 02510 ROM type (072)<br>071 - 02511 ROM type (073)<br>072 - 02600 ROM type (074)<br>073 - 02601 ROM type (075)<br>074 - 02610 ROM type (076)<br>075 - 02611 ROM type (077)<br>076 - 02700 ROM type (078)<br>077 - 02701 ROM type (079)<br>078 - 02710 ROM type (080)<br>079 - 02711 ROM type (081)<br>080 - 02800 ROM type (082)<br>081 - 02801 ROM type (083)<br>082 - 02810 ROM type (084)<br>083 - 02811 ROM type (085)<br>084 - 02900 ROM type (086)<br>085 - 02901 ROM type (087)<br>086 - 02910 ROM type (088)<br>087 - 02911 ROM type (089)<br>088 - 03000 ROM type (090)<br>089 - 03001 ROM type (091)<br>090 - 03010 ROM type (092)<br>091 - 03011 ROM type (093)<br>092 - 03100 ROM type (094)<br>093 - 03101 ROM type (095)<br>094 - 03110 ROM type (096)<br>095 - 03111 ROM type (097)<br>096 - 03200 ROM type (098)<br>097 - 03201 ROM type (099)<br>098 - 03210 ROM type (100)<br>099 - 03211 ROM type (101)<br>100 - 03300 ROM type (102)<br>101 - 03301 ROM type (103)<br>102 - 03310 ROM type (104)<br>103 - 03311 ROM type (105)<br>104 - 03400 ROM type (106)<br>105 - 03401 ROM type (107)<br>106 - 03410 ROM type (108)<br>107 - 03411 ROM type (109)<br>108 - 03500 ROM type (110)<br>109 - 03501 ROM type (111)<br>110 - 03510 ROM type (112)<br>111 - 03511 ROM type (113)<br>112 - 03600 ROM type (114)<br>113 - 03601 ROM type (115)<br>114 - 03610 ROM type (116)<br>115 - 03611 ROM type (117)<br>116 - 03700 ROM type (118)<br>117 - 03701 ROM type (119)<br>118 - 03710 ROM type (120)<br>119 - 03711 ROM type (121)<br>120 - 03800 ROM type (122)<br>121 - 03801 ROM type (123)<br>122 - 03810 ROM type (124)<br>123 - 03811 ROM type (125)<br>124 - 03900 ROM type (126)<br>125 - 03901 ROM type (127)<br>126 - 03910 ROM type (128)<br>127 - 03911 ROM type (129)<br>128 - 04000 ROM type (130)<br>129 - 04001 ROM type (131)<br>130 - 04010 ROM type (132)<br>131 - 04011 ROM type (133)<br>132 - 04100 ROM type (134)<br>133 - 04101 ROM type (135)<br>134 - 04110 ROM type (136)<br>135 - 04111 ROM type (137)<br>136 - 04200 ROM type (138)<br>137 - 04201 ROM type (139)<br>138 - 04210 ROM type (140)<br>139 - 04211 ROM type (141)<br>140 - 04300 ROM type (142)<br>141 - 04301 ROM type (143)<br>142 - 04310 ROM type (144)<br>143 - 04311 ROM type (145)<br>144 - 04400 ROM type (146)<br>145 - 04401 ROM type (147)<br>146 - 04410 ROM type (148)<br>147 - 04411 ROM type (149)<br>148 - 04500 ROM type (150)<br>149 - 04501 ROM type (151)<br>150 - 04510 ROM type (152)<br>151 - 04511 ROM type (153)<br>152 - 04600 ROM type (154)<br>153 - 04601 ROM type (155)<br>154 - 04610 ROM type (156)<br>155 - 04611 ROM type (157)<br>156 - 04700 ROM type (158)<br>157 - 04701 ROM type (159)<br>158 - 04710 ROM type (160)<br>159 - 04711 ROM type (161)<br>160 - 04800 ROM type (162)<br>161 - 04801 ROM type (163)<br>162 - 04810 ROM type (164)<br>163 - 04811 ROM type (165)<br>164 - 04900 ROM type (166)<br>165 - 04901 ROM type (167)<br>166 - 04910 ROM type (168)<br>167 - 04911 ROM type (169)<br>168 - 05000 ROM type (170)<br>169 - 05001 ROM type (171)<br>170 - 05010 ROM type (172)<br>171 - 05011 ROM type (173)<br>172 - 05100 ROM type (174)<br>173 - 05101 ROM type (175)<br>174 - 05110 ROM type (176)<br>175 - 05111 ROM type (177)<br>176 - 05200 ROM type (178)<br>177 - 05201 ROM type (179)<br>178 - 05210 ROM type (180)<br>179 - 05211 ROM type (181)<br>180 - 05300 ROM type (182)<br>181 - 05301 ROM type (183)<br>182 - 05310 ROM type (184)<br>183 - 05311 ROM type (185)<br>184 - 05400 ROM type (186)<br>185 - 05401 ROM type (187)<br>186 - 05410 ROM type (188)<br>187 - 05411 ROM type (189)<br>188 - 05500 ROM type (190)<br>189 - 05501 ROM type (191)<br>190 - 05510 ROM type (192)<br>191 - 05511 ROM type (193)<br>192 - 05600 ROM type (194)<br>193 - 05601 ROM type (195)<br>194 - 05610 ROM type (196)<br>195 - 05611 ROM type (197)<br>196 - 05700 ROM type (198)<br>197 - 05701 ROM type (199)<br>198 - 05710 ROM type (200)<br>199 - 05711 ROM type (201)<br>200 - 05800 ROM type (202)<br>201 - 05801 ROM type (203)<br>202 - 05810 ROM type (204)<br>203 - 05811 ROM type (205)<br>204 - 05900 ROM type (206)<br>205 - 05901 ROM type (207)<br>206 - 05910 ROM type (208)<br>207 - 05911 ROM type (209)<br>208 - 06000 ROM type (210)<br>209 - 06001 ROM type (211)<br>210 - 06010 ROM type (212)<br>211 - 06011 ROM type (213)<br>212 - 06100 ROM type (214)<br>213 - 06101 ROM type (215)<br>214 - 06110 ROM type (216)<br>215 - 06111 ROM type (217)<br>216 - 06200 ROM type (218)<br>217 - 06201 ROM type (219)<br>218 - 06210 ROM type (220)<br>219 - 06211 ROM type (221)<br>220 - 06300 ROM type (222)<br>221 - 06301 ROM type (223)<br>222 - 06310 ROM type (224)<br>223 - 06311 ROM type (225)<br>224 - 06400 ROM type (226)<br>225 - 06401 ROM type (227)<br>226 - 06410 ROM type (228)<br>227 - 06411 ROM type (229)<br>228 - 06500 ROM type (230)<br>229 - 06501 ROM type (231)<br>230 - 06510 ROM type (232)<br>231 - 06511 ROM type (233)<br>232 - 06600 ROM type (234)<br>233 - 06601 ROM type (235)<br>234 - 06610 ROM type (236)<br>235 - 06611 ROM type (237)<br>236 - 06700 ROM type (238)<br>237 - 06701 ROM type (239)<br>238 - 06710 ROM type (240)<br>239 - 06711 ROM type (241)<br>240 - 06800 ROM type (242)<br>241 - 06801 ROM type (243)<br>242 - 06810 ROM type (244)<br>243 - 06811 ROM type (245)<br>244 - 06900 ROM type (246)<br>245 - 06901 ROM type (247)<br>246 - 06910 ROM type (248)<br>247 - 06911 ROM type (249)<br>248 - 07000 ROM type (250)<br>249 - 07001 ROM type (251)<br>250 - 07010 ROM type (252)<br>251 - 07011 ROM type (253)<br>252 - 07100 ROM type (254)<br>253 - 07101 ROM type (255)<br>254 - 07110 ROM type (256)<br>255 - 07111 ROM type (257)<br>256 - 07200 ROM type (258)<br>257 - 07201 ROM type (259)<br>258 - 07210 ROM type (260)<br>259 - 07211 ROM type (261)<br>260 - 07300 ROM type (262)<br>261 - 07301 ROM type (263)<br>262 - 07310 ROM type (264)<br>263 - 07311 ROM type (265)<br>264 - 07400 ROM type (266)<br>265 - 07401 ROM type (267)<br>266 - 07410 ROM type (268)<br>267 - 07411 ROM type (269)<br>268 - 07500 ROM type (270)<br>269 - 07501 ROM type (271)<br>270 - 07510 ROM type (272)<br>271 - 07511 ROM type (273)<br>272 - 07600 ROM type (274)<br>273 - 07601 ROM type (275)<br>274 - 07610 ROM type (276)<br>275 - 07611 ROM type (277)<br>276 - 07700 ROM type (278)<br>277 - 07701 ROM type (279)<br>278 - 07710 ROM type (280)<br>279 - 07711 ROM type (281)<br>280 - 07800 ROM type (282)<br>281 - 07801 ROM type (283)<br>282 - 07810 ROM type (284)<br>283 - 07811 ROM type (285)<br>284 - 07900 ROM type (286)<br>285 - 07901 ROM type (287)<br>286 - 07910 ROM type (288)<br>287 - 07911 ROM type (289)<br>288 - 08000 ROM type (290)<br>289 - 08001 ROM type (291)<br>290 - 08010 ROM type (292)<br>291 - 08011 ROM type (293)<br>292 - 08100 ROM type (294)<br>293 - 08101 ROM type (295)<br>294 - 08110 ROM type (296)<br>295 - 08111 ROM type (297)<br>296 - 08200 ROM type (298)<br>297 - 08201 ROM type (299)<br>298 - 08210 ROM type (300)<br>299 - 08211 ROM type (301)<br>300 - 08300 ROM type (302)<br>301 - 08301 ROM type (303)<br>302 - 08310 ROM type (304)<br>303 - 08311 ROM type (305)<br>304 - 08400 ROM type (306)<br>305 - 08401 ROM type (307)<br>306 - 08410 ROM type (308)<br>307 - 08411 ROM type (309)<br>308 - 08500 ROM type (310)<br>309 - 08501 ROM type (311)<br>310 - 08510 ROM type (312)<br>311 - 08511 ROM type (313)<br>312 - 08600 ROM type (314)<br>313 - 08601 ROM type (315)<br>314 - 08610 ROM type (316)<br>315 - 08611 ROM type (317)<br>316 - 08700 ROM type (318)<br>317 - 08701 ROM type (319)<br>318 - 08710 ROM type (320)<br>319 - 08711 ROM type (321)<br>320 - 08800 ROM type (322)<br>321 - 08801 ROM type (323)<br>322 - 08810 ROM type (324)<br>323 - 08811 ROM type (325)<br>324 - 08900 ROM type (326)<br>325 - 08901 ROM type (327)<br>326 - 08910 ROM type (328)<br>327 - 08911 ROM type (329)<br>328 - 09000 ROM type (330)<br>329 - 09001 ROM type (331)<br>330 - 09010 ROM type (332)<br>331 - 09011 ROM type (333)<br>332 - 09100 ROM type (334)<br>333 - 09101 ROM type (335)<br>334 - 09110 ROM type (336)<br>335 - 09111 ROM type (337)<br>336 - 09200 ROM type (338)<br>337 - 09201 ROM type (339)<br>338 - 09210 ROM type (340)<br>339 - 09211 ROM type (341)<br>340 - 09300 ROM type (342)<br>341 - 09301 ROM type (343)<br>342 - 09310 ROM type (344)<br>343 - 09311 ROM type (345)<br>344 - 09400 ROM type (346)<br>345 - 09401 ROM type (347)<br>346 - 09410 ROM type (348)<br>347 - 09411 ROM type (349)<br>348 - 09500 ROM type (350)<br>349 - 09501 ROM type (351)<br>350 - 09510 ROM type (352)<br>351 - 09511 ROM type (353)<br>352 - 09600 ROM type (354)<br>353 - 09601 ROM type (355)<br>354 - 09610 ROM type (356)<br>355 - 09611 ROM type (357)<br>356 - 09700 ROM type (358)<br>357 - 09701 ROM type (359)<br>358 - 09710 ROM type (360)<br>359 - 09711 ROM type (361)<br>360 - 09800 ROM type (362)<br>361 - 09801 ROM type (363)<br>362 - 09810 ROM type (364)<br>363 - 09811 ROM type (365)<br>364 - 09900 ROM type (366)<br>365 - 09901 ROM type (367)<br>366 - 09910 ROM type (368)<br>367 - 09911 ROM type (369)<br>368 - 10000 ROM type (370)<br>369 - 10001 ROM type (371)<br>370 - 10010 ROM type (372)<br>371 - 10011 ROM type (373)<br>372 - 10100 ROM type (374)<br>373 - 10101 ROM type (375)<br>374 - 10110 ROM type (376)<br>375 - 10111 ROM type (377)<br>376 - 10200 ROM type (378)<br>377 - 10201 ROM type (379)<br>378 - 10210 ROM type (380)<br>379 - 10211 ROM type (381)<br>380 - 10300 ROM type (382)<br>381 - 10301 ROM type (383)<br>382 - 10310 ROM type (384)<br>383 - 10311 ROM type (385)<br>384 - 10400 ROM type (386)<br>385 - 10401 ROM type (387)<br>386 - 10410 ROM type (388)<br>387 - 10411 ROM type (389)<br>388 - 10500 ROM type (390)<br>389 - 10501 ROM type (391)<br>390 - 10510 ROM type (392)<br>391 - 10511 ROM type (393)<br>392 - 10600 ROM type (394)<br>393 - 10601 ROM type (395)<br>394 - 10610 ROM type (396)<br>395 - 10611 ROM type (397)<br>396 - 10700 ROM type (398)<br>397 - 10701 ROM type (399)<br>398 - 10710 ROM type (400)<br>399 - 10711 ROM type (401)<br>400 - 10800 ROM type (402)<br>401 - 10801 ROM type (403)<br>402 - 10810 ROM type (404)<br>403 - 10811 ROM type (405)<br>404 - 10900 ROM type (406)<br>405 - 10901 ROM type (407)<br>406 - 10910 ROM type (408)<br>407 - 10911 ROM type (409)<br>408 - 11000 ROM type (410)<br>409 - 11001 ROM type (411)<br>410 - 11010 ROM type (412)<br>411 - 11011 ROM type (413)<br>412 - 11100 ROM type (414)<br>413 - 11101 ROM type (415)<br>414 - 11110 ROM type (416)<br>415 - 11111 ROM type (417)<br>416 - 11200 ROM type (418)<br>417 - 11201 ROM type (419)<br>418 - 11210 ROM type (420)<br>419 - 11211 ROM type (421)<br>420 - 11300 ROM type (422)<br>421 - 11301 ROM type (423)<br>422 - 11310 ROM type (424)<br>423 - 11311 ROM type (425)<br>424 - 11400 ROM type (426)<br>425 - 11401 ROM type (427)<br>426 - 11410 ROM type (428)<br>427 - 11411 ROM type (429)<br>428 - 11500 ROM type (430)<br>429 - 11501 ROM type (431)<br>430 - 11510 ROM type (432)<br>431 - 11511 ROM type (433)<br>432 - 11600 ROM type (434)<br>433 - 11601 ROM type (435)<br>434 - 11610 ROM type (436)<br>435 - 11611 ROM type (437)<br>436 - 11700 ROM type (438)<br>437 - 11701 ROM type (439)<br>438 - 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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          |                 | Compal Secret Data |     | Title                                                                              |
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| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/04/18               | Deciphered Date | 2015/07/08         |     |                                                                                    |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C                        | Document Number | 1A-8121P           | Rev | 0.4                                                                                |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Monday, January 16, 2012 | Sheet           | 19                 | of  | 50                                                                                 |



| VDDR1 | CRB | Design |
|-------|-----|--------|
| 0.1u  | 11  | 6      |
| 1u    | 10  | 5      |
| 10u   | 6   | 5      |

| VDD_CT | CRB | Design |
|--------|-----|--------|
| 0.1u   | 1   | 1      |
| 1u     | 3   | 3      |
| 10u    | 1   | 1      |

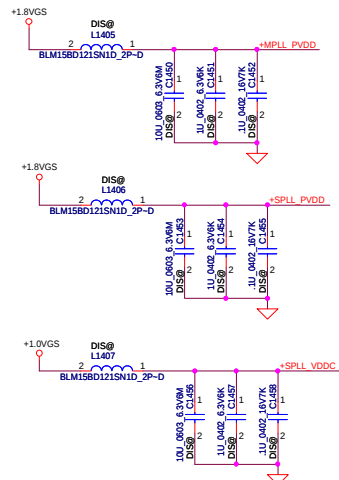
| VDDR3 | CRB | Design |
|-------|-----|--------|
| 1u    | 3   | 3      |
| 10u   | 1   | 1      |

| VDDR4 | CRB | Design |
|-------|-----|--------|
| 0.1u  | 2   | 1      |
| 1u    | 2   | 1      |
| 10u   | 2   | 0      |

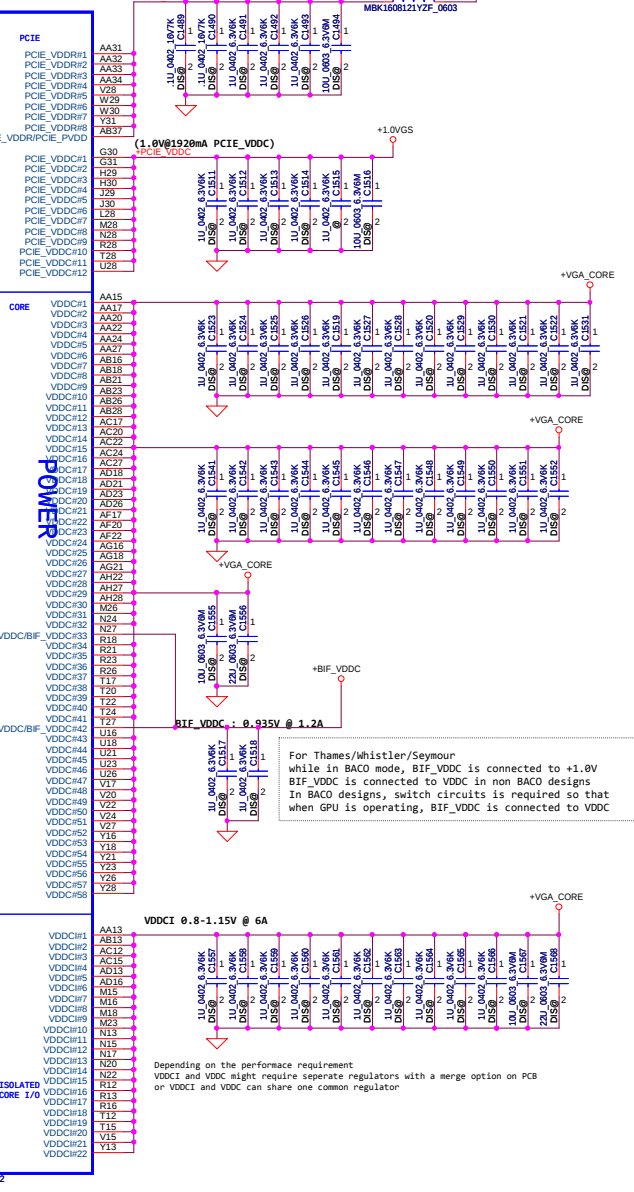
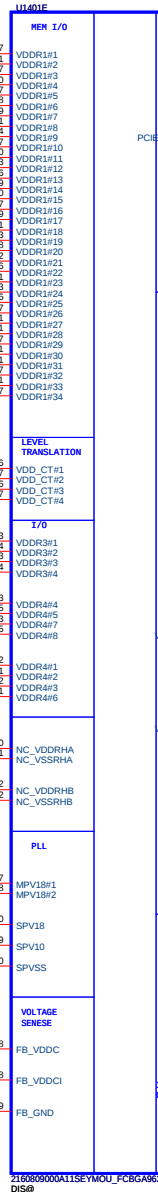
| MPV18 | CRB | Design |
|-------|-----|--------|
| 0.1u  | 2   | 1      |
| 1u    | 2   | 1      |
| 10u   | 1   | 1      |

| SPV18 | CRB | Design |
|-------|-----|--------|
| 0.1u  | 1   | 1      |
| 1u    | 1   | 1      |
| 10u   | 1   | 1      |

| SPV10 | CRB | Design |
|-------|-----|--------|
| 0.1u  | 1   | 1      |
| 1u    | 1   | 1      |
| 10u   | 1   | 1      |



For DDR3/GDDR5, MVDDQ = 1.5V



| PCIE_VDDR | CRB    | Design |
|-----------|--------|--------|
| 0.01u     | 1      | 0      |
| 0.1u      | 1      | 2      |
| 1u        | 3 (20) | 3      |
| 10u       | 1      | 1      |

| PCIE_VDDC | CRB | Design |
|-----------|-----|--------|
| 0.1u      | 3   | 0      |
| 1u        | 10  | 5 (10) |
| 10u       | 2   | 1      |

| +BIF_VDDC | CRB | Design |
|-----------|-----|--------|
| 1u        | 2   | 2      |
| 10u       | 1   | 0      |

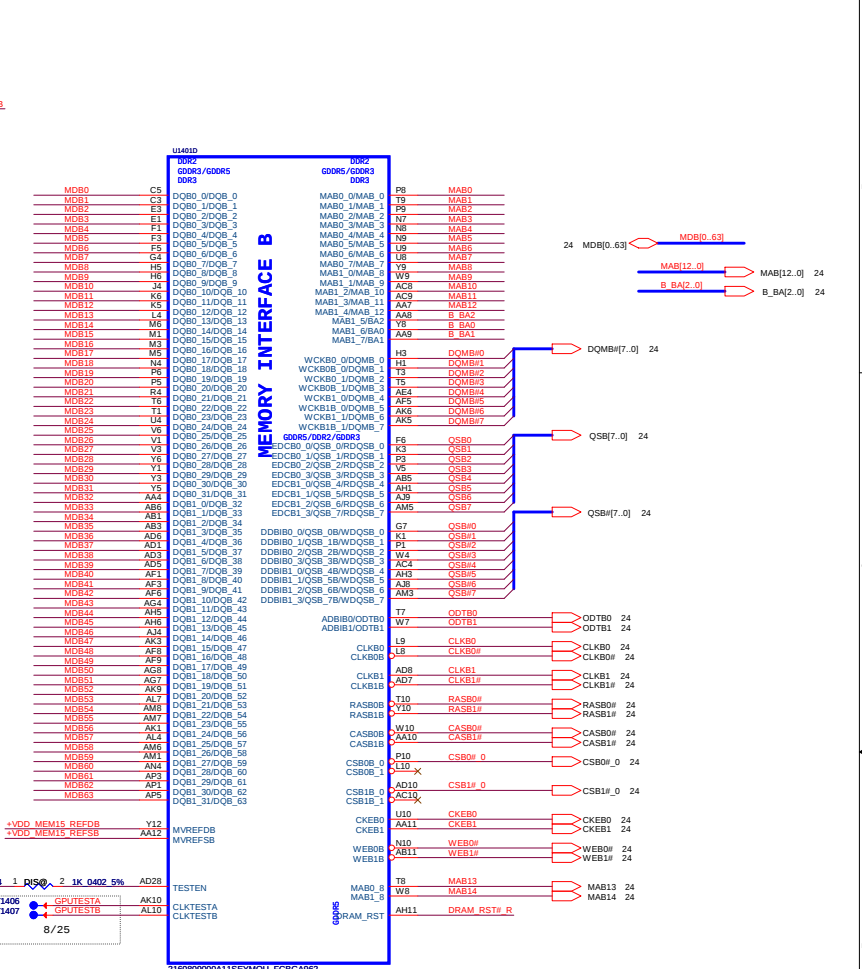
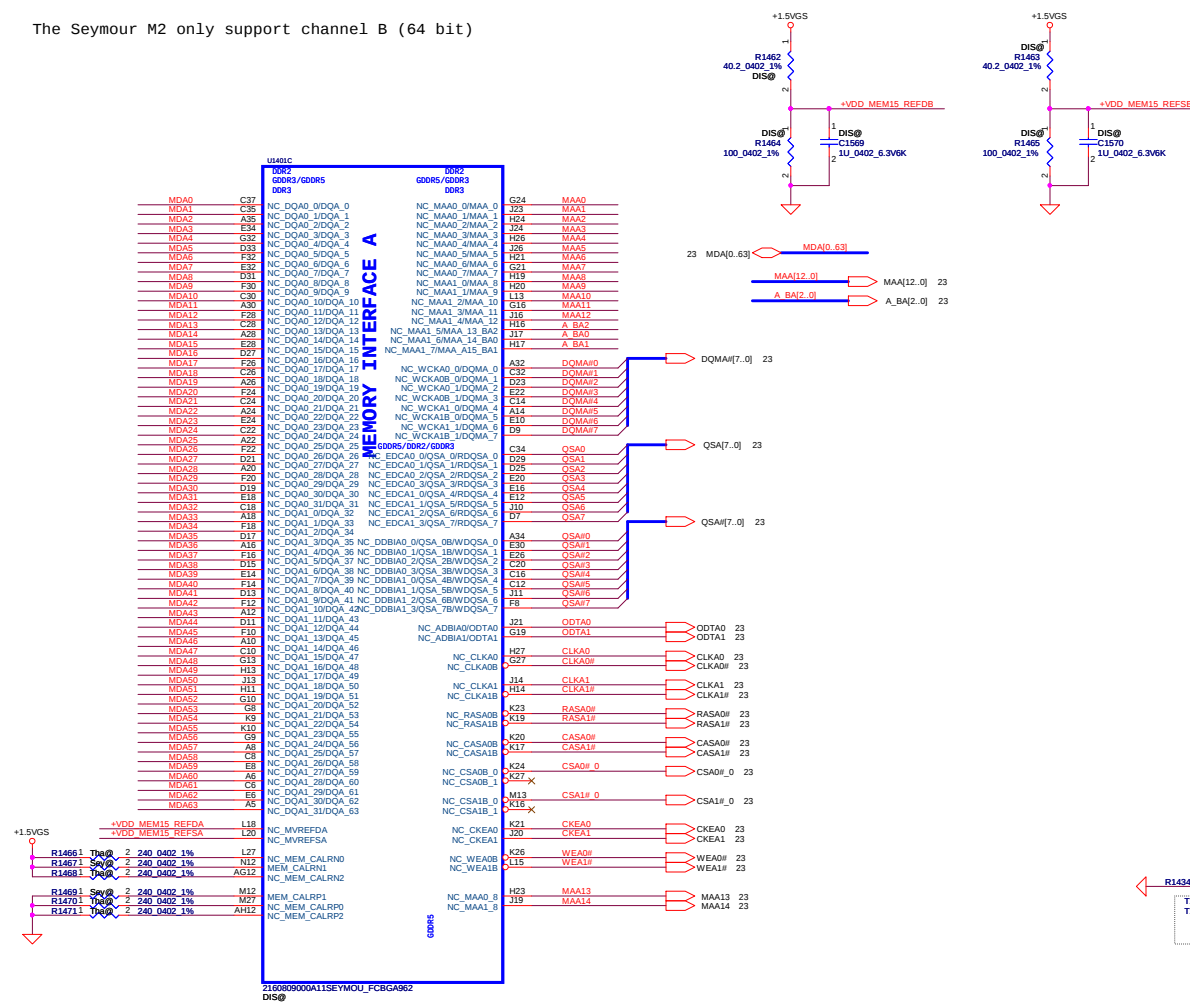
| VDDC | CRB | Design |
|------|-----|--------|
| 1u   | 30  | 25     |
| 10u  | 9   | 1      |
| 22u  | 0   | 1      |

| VDDCI | CRB | Design |
|-------|-----|--------|
| 1u    | 10  | 9      |
| 10u   | 3   | 2      |
| 22u   | 0   | 1      |

For Thames/Whistler/Seymour while in BACO mode, BIF\_VDDC is connected to +1.8V BIF\_VDDC is connected to VDDC in non BACO designs. In BACO designs, switch circuits is required so that when GPU is operating, BIF\_VDDC is connected to VDDC

Depending on the performance requirement VDDCI and VDDC might require separate regulators with a merge option on PCB or VDDCI and VDDC can share one common regulator

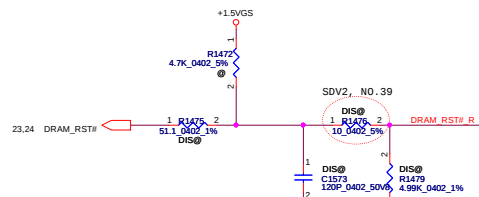
The Seymour M2 only support channel B (64 bit)



| Themes XT | Seymour XT |
|-----------|------------|
| R1466     | POP        |
| R1467     | POP        |
| R1468     | POP        |
| R1469     | POP        |
| R1470     | POP        |
| R1471     | POP        |

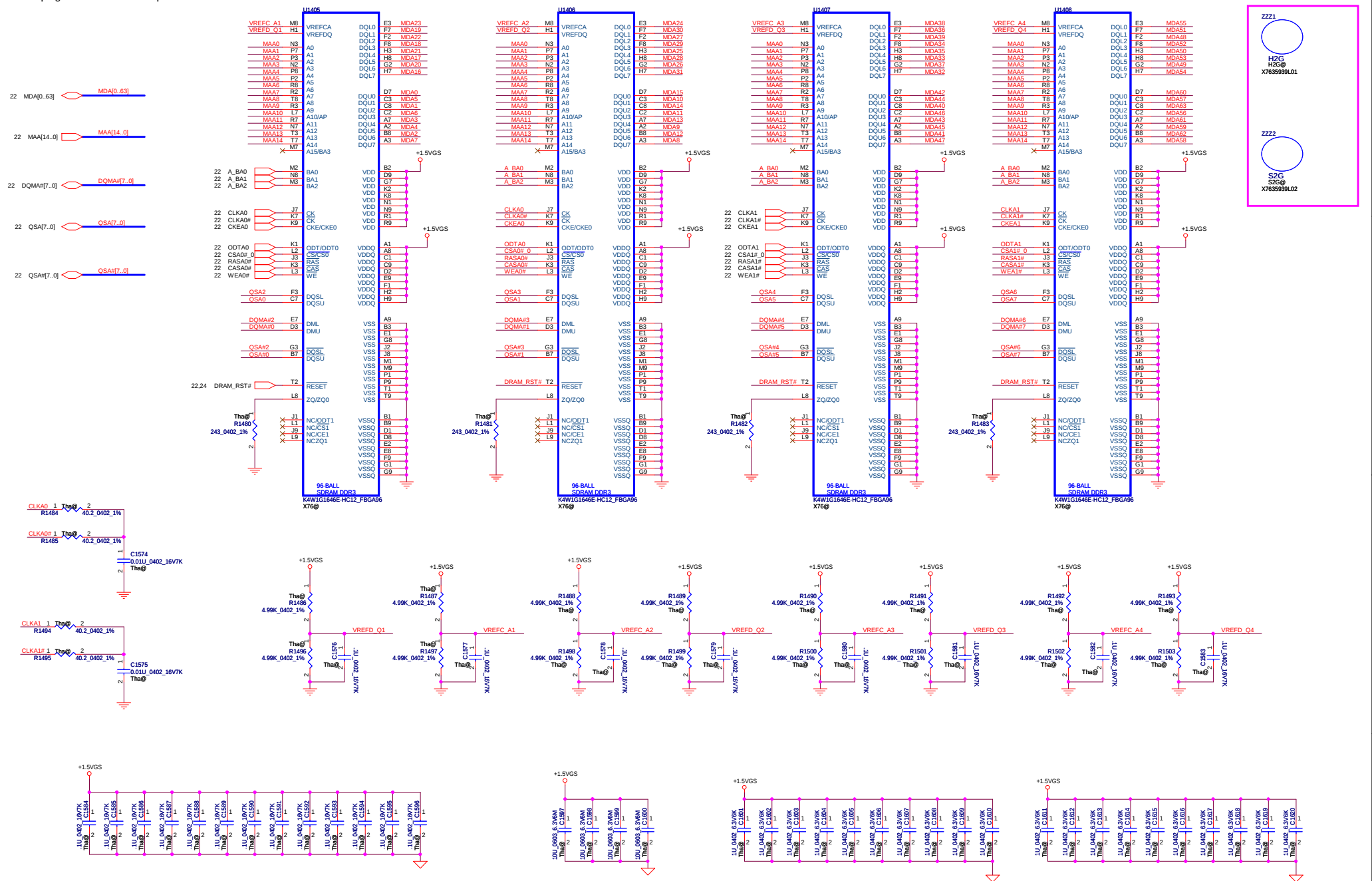
Place all these components very close to GPU (within 25mm) and keep all components close to each other  
 \*\* This basic topology should be used for DRAM\_RAT for DRD3/GDRS

These Capacitors and Resistor values are an example only  
 The series R and || cap values will depend on the DRAM loads and will have to be calculated for different Memory, DRAM loads and board to pass Reset Signal Spec



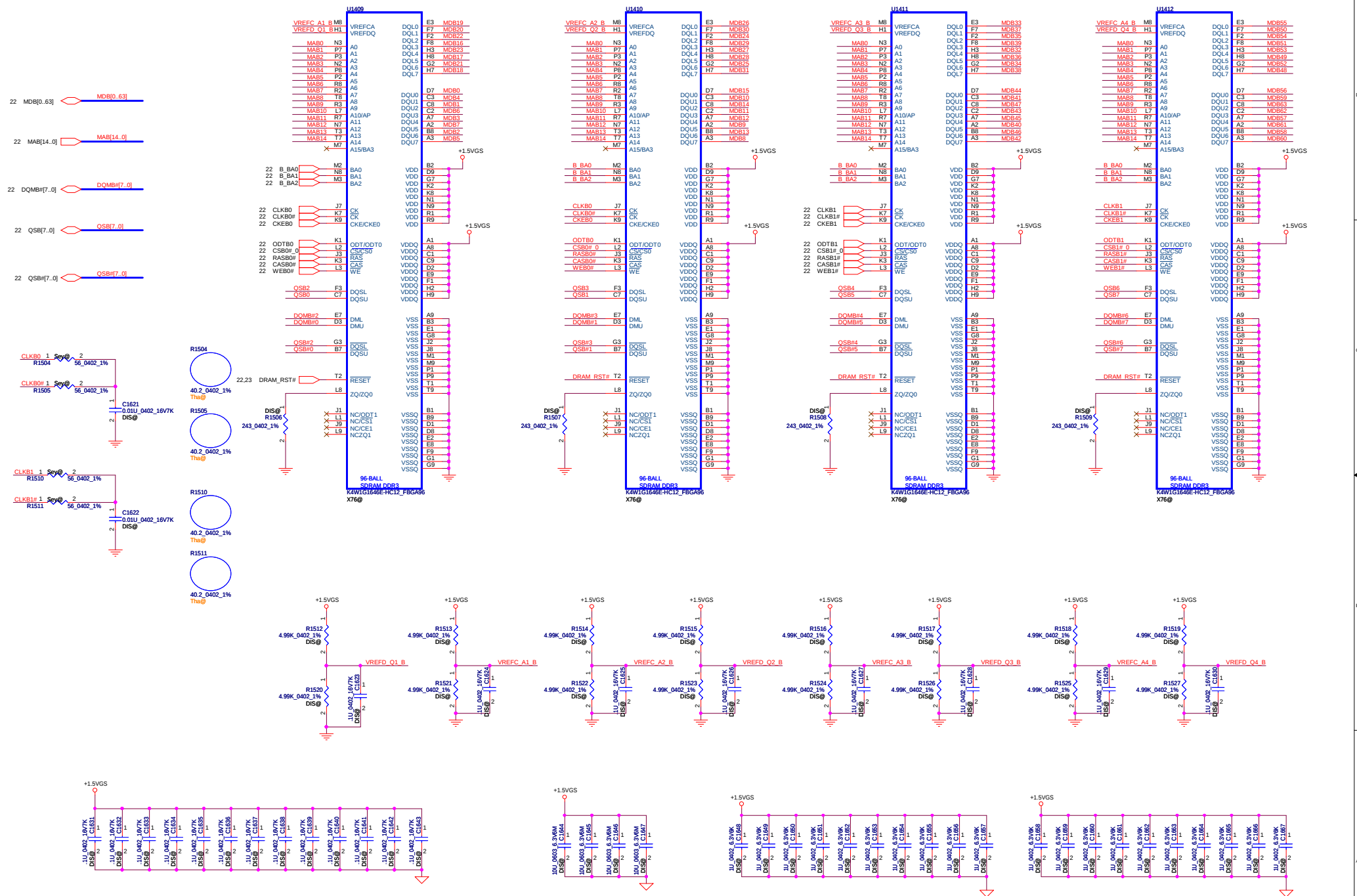
| Security Classification                                                                                                                                                                                                                                                                                            | Compal Secret Data | Document Number | Rev        |
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| Issued Date                                                                                                                                                                                                                                                                                                        | 2011/04/18         | Deciphered Date | 2015/07/08 |
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| Date: Monday, January 16, 2012                                                                                                                                                                                                                                                                                     |                    | Sheet           | 22 of 50   |

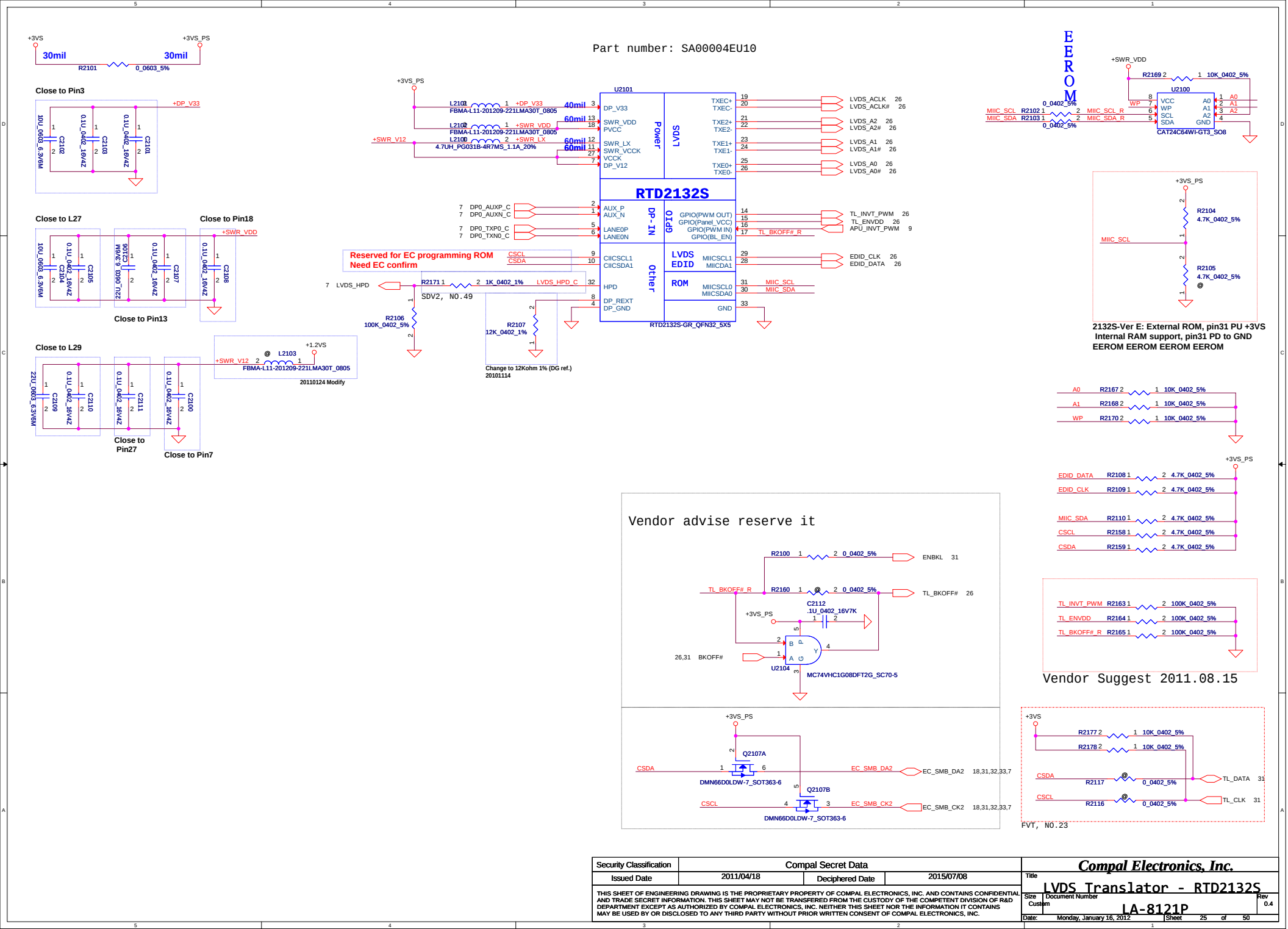
The Seymour M2 only support channel B (64 bit),  
this page unmount all parts



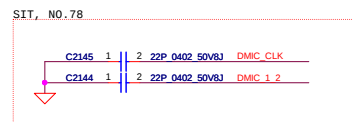
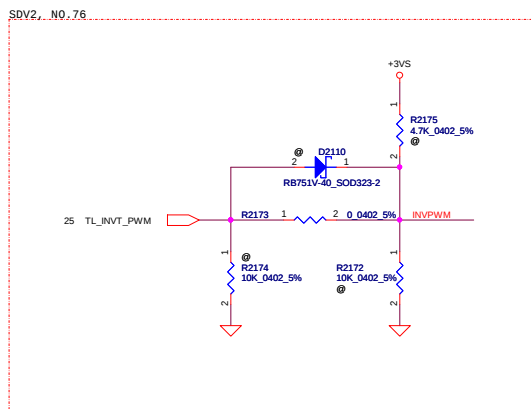
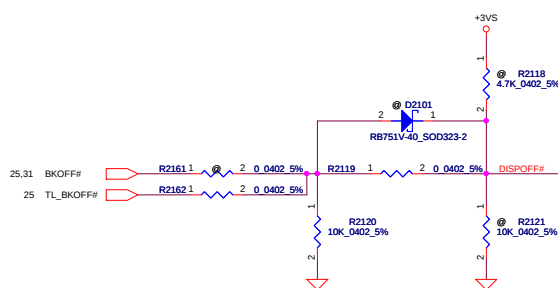
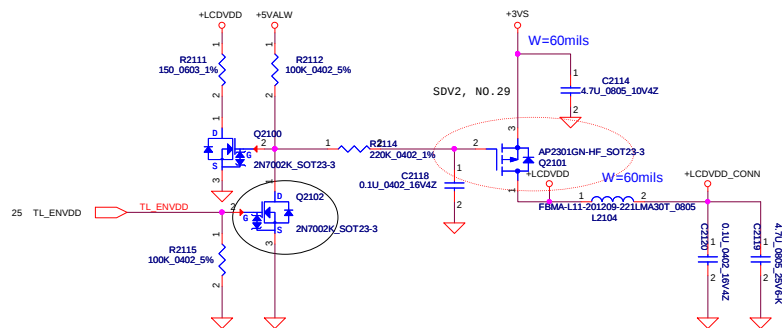
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                                     |                                    |          |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | <div>Compal Electronics, Inc.</div> |                                    |          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/04/18         | Deciphered Date | 2015/07/08 | Title                               | <div>ATI Themes XT_M2_VRAM_A</div> |          |
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| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                 |            | Monday, January 16, 2012            | Sheet                              | 23 of 50 |

The Seymour M2 only support channel B (64 bit)

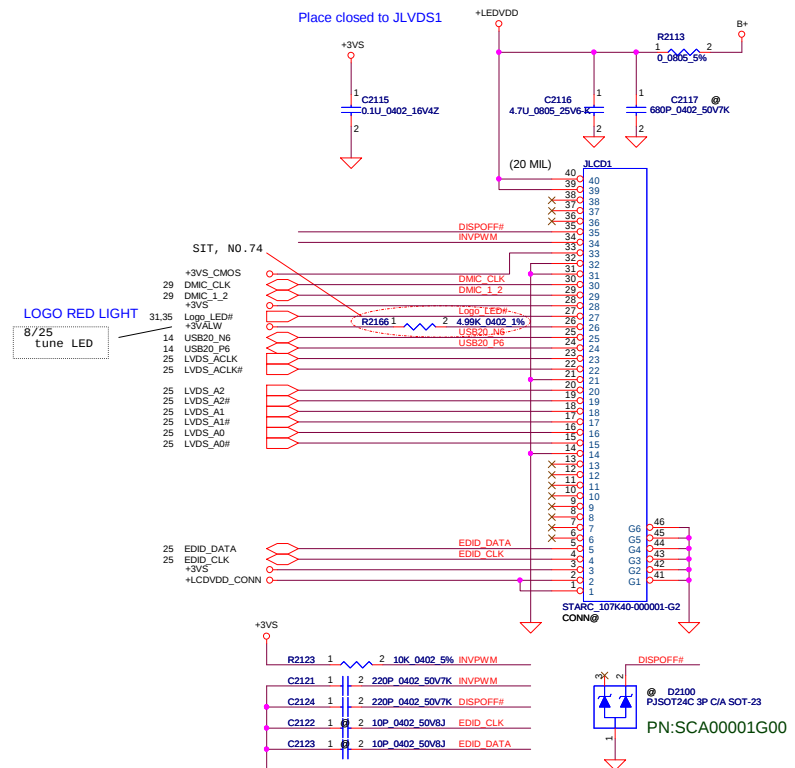




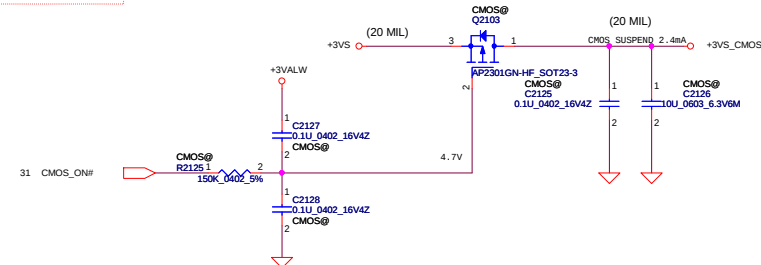
# LCD POWER CIRCUIT



# LCD/LED PANEL Conn.



# CMOS Camera Conn



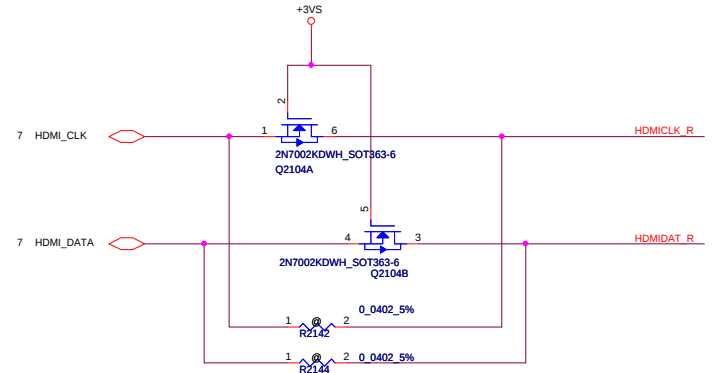
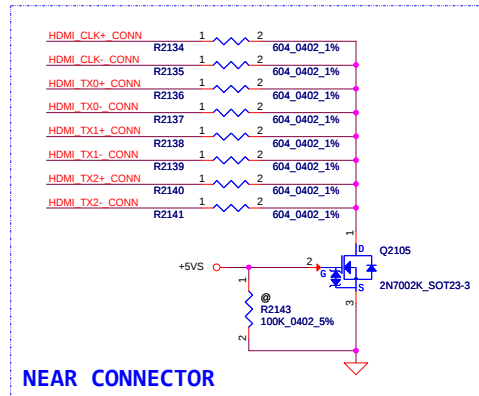
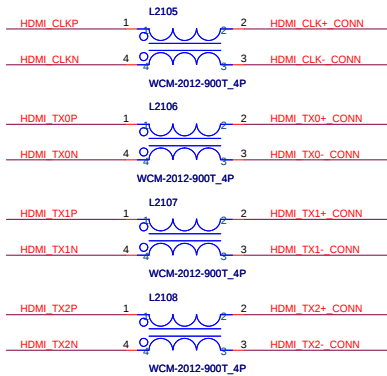
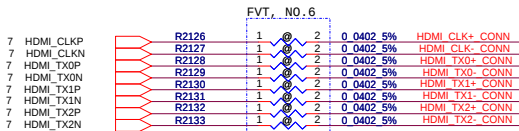
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Title           |     |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/04/18         | Deciphered Date | 2015/07/08 | LA-8121P        |     |
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| Date: Monday, January 16, 2012                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                 |            | Sheet           | 0.4 |

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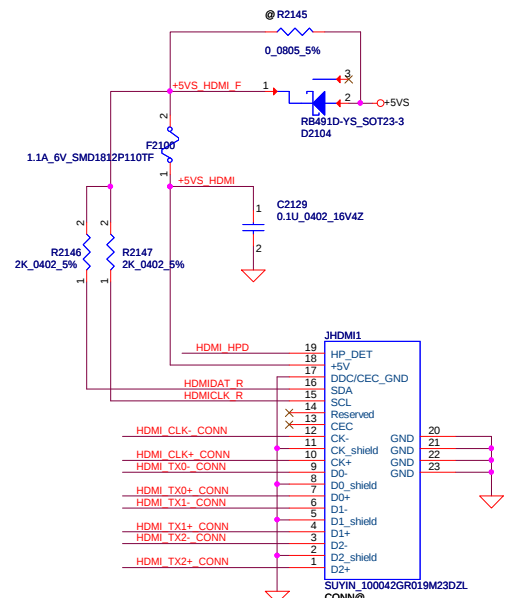
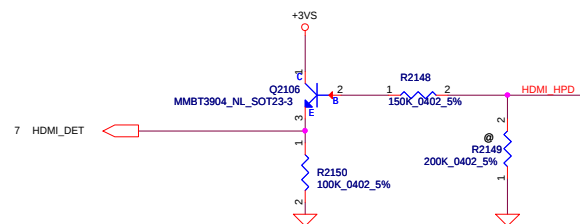
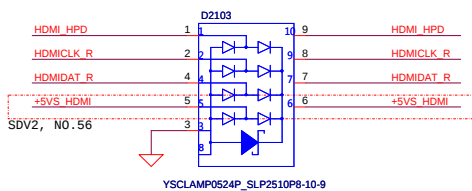
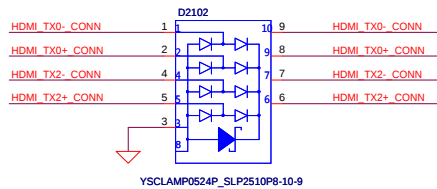
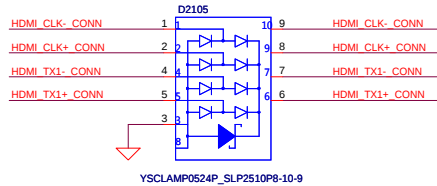
LVDS\_CONN/CAMERA

LA-8121P

Rev 0.4



## ESD Request 2011.08.13

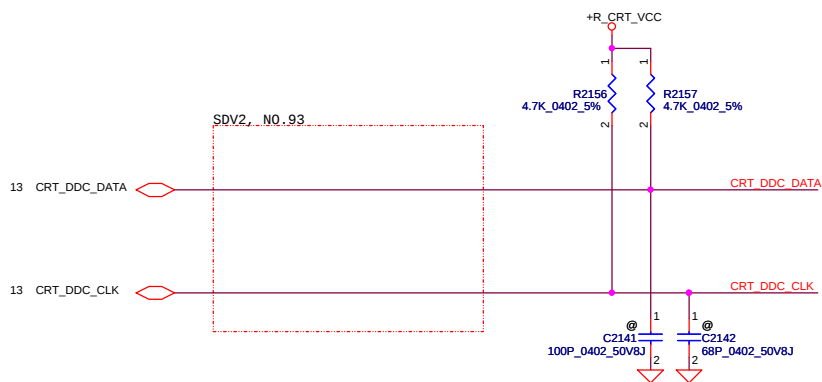
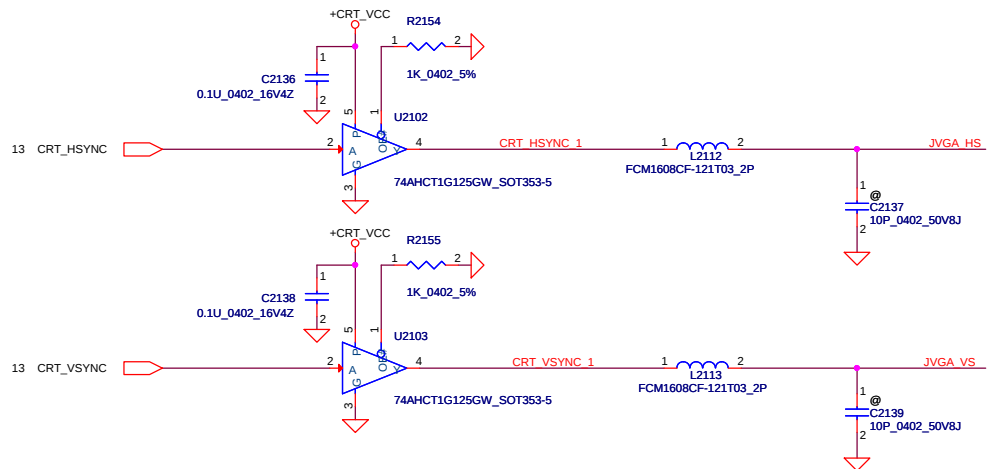
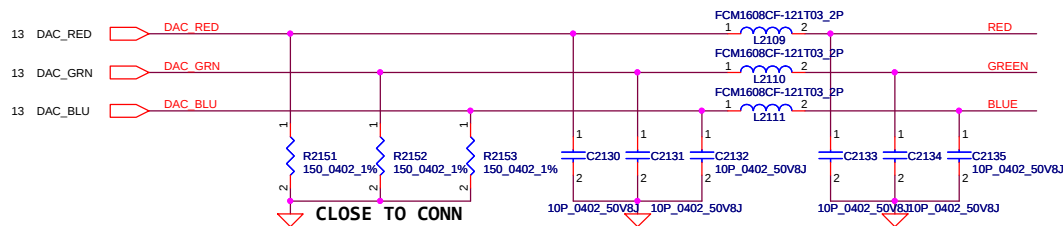


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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number          | LA-8121P           |                 |                          | Rev 0.4 |
| Custom                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                          |                    |                 |                          |         |
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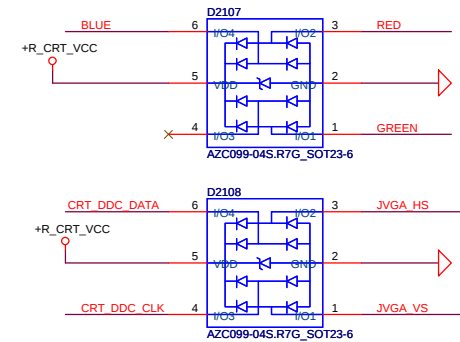
HDMI Connector

LA-8121P

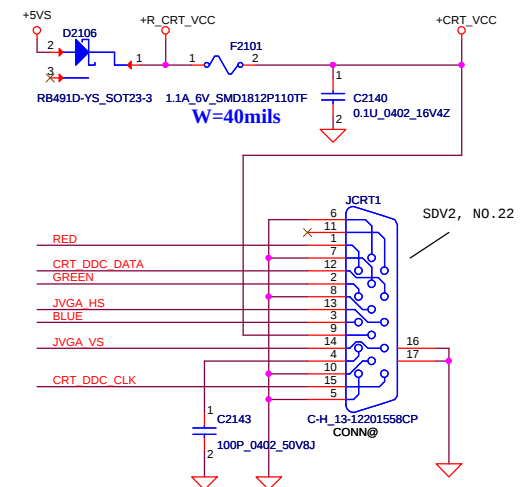


AMD check list update  
20101110

## ESD Request 2011.08.13



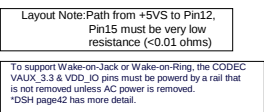
## CRT Connector



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                                |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Title                          |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/04/18 | Deciphered Date    | 2015/07/08 | CRT Connector                  |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | LA-8121P                       | 0.4            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date: Monday, January 16, 2012 | Sheet 28 of 50 |

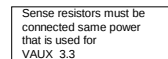
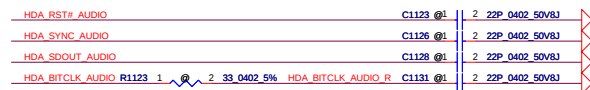
An integrated 3.3 V to 1.8V Low-dropout voltage regulator (LDO).

## ICH Beep 14 FCH S



Internal SPEAKER

potential leakage concern



Width 20 mil

Internal Speaker

SPK R1- L1102 1 2 0 0603 5% SPK R1- CONN

SPK R2+ L1103 1 2 0 0603 5% SPK R2+ CONN

SPK L1- L1104 1 2 0 0603 5% SPK L1- CONN

SPK L2+ L1105 1 2 0 0603 5% SPK L2+ CONN

SPK\_RT\_Detect# R1140 1 2 0 0402 5% SPK\_RT Detect# R

3SPK1

1

2

3

4

5

6

7

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10

11

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14

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SPK\_RT\_Detect#

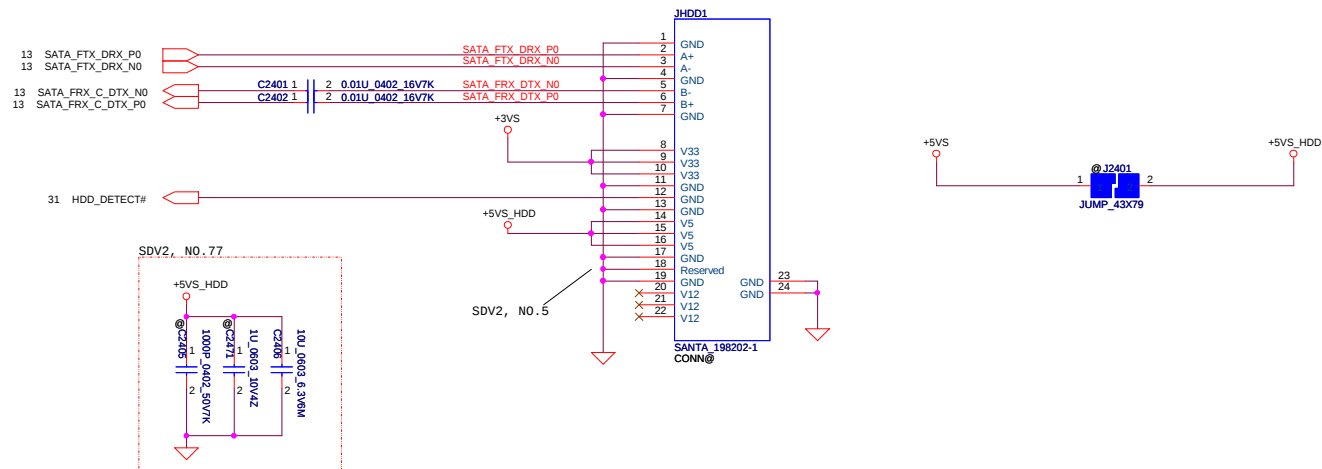
EMI

E-T\_4070K-G06N-00L

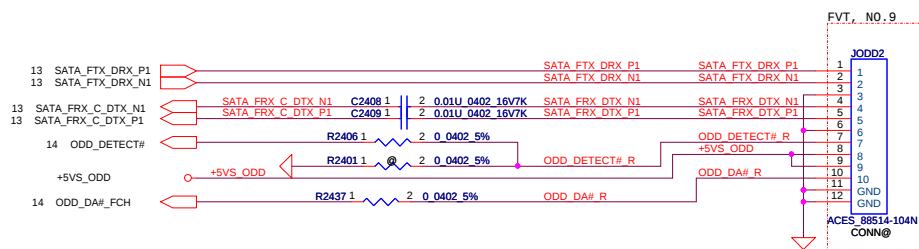
Note.  
QALEA 14" => JSPK1 => 4Pin  
QALEB 15" => JSPK1 => 6Pin

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                                                                                                                                                             |                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 | <div> <div>Compal Electronics, Inc.</div> <div> <div>HD Audio Codec CX20671</div> <div> <div>Document Number</div> <div>LA-8121P</div> </div> </div> </div> |                                                   |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/04/18         | Deciphered Date | 2015/07/08                                                                                                                                                  | <div> <div>Rev</div> <div>0.4</div> </div>        |
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## SATA HDD Conn.

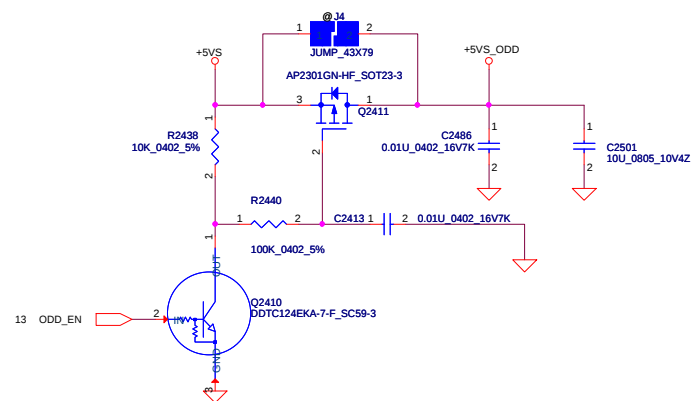


## SATA ODD Conn.

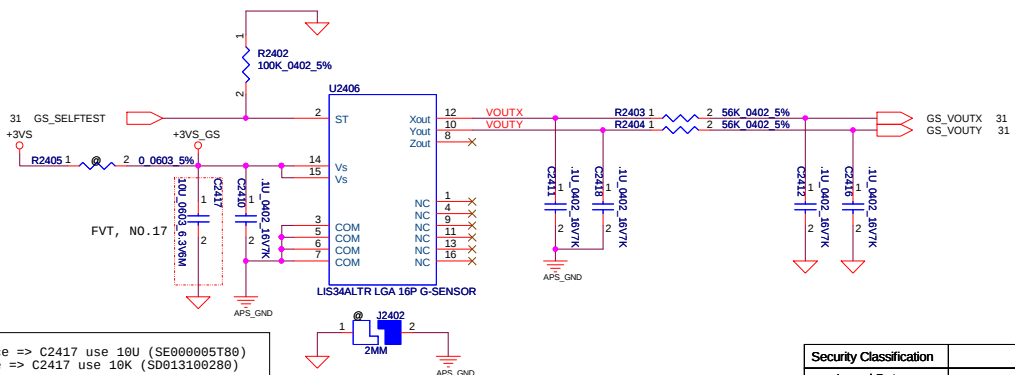


Note.  
QALEA 14" => JODD1  
QALEB 15" => JODD2

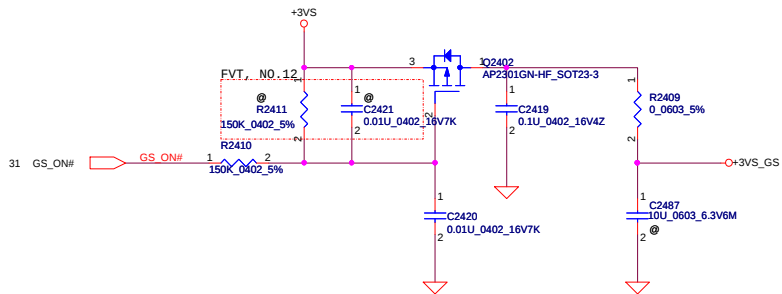
## ODD Power Control



## APS G-Sensor



Note.  
Main Source => C2417 use 10U (SE000005T80)  
2nd Source => C2417 use 10K (SD013100280)

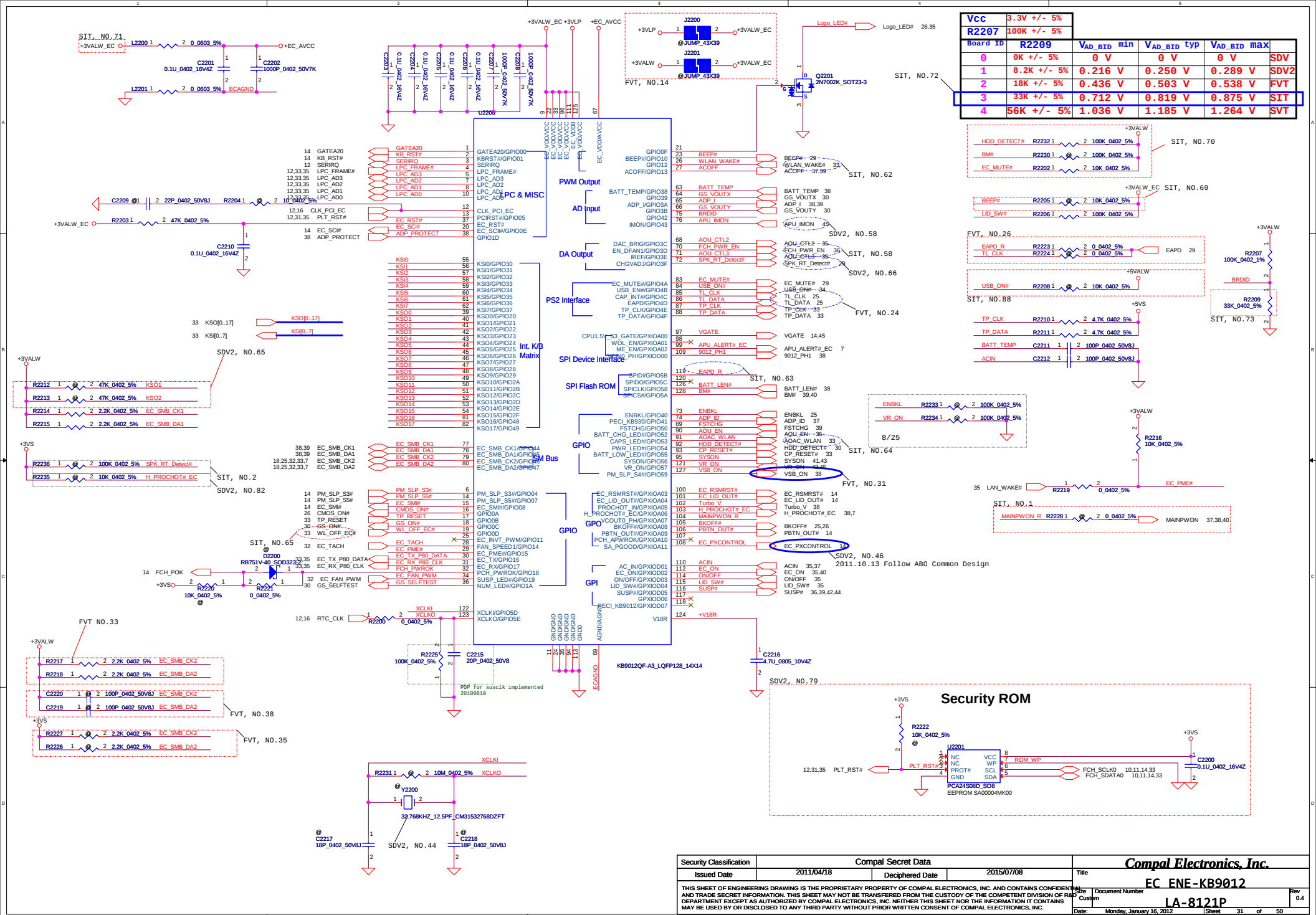


| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Title            |                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|------------------|--------------------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/04/18 | Deciphered Date    | 2015/07/08 | HDD/ODD/G-Sensor |                          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date             | Monday, January 16, 2012 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet            | 30 of 50                 |

Compal Electronics, Inc.

LA-8124P

Rev 0.4

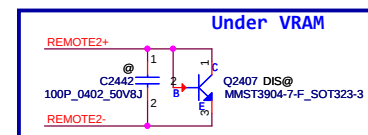
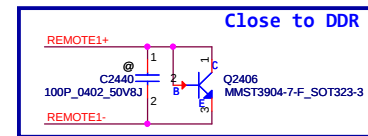
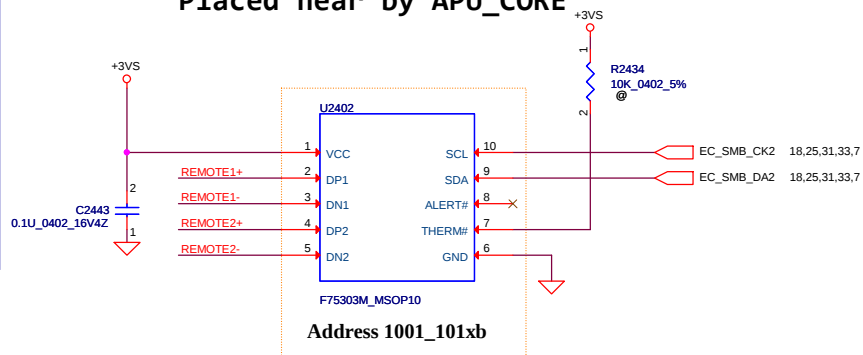


**Close U2402**

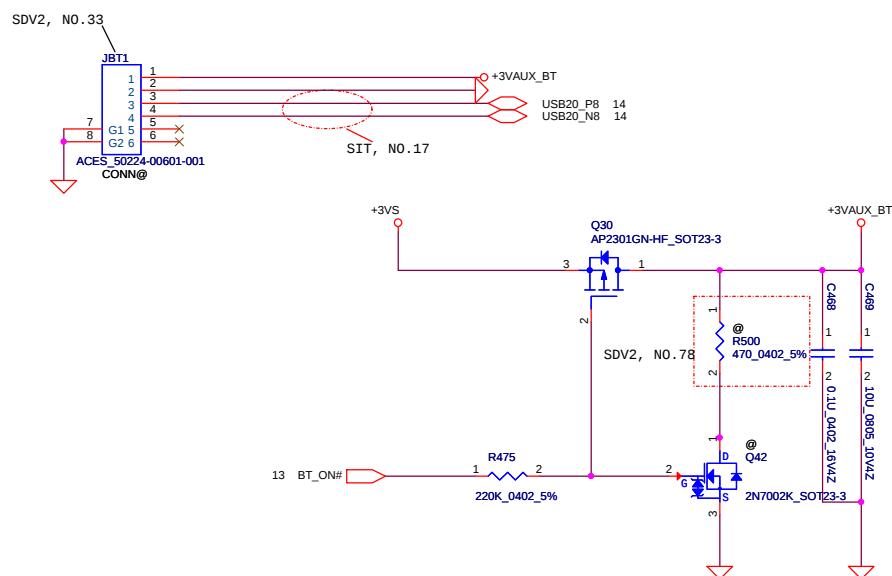
Diagram showing two channels, C2439 and C2441, each with two outputs labeled REMOTE1+/- and REMOTE2+/-.

Channel C2439 (2200P\_0402\_50V7K) has outputs 1 (REMOTE1+) and 2 (REMOTE1-).

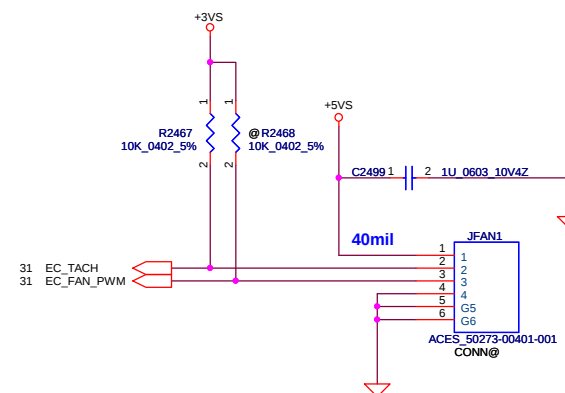
Channel C2441 (2200P\_0402\_50V7K) has outputs 1 (REMOTE2+) and 2 (REMOTE2-).



## BT Connector

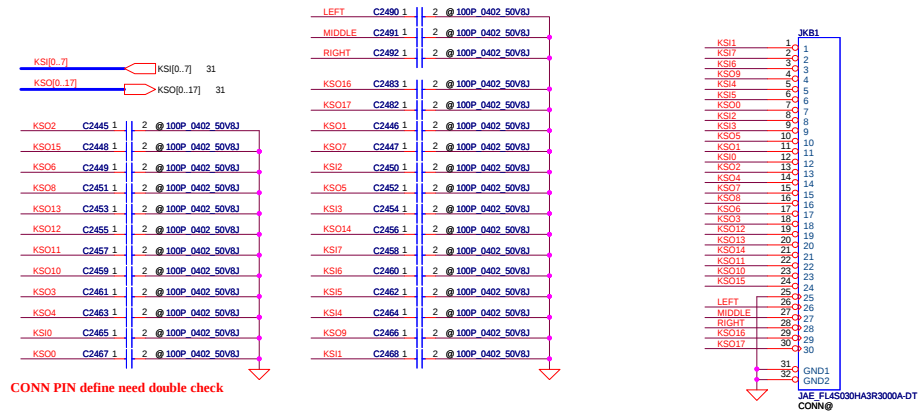
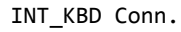
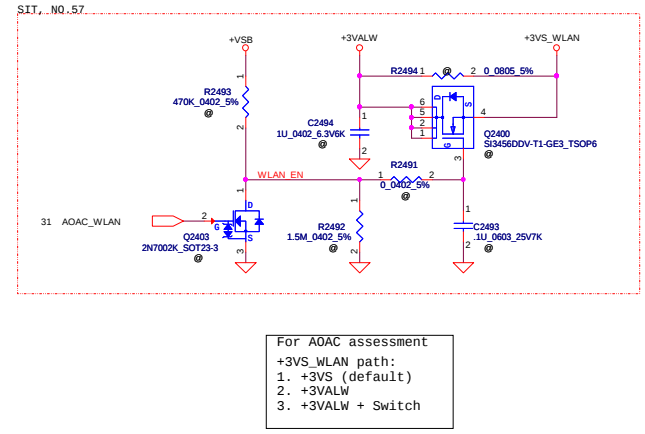


## FAN1 Conn

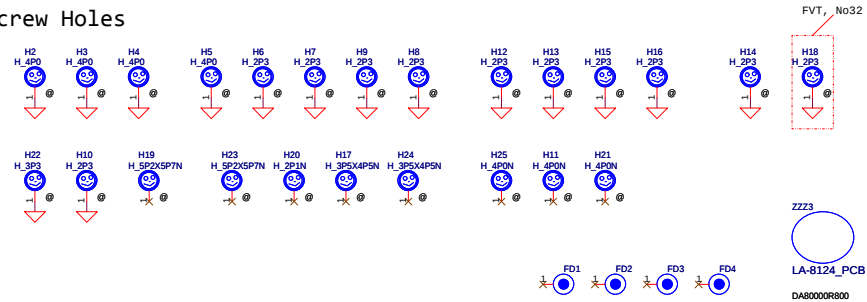


|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                    |            |                                                          |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|----------------------------------------------------------|----------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                   |            | Compal Secret Data |            | <b>Compal Electronics, Inc.</b><br><b>Thermal/FAN/BT</b> |          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2011/04/18 | Deciphered Date    | 2015/07/08 | Title                                                    |          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                    |            | LA-8121P                                                 | 0.4      |
| Date: Monday, January 16, 2012                                                                                                                                                                                                                                                                                                                                                                                                                            |            |                    |            | Sheet                                                    | 32 of 50 |

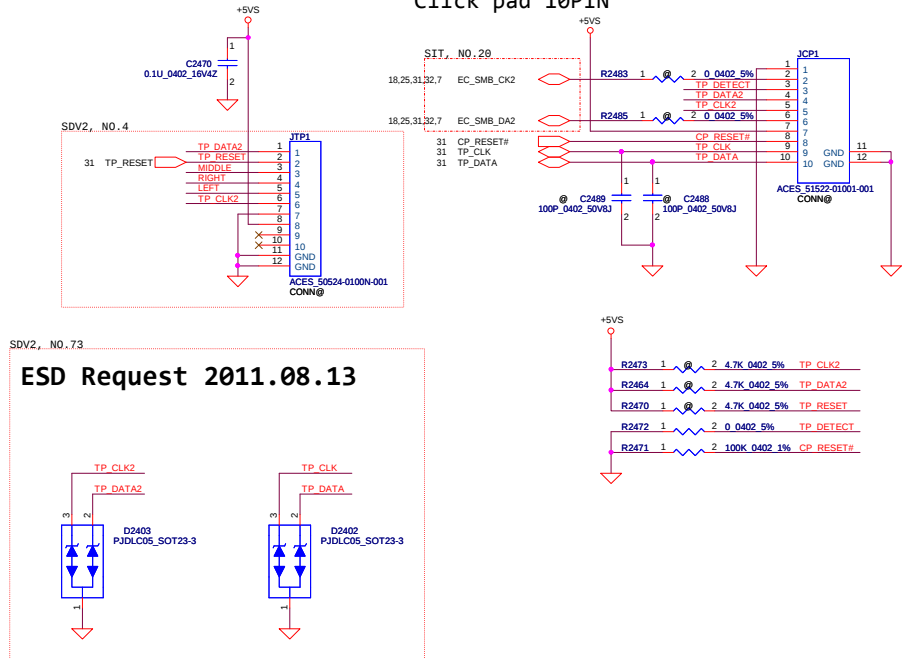
## WLAN Conn



## Screw Holes



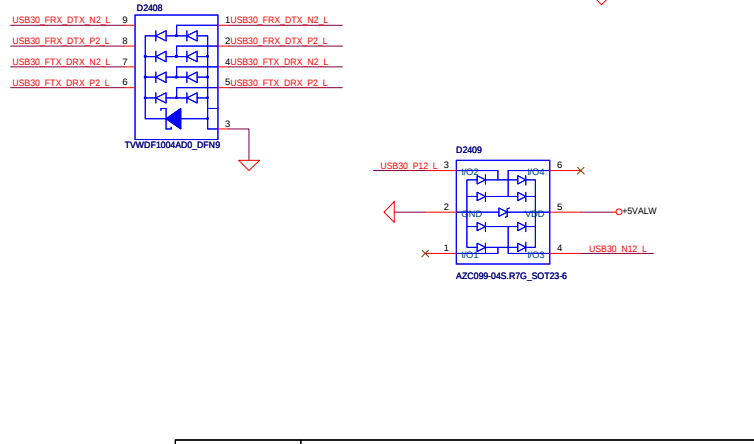
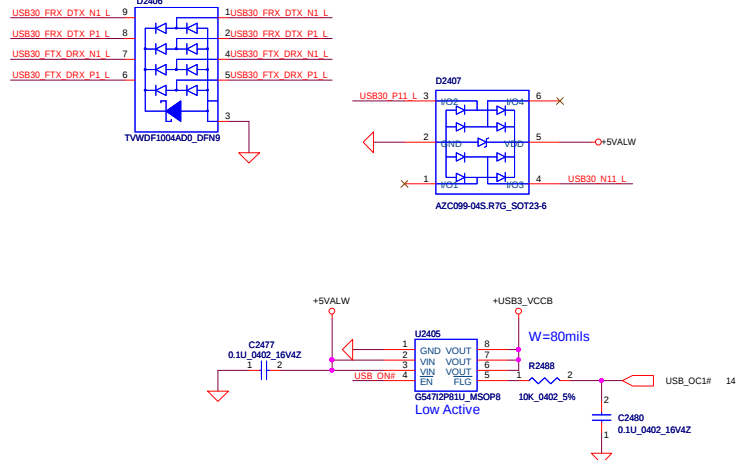
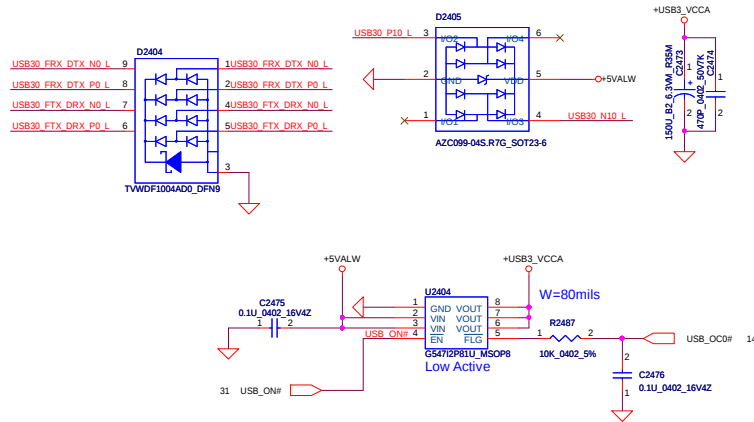
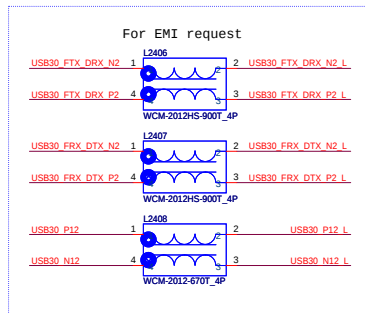
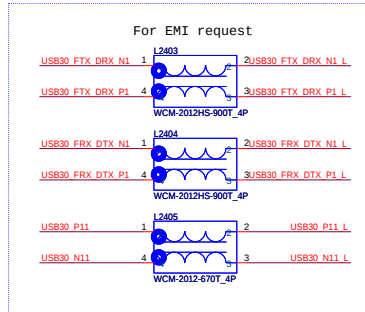
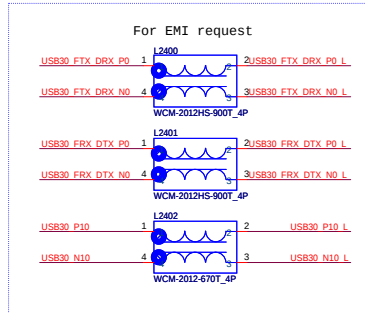
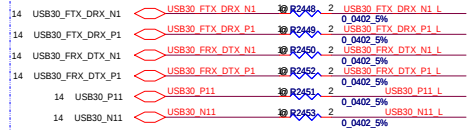
### Track Point Conn



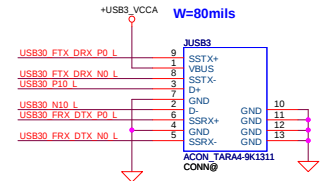
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                    |            |                         |                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|-------------------------|--------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                   |            | Compal Secret Data |            | Title                   |                          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2011/04/18 | Deciphered Date    | 2015/07/08 | TP/KBD/Screw Hole/Debug |                          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                    |            | C                       | LA-8124P                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                    |            | Date                    | Monday, January 16, 2012 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                    |            | Sheet                   | 33 of 50                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                    |            | Rev                     | 0.4                      |

# USB3.0 Conn \*3

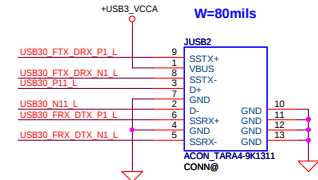
FVT\_No.5



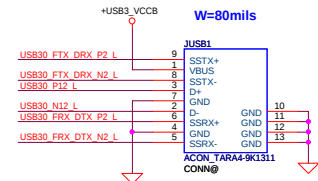
## LP1



## LP2

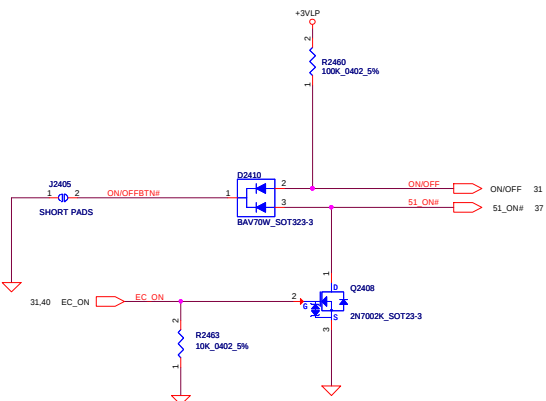


## LP3

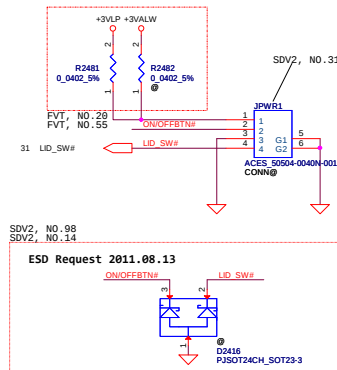


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                    |                 |                          |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|-----------------|--------------------------|--|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          | Compal Secret Data |                 | Compal Electronics, Inc. |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                    |                 | USB 3.0 Conn             |  |
| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number          |                    |                 | Rev                      |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1A-8121P                 |                    |                 | 0.4                      |  |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Monday, January 16, 2012 |                    |                 | Sheet 34 of 50           |  |

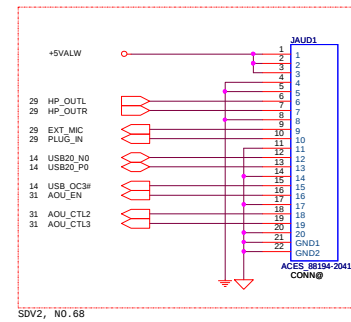
## ON/OFF switch



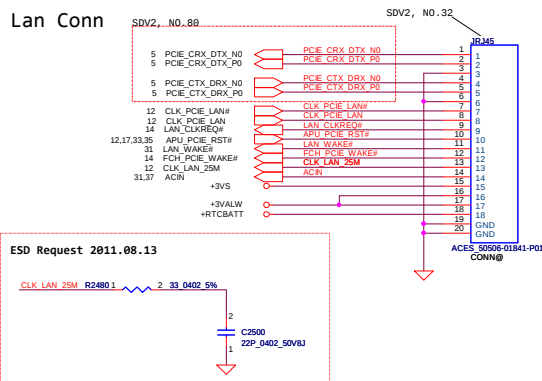
## Power Button Board Conn



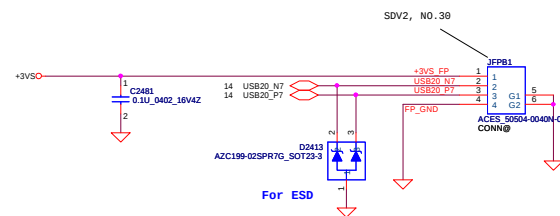
## USB2.0/Audio Jack SB CONN



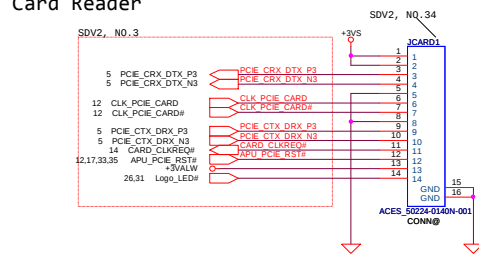
## Lan Conn



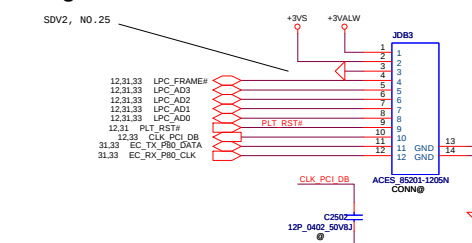
## Finger Printer

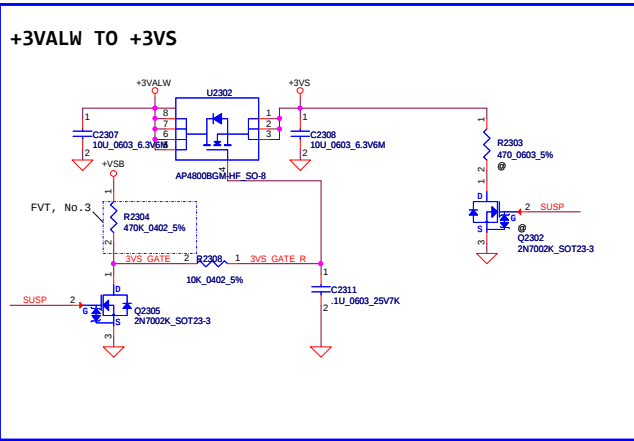


## Card Reader



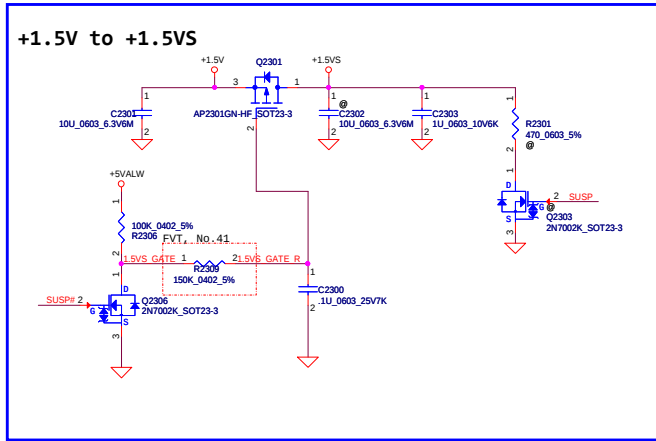
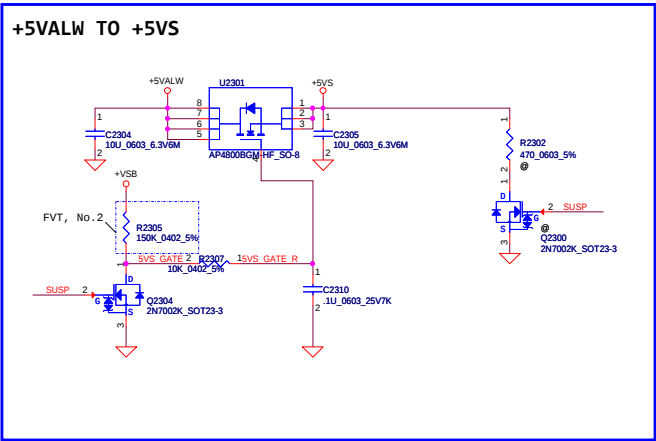
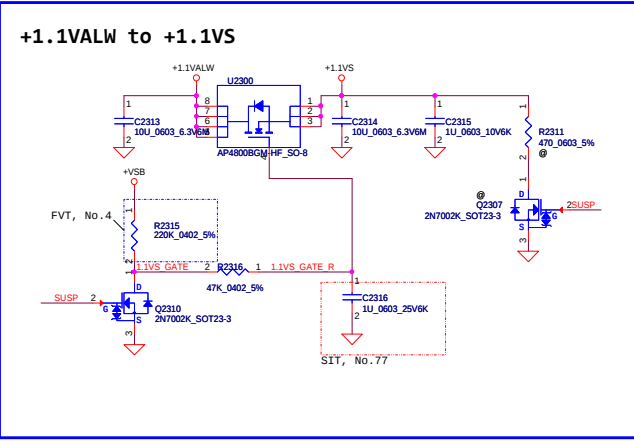
## Debug Conn.



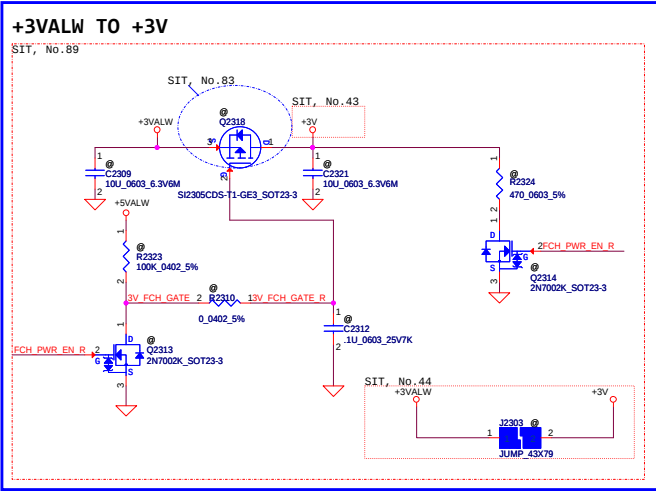


The diagram illustrates a 5VSWLW to 5VS converter circuit. The main components and their connections are as follows:

- IC:** AP4800BGM-HF-SC-8 (U2301) is a MOSFET driver.
- Input:** +5VALW is connected to the gate of the MOSFET (U2301) through a 10µF, 6.3V capacitor (C2304).
- Output:** The MOSFET (U2301) drives the gate of a MOSFET (Q2300) through a 10µF, 6.3V capacitor (C2305).
- Diode:** A diode (Q2300, 2N7002K\_SOT23) is connected in series with the output.
- Feedback:** A feedback network consisting of a 150K resistor (R2305) and a 10K resistor (R2302) is connected between the output and the gate of the MOSFET (U2301).
- Capacitors:** A 10µF, 25V capacitor (C2310) is connected between the output and ground.
- Other Components:** A 10K resistor (R2307) is connected between the gate of the MOSFET (U2301) and ground. A 10K resistor (R2308) is connected between the gate of the MOSFET (Q2300) and ground.

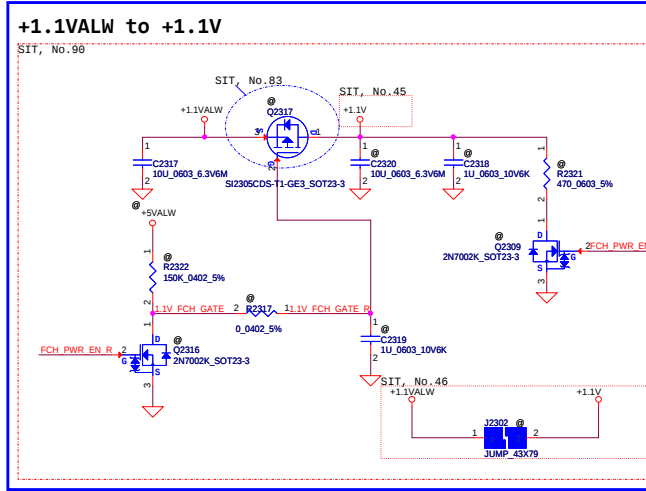
[illegible]

The schematic diagram for SIT No. 89 shows a complex electronic circuit. At the top, three SITs are identified: SIT No. 83 (Q2318), SIT No. 43 (Q2321), and SIT No. 44 (Q2312). The circuit is powered by several sources: +3VALW, +5VALW, +3V, and +3VJUMP. Key components include resistors C2309 (100k, 6.3VOM), R2323 (100k, 0.402\_5%), R2310 (0.402\_5%), R2324 (470, 0.603\_5%), and C2312 (1u, 0.603\_25V/K). Capacitors Q2313 and Q2314 are 2N7002K\_SOT23-3. Signal lines include 1V FCH GATE 2, 1V FCH GATE R, and 2FCH PWR EN R. The circuit is enclosed in a dashed red border.



### +1.1VALW to +1.1V

SIT, No.90



**+3VALW TO +3V\_FCH**

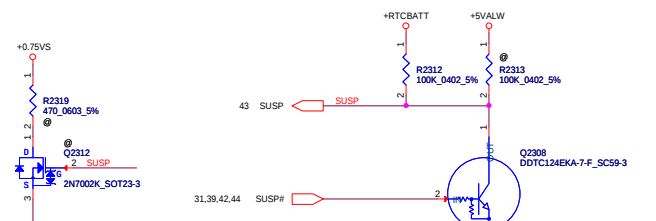
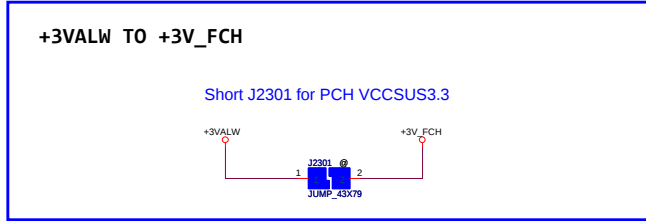
Short J2301 for PCH VCCSUS3.3

The diagram shows a red wire connecting the +3VALW pin to the +3V\_FCH pin. A blue component labeled J2301 is shown in the middle, with pins 1 and 2 connected to the wire. The component is also labeled JUMP\_43X79.

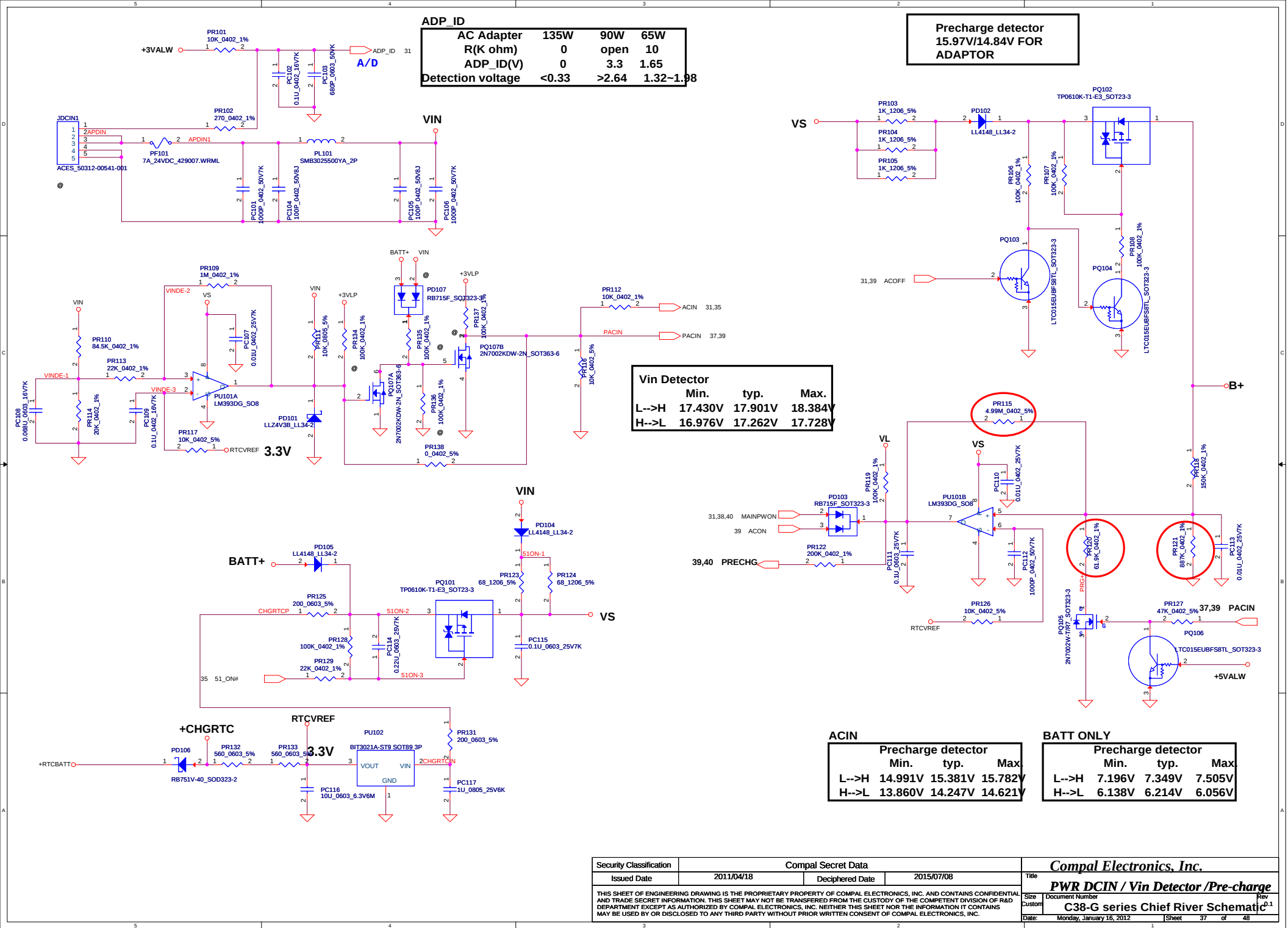
**+3VALW TO +3V\_FCH**

Short J2301 for PCH VCCSUS3.3

The diagram shows a red wire connecting the +3VALW pin to the +3V\_FCH pin. A blue component labeled J2301 is shown in the middle, with pins 1 and 2 connected to the wire. The component is also labeled JUMP\_43X79.



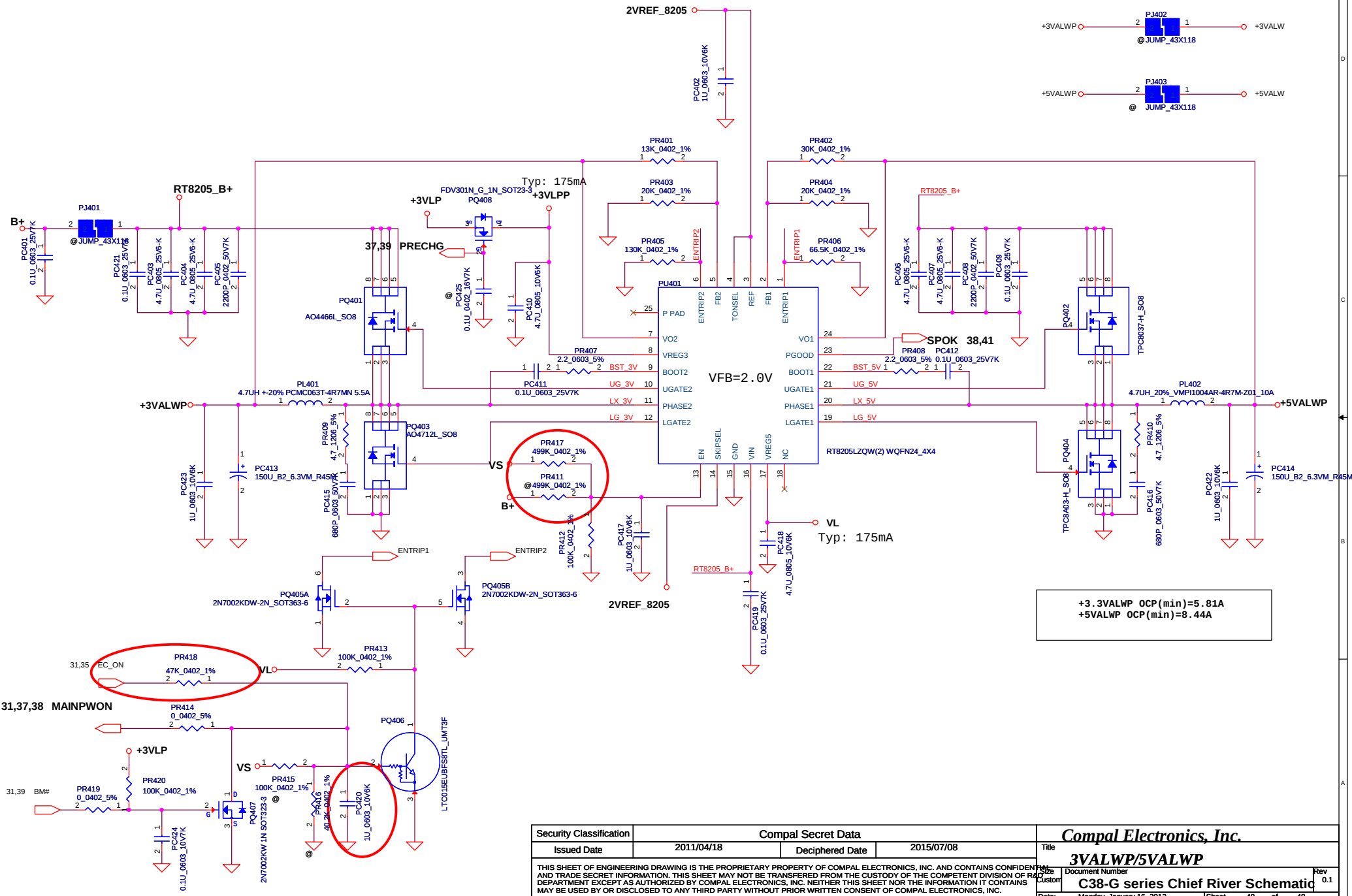
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                    |            |                                     |                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|------------|-------------------------------------|----------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          | Compal Secret Data |            | <div>Compal Electronics, Inc.</div> |                      |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/04/18               | Deciphered Date    | 2015/07/08 | Title                               | DC V TO VS INTERFACE |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                    |            | Document Number                     | 0.4                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                    |            | LA-8121P                            |                      |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Monday, January 16, 2012 |                    | Sheet      | 36                                  | of 50                |





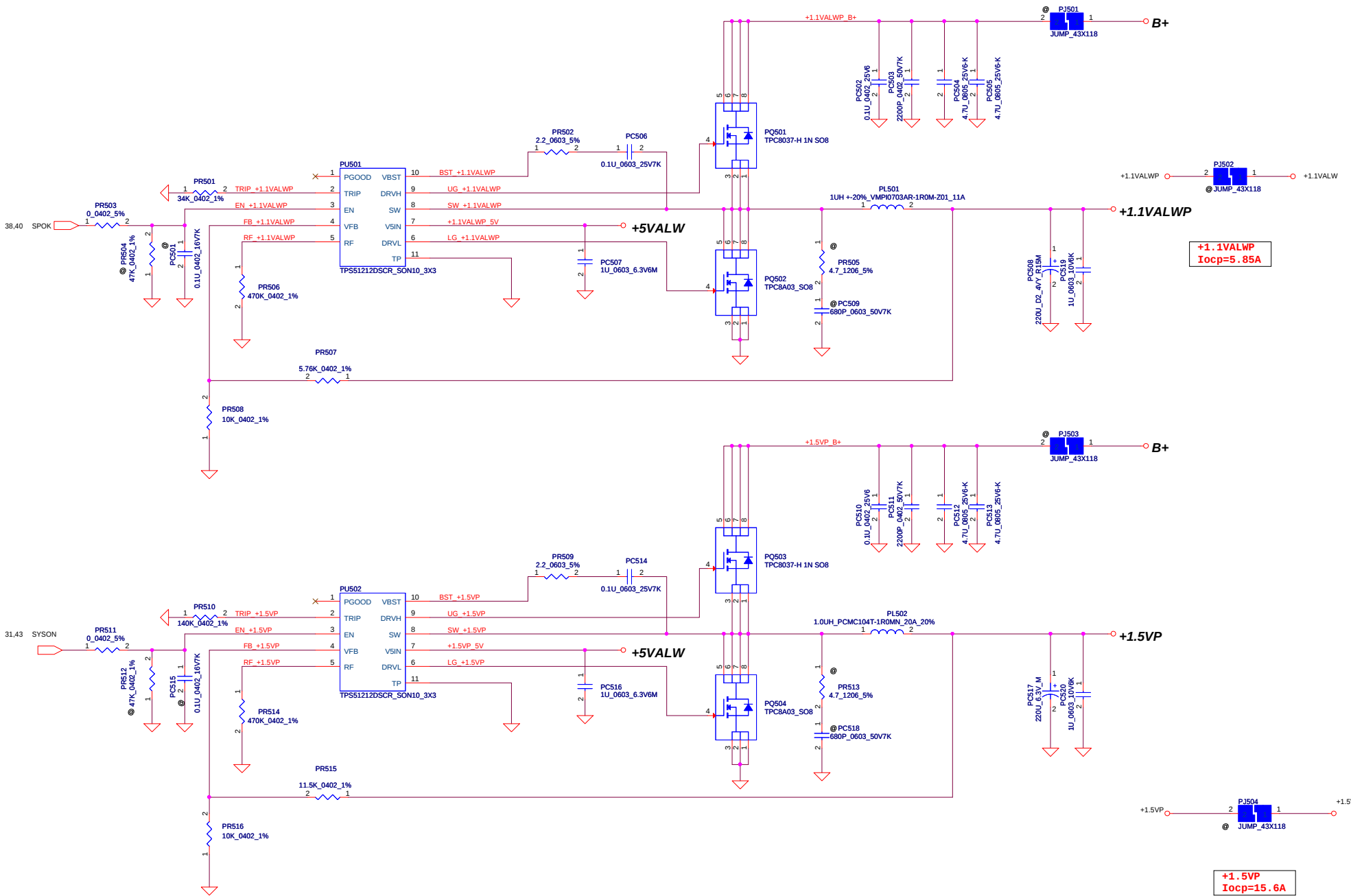


Note:  
Use TPS51125 IC can remove RTC refernece LDO  
Use TPS51427 IC must keep RTC refernece LDO

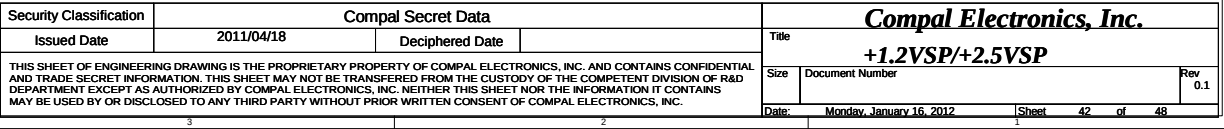


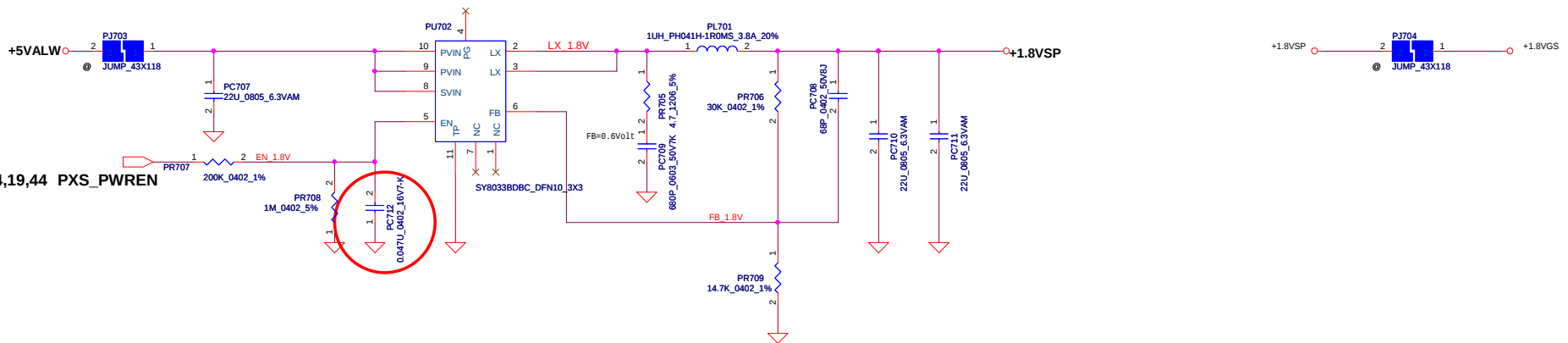
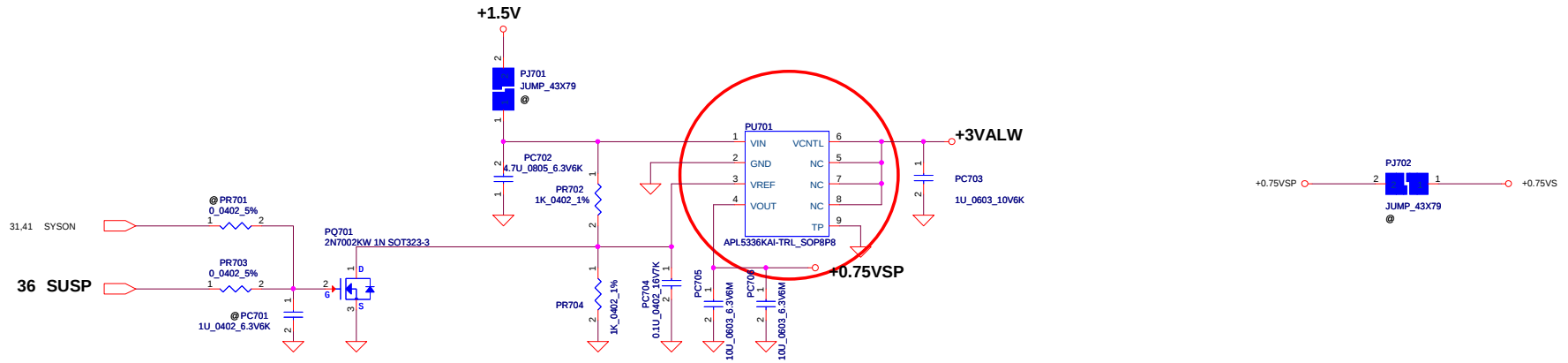
+3.3VALWP OCP(min)=5.81A  
+5VALWP OCP(min)=8.44A

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                                    |         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|------------------------------------|---------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc.           |         |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            | Customer           |            | C38-G series Chief River Schematic |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            | Date               |            | Monday, January 16, 2012           | Rev 0.1 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet 40                           | of 48   |

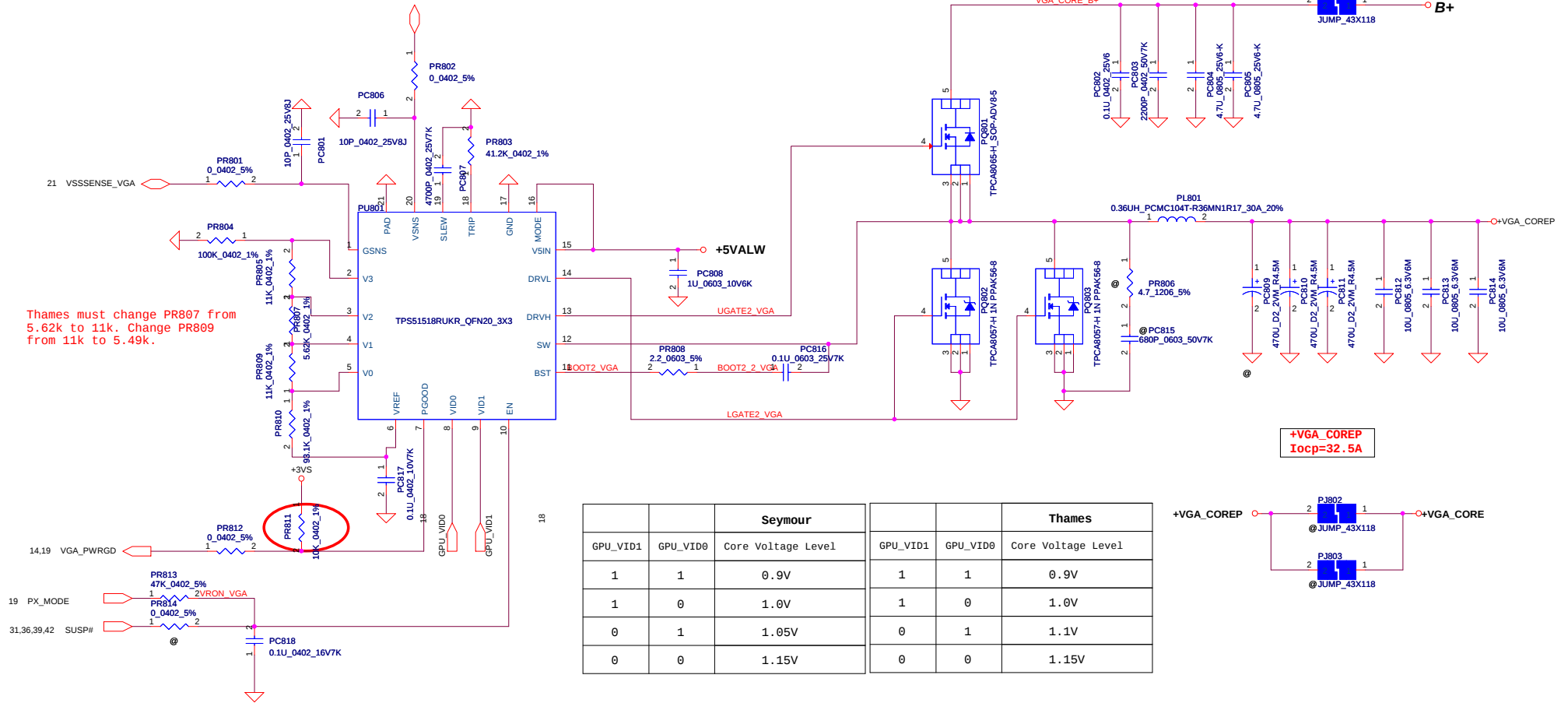


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |  |                                 |                          |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |  | Size                            | Document Number          | Rev            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |  |                                 |                          | 0.1            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |  | Date:                           | Monday, January 16, 2012 | Sheet 41 of 48 |

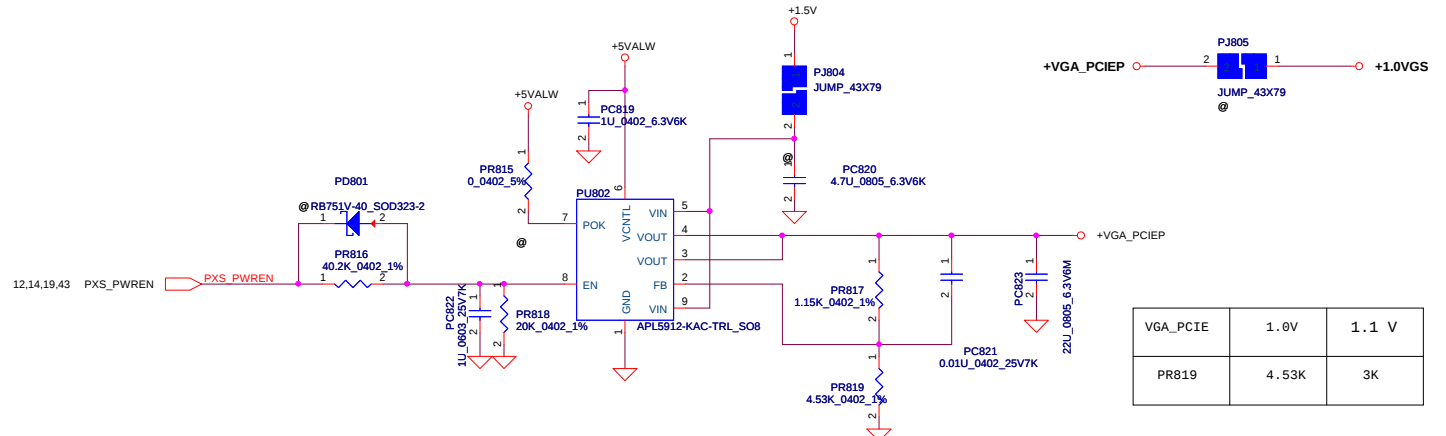




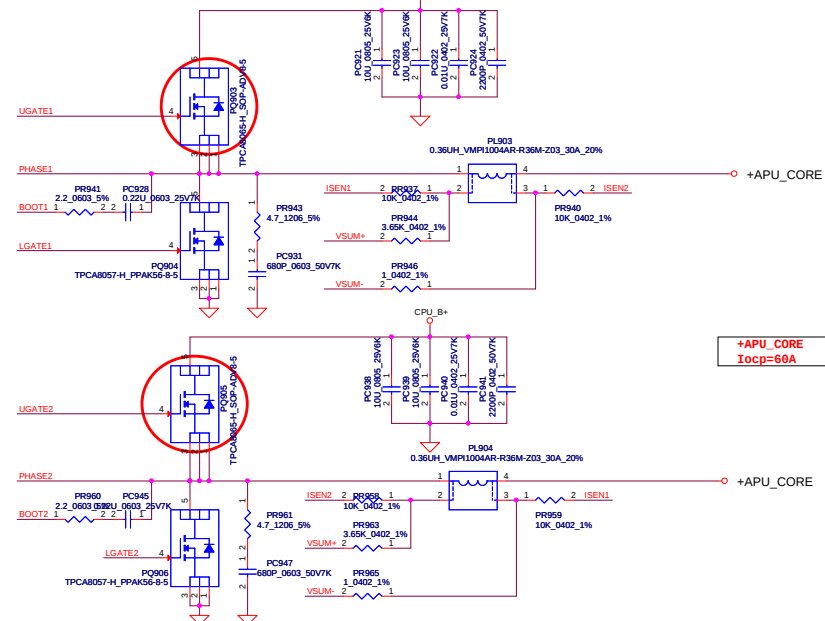
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |  |       |                          |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |  | Title |                          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |  | Sheet | 43 of 48                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |  | Rev   | 0.1                      |



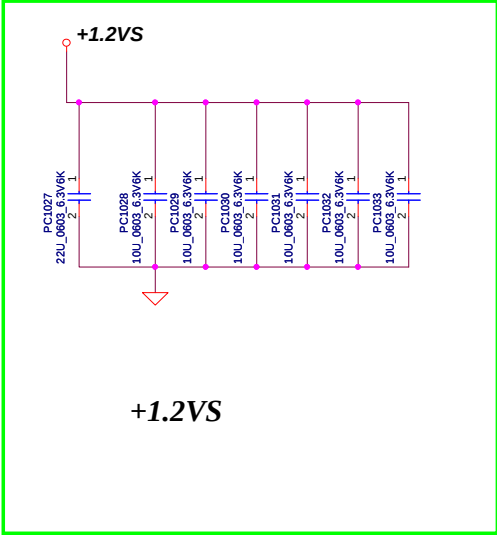
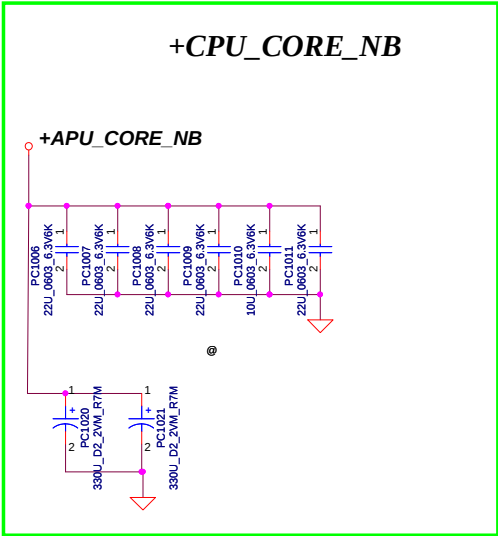
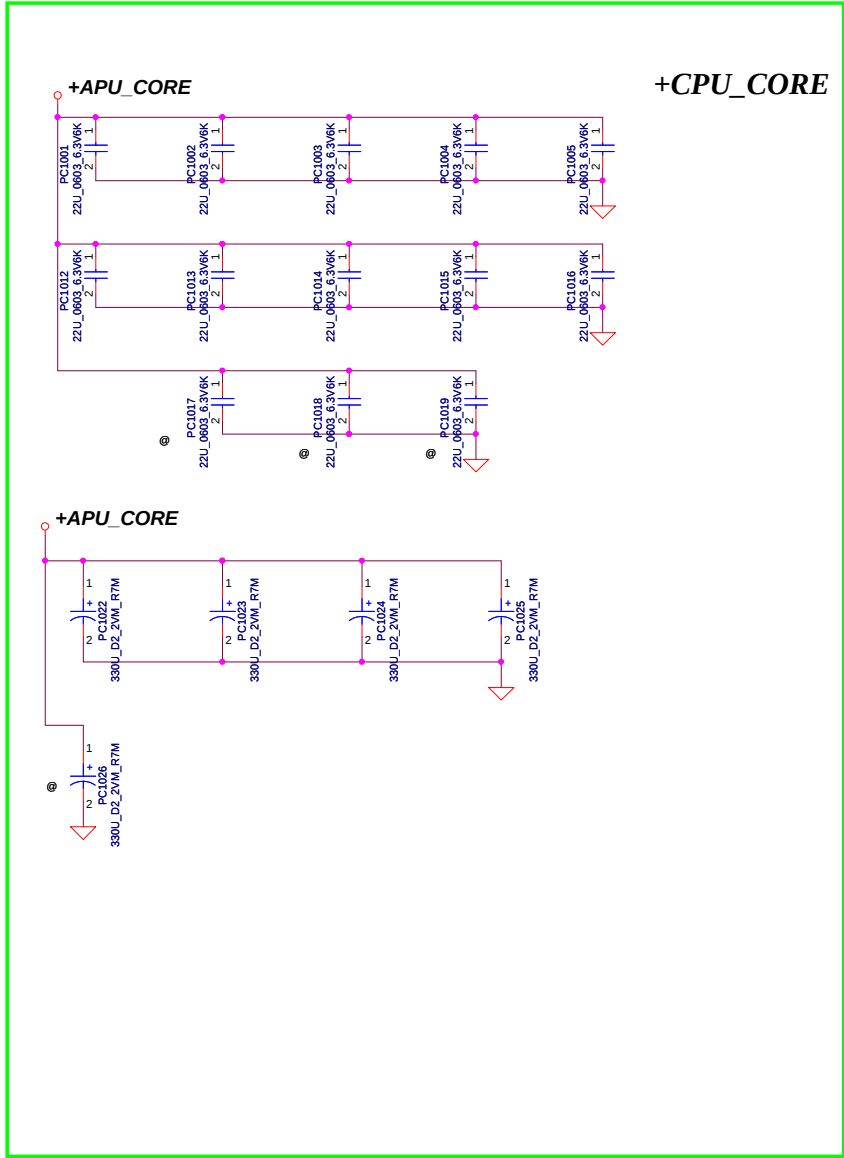
| Seymour  |          |                    | Thames   |          |                    |
|----------|----------|--------------------|----------|----------|--------------------|
| GPU_VID1 | GPU_VID0 | Core Voltage Level | GPU_VID1 | GPU_VID0 | Core Voltage Level |
| 1        | 1        | 0.9V               | 1        | 1        | 0.9V               |
| 1        | 0        | 1.0V               | 1        | 0        | 1.0V               |
| 0        | 1        | 1.05V              | 0        | 1        | 1.1V               |
| 0        | 0        | 1.15V              | 0        | 0        | 1.15V              |



| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  | Compal Secret Data       |  |  |  | Compal Electronics, Inc. |  |  |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  | 44                       |  |  |  | of                       |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  | 48                       |  |  |  |                          |  |  |  |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                 |                                                                                       |                                                                                       |
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| Date: Monday, January 16, 2012                                                                                                                                                                                                                                                                                                                                                                                                                           |                    |                 | Sheet 45 of 48                                                                        |                                                                                       |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                    |       |                                 |         |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | A3                       | Document Number    |       |                                 | Rev 0.1 |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Monday, January 16, 2012 |                    | Sheet | 46                              | of 48   |

| Item | Reason for change | PG# | Modify List | Date | Phase |
|------|-------------------|-----|-------------|------|-------|
| 1    |                   |     |             |      |       |
| 2    |                   |     |             |      |       |
| 3    |                   |     |             |      |       |
| 4    |                   |     |             |      |       |
| 5    |                   |     |             |      |       |
| 6    |                   |     |             |      |       |
| 7    |                   |     |             |      |       |
| 8    |                   |     |             |      |       |
| 9    |                   |     |             |      |       |
| 10   |                   |     |             |      |       |
| 11   |                   |     |             |      |       |
| 12   |                   |     |             |      |       |
| 13   |                   |     |             |      |       |
| 14   |                   |     |             |      |       |
| 15   |                   |     |             |      |       |
| 16   |                   |     |             |      |       |
| 17   |                   |     |             |      |       |
| 18   |                   |     |             |      |       |
| 19   |                   |     |             |      |       |
| 20   |                   |     |             |      |       |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |                    |            |                                    |                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|------------------------------------|------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            | Compal Secret Data |            | Compal Electronics, Inc.           |                  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2011/04/18 | Deciphered Date    | 2015/07/08 | Title                              | PIR (PWR)        |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |                    |            | C38-G series Chief River Schematic | C <sup>0.1</sup> |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |                    |            | Date: Monday, January 16, 2012     | Sheet 47 of 48   |

| Phase | Date       | No.   | BOM | Sch | Layout | Description                                                                                                                                 |
|-------|------------|-------|-----|-----|--------|---------------------------------------------------------------------------------------------------------------------------------------------|
| SDV2  | 2011/09/13 | No.1  | V   |     |        | Page29, install R1102, R1104, R1105 for audio noise prevention                                                                              |
|       | 2011/09/14 | No.2  | V   |     |        | page12~16, change FCH P/N from SA000043IC0 to SA000043IG0                                                                                   |
|       | 2011/09/16 | No.3  | V   | V   |        | Page35, Swap JCAR01 Pin3,4 to Pin9,10 PCIE TX & RX for CardReader no function issue                                                         |
|       | 2011/09/16 | No.4  | V   | V   |        | Page33, Modify JTP1 Pin1 to JTP1 C.DTX_N1, PCIE CRX_C.DTX_P1 for Click Pad no function issue                                                |
|       | 2011/09/17 | No.5  | V   | V   |        | Page30, Modify JHDD1 Pin18 connect to GND for SATA Gen2                                                                                     |
|       | 2011/09/17 | No.6  | V   |     |        | Page5~9, Modify U1 to JCPU1                                                                                                                 |
|       | 2011/09/17 | No.7  | V   |     |        | Page10~11, SWAP JDIMM1 & JDIMM2                                                                                                             |
|       | 2011/09/17 | No.8  | V   |     |        | Page31, Modify JHFI1 to JHFI, Modify JWLAN1 to JMINI1, Modify JLAN1 to JRJ45                                                                |
|       | 2011/09/17 | No.9  | V   |     |        | Page12, Modify CLRPI to JCMOS1                                                                                                              |
|       | 2011/09/26 | No.10 | V   |     |        | Page31, POP U2201,C2200,R2229 for Security ROM Function not work issue                                                                      |
|       | 2011/09/26 | No.11 | V   |     | V      | Page14, Modify D1103,D1104 to DIS0 for DIS only                                                                                             |
|       | 2011/09/28 | No.12 | V   |     | V      | Reserve R249,R2490 with PCIE CRX_C.DTX_N1, PCIE CRX_C.DTX_P1 for PCIE WLAN RX AC Decoupling                                                 |
|       | 2011/09/28 | No.13 | V   | V   | V      | Page29, R1111-2 Connect to U1101 Pin38 add net name CX_GPI00 for vendor request                                                             |
|       | 2011/09/28 | No.14 | V   | V   | V      | Page35, Add D2416 to replace D2414 for ESD Request                                                                                          |
|       | 2011/09/28 | No.15 | V   | V   | V      | Page5~9, Modify JCPU1 Footprint to L0TES_ACA-ZIF-109_722P-A39 for A39 DFX Rule                                                              |
|       | 2011/09/28 | No.16 | V   | V   | V      | Page12~16, Modify U2 Footprint to L0SDN_FCB6P-A39 for A39 DFX Rule                                                                          |
|       | 2011/09/28 | No.17 | V   | V   | V      | Page17~22, Modify U1401 Footprint to 2160809000A11SEY_FCBGA_962P-A39 for A39 DFX Rule                                                       |
|       | 2011/09/28 | No.18 | V   | V   | V      | Page23~24, Modify U1405~U1412 Footprint to K4W1G1646E-HC12_FBGA_96P-A39 for A39 DFX Rule                                                    |
|       | 2011/09/28 | No.19 | V   | V   |        | Page31, Modify Board ID Table for AMD Build Plan Change                                                                                     |
|       | 2011/09/28 | No.20 | V   | V   |        | Page31, Modify R2209 for QALEA_FVT1 Build Board IC Mapping                                                                                  |
|       | 2011/09/28 | No.21 | V   | V   | V      | Page28, Update JCR1 Footprint from SUYIN_070546FR015S200Z_15P to C-H_13-12201558CP_15P-T for ME Conn modify                                 |
|       | 2011/09/30 | No.22 | V   |     |        | Page13, Modify U2201 to JHCP1 for USB Signal Driving                                                                                        |
|       | 2011/09/03 | No.23 | V   |     | V      | Page14, Add C222~C237 connect to all USB2.0 port near connector for AMD request that about USB Signal Driving                               |
|       | 2011/09/04 | No.24 | V   |     | V      | Page35, Add JDB3 Conn for SW Debug request                                                                                                  |
|       | 2011/10/05 | No.25 | V   | V   | V      | Page12, Add TP52~T58 on U2 GPIO input pin for debug                                                                                         |
|       | 2011/10/05 | No.26 | V   | V   | V      | Page13, Add TP59~T61, TP67~T74 on U2 GPIO input pin for debug                                                                               |
|       | 2011/10/05 | No.27 | V   | V   | V      | Page13, Add TP52~T58 on U2 GPIO input pin for debug                                                                                         |
|       | 2011/10/05 | No.28 | V   | V   | V      | Page13, Add TP59~T61, TP67~T74 on U2 GPIO input pin for debug                                                                               |
|       | 2011/10/06 | No.29 | V   | V   | V      | Page26, Q2101 P/N change to SB00007H10 for Component common                                                                                 |
|       | 2011/10/06 | No.30 | V   | V   | V      | Page35, JFPB1 update P/N to SP01000Z300 for Conn List update                                                                                |
|       | 2011/10/06 | No.31 | V   | V   | V      | Page35, JFWK1 update P/N to SP01000Z300 for Conn List update                                                                                |
|       | 2011/10/06 | No.32 | V   | V   | V      | Page35, JRJ45 update Footprint to ACES_50506-01841-P01_18P-T for Conn List update                                                           |
|       | 2011/10/06 | No.33 | V   | V   | V      | Page32, JBT1 update P/N to SP02000TF00 for Conn List update                                                                                 |
|       | 2011/10/06 | No.34 | V   | V   | V      | Page35, JCARD1 update Footprint to ACES_50224-0140N-001_14P-T for Conn List update                                                          |
|       | 2011/10/07 | No.35 | V   | V   | V      | Page29, reserve D1101 for Audio Noise issue                                                                                                 |
|       | 2011/10/11 | No.36 | V   | V   | V      | Page12, Del TP52~T58 on U2 GPIO input pin for debug                                                                                         |
|       | 2011/10/11 | No.37 | V   | V   | V      | Page13, Del TP59~T61, TP67~T74 on U2 GPIO input pin for debug                                                                               |
|       | 2011/10/11 | No.38 | V   | V   | V      | Page14, Add TP62~T93 on U2 GPIO input pin for debug                                                                                         |
|       | 2011/10/12 | No.39 | V   |     | V      | Page22, Replace R1476 P/N From D028100A00 to SD028100A00 for HF Part modify                                                                 |
|       | 2011/10/12 | No.40 | V   |     | V      | Page19, 30,36, Replace Q1409,Q2309,Q2419 P/N From SB001240010 to SB000001700 for HF Part modify                                             |
|       | 2011/10/13 | No.41 | V   |     | V      | Page12, Replace X1 P/N From SJ100003300 to SJ10000EL00 for Sourcer request (No Footprint, Use SJ10000DJ00)                                  |
|       | 2011/10/13 | No.42 | V   |     | V      | Page12, Replace Y1 P/N From SJ132P7KW10 to SJ10000BM00 for Sourcer request                                                                  |
|       | 2011/10/13 | No.43 | V   |     | V      | Page18, Replace Y1400 P/N From SJ100000000 to SJ100000Y00 for Sourcer request (No Footprint, Use SJ10000DJ00)                               |
|       | 2011/10/13 | No.44 | V   |     | V      | Page31, Replace V2200 P/N From SJ132P7KW10 to SJ100000000 for Sourcer request                                                               |
|       | 2011/10/13 | No.45 | V   | V   | V      | Page31, Modify U2200 Pin107 EC_PXCNTROL to U2200 Pin108 for ABO Common Design                                                               |
|       | 2011/10/14 | No.46 | V   | V   | V      | Page31, Add R2235 pull up to +3V5 for SPK_RT_Detect#_EC                                                                                     |
|       | 2011/10/14 | No.47 | V   | V   | V      | Page19, Replace Q1401,Q1402,Q1404,Q1405 P/N From SB00000FG00 to SB00000FG10 for Sourcer request                                             |
|       | 2011/10/17 | No.48 | V   | V   | V      | Page26, Add C2144,C2145 1000pF Caps connect to DMIC_CLK & DMIC_1.2 for EMI Request(Noise issue)                                             |
|       | 2011/10/17 | No.49 | V   | V   | V      | Page25, Add R2171 connect to LVDS_HPD_R for Vendor Request (Noise Filtering)                                                                |
|       | 2011/10/17 | No.50 | V   | V   | V      | Page7, 9, 27 Replace Q2,Q3,Q8,Q2106 P/N From SB000006A00 to SB000006A10 for HF Part modify                                                  |
|       | 2011/10/17 | No.51 | V   | V   | V      | Page3, Del Add3,D1204, R2214 & use EC_Ctrl1 to control PXS_PWREN ON/OFF for VGA Sequence tuning                                             |
|       | 2011/10/17 | No.52 | V   | V   | V      | Page19, Modify C1463,D1400,R1442 BOM Structure from DIS0 to PX400 & D1400 use 0_9603_5% for PX50                                            |
|       | 2011/10/17 | No.53 | V   |     | V      | Page7, Modify R65,R69 BOM Structure to @ for Power Leakage issue                                                                            |
|       | 2011/10/17 | No.54 | V   |     | V      | Page12, Modify R89,R82 value from 0 ohm to 33 ohm for EMI Noise Issue                                                                       |
|       | 2011/10/18 | No.55 | V   | V   | V      | Page7, 81, Modify input direction: H_PROCHOT#, Turbo_V                                                                                      |
|       | 2011/10/18 | No.56 | V   | V   | V      | Page27, Add Net +5VS_HDMI on D2103 Pin5 & Pin6 for ESD Request                                                                              |
|       | 2011/10/18 | No.57 | V   | V   | V      | Page19, Modify R1454,Q1412,R1450,R1451,R1449,C1470,U1404,C1467,C1468,C1469,C1470 BOM Structure from PX40 to DIS0 for PX50 Function workable |
|       | 2011/10/19 | No.58 | V   | V   | V      | Page31, Add Net APU_IMON on U2200 Pin76 for Power Team Request                                                                              |
|       | 2011/10/19 | No.59 | V   | V   | V      | Page35, Add intersheet of PLT_RST# on debug card                                                                                            |
|       | 2011/10/19 | No.60 | V   | V   | V      | Page25, modify net name: LVDS_HPD_R to LVDS_HPD_C                                                                                           |
|       | 2011/10/20 | No.61 | V   | V   | V      | Page33, Del A0AC circuit for Customer request                                                                                               |
|       | 2011/10/20 | No.62 | V   | V   | V      | Page31, Del A0AC Powe Control Pin WLAN_POWER# for Customer request                                                                          |
|       | 2011/10/20 | No.63 | V   | V   | V      | Page14, Modify USB Signal net name from USB20_[P..N][10..12]_C to USB30_[P..N][10..12]_C for USB30 net name error                           |
|       | 2011/10/21 | No.64 | V   | V   | V      | Page12, Modify R83,R84 value from 0 ohm to 33 ohm for EMI Noise Issue                                                                       |
|       | 2011/10/21 | No.65 | V   | V   | V      | Page31, Modify R2212,R2213 BOM Structure to @ for ENE Suggestion                                                                            |
|       | 2011/10/21 | No.66 | V   | V   | V      | Page31, Modify U2200 Pin 72 Net Name From AOU_ILIM to SPK_RT_Detect# for Speaker main stream & retail                                       |
|       | 2011/10/21 | No.67 | V   | V   | V      | Page31, Add R2235 pul up to +3VS for SPK_RT_Detect#                                                                                         |
|       | 2011/10/21 | No.68 | V   | V   | V      | Page35, Modify JAUB1 Pin20 Net Name From AOU_ILIM to GND , Pin17 From AOU_CTL1 to GND ,Pin4 From NC to AGNDfor USB Charger Function         |
|       | 2011/10/21 | No.69 | V   | V   | V      | Page29, Modify JSPK1 P/N From DC030000000 to SP02000N000 & Add JSPK1 Pin5 connect to GND for Speaker main stream & retail                   |
|       | 2011/10/21 | No.70 | V   | V   | V      | Page31, Modify U2200 Pin120 Net Name From AOU_CTL1 to NC for USB Charger Function1                                                          |
|       | 2011/10/24 | No.71 | V   | V   | V      | Page29, reserve D1102 for Audio Noise issue                                                                                                 |
|       | 2011/10/24 | No.72 | V   | V   | V      | Page35, Modify D2415 BOM Structure to POP for ESD Request                                                                                   |
|       | 2011/10/24 | No.73 | V   | V   | V      | Page33, Modify D2402,D2403 BOM Structure to POP for ESD Request                                                                             |
|       | 2011/10/24 | No.74 | V   | V   | V      | Page34, Modify D2402,D2403 BOM Structure to POP for ESD Request                                                                             |
|       | 2011/10/24 | No.75 | V   | V   | V      | Page26, Del R2116,R2117, Add R2172~R2176 & Reverse D2110 for PWM Power Leakage issue                                                        |
|       | 2011/10/24 | No.76 | V   | V   | V      | Page30, Del C2404,Reserve C2471,C2405 for Intel Circuit Common                                                                              |
|       | 2011/10/24 | No.77 | V   | V   | V      | Page32, Modify R500 BOM Structure to @ for BOM Error                                                                                        |
|       | 2011/10/24 | No.78 | V   | V   | V      | Page31, Del R2223~R2229, Q2220 to update Security ROM Circuit for Intel Circuit Common                                                      |
|       | 2011/10/24 | No.79 | V   | V   | V      | Page35, Swap JRJ45 PCIE CRX_C.DTX_P0 to PCIE CRX_C.DTX_N0 , PCIE_CTX_DRX_P0 to PCIE_CTX_DRX_N0 For LAN Board Common                         |
|       | 2011/10/24 | No.80 | V   | V   | V      | Page35, Del R2462 to update Power OK circuit for Intel Circuit Common                                                                       |
|       | 2011/10/24 | No.81 | V   | V   | V      | Page35, Del R2462 to update Power OK circuit for Intel Circuit Common                                                                       |
|       | 2011/10/24 | No.82 | V   | V   | V      | Page36, Del R2300, R2310, C2312, R2317 update Power OK circuit for Intel Circuit Common                                                     |
|       | 2011/10/24 | No.83 | V   | V   | V      | Page31, Modify R2235 BOM Structure to @ for H_PROCHOT#_EC                                                                                   |
|       | 2011/10/24 | No.84 | V   | V   | V      | Page34, Modify D2404,D2406,D2408 P/N From SC300001D00 to SC300002B00 for ESD Request                                                        |
|       | 2011/10/24 | No.85 | V   | V   | V      | Page34, Modify D2404~D2409,L2400~L2408 BOM Structure from @ to POP for EMC Request                                                          |
|       | 2011/10/24 | No.86 | V   | V   | V      | Page27, Modify L2105~L2108 BOM Structure from @ to POP for EMI Request                                                                      |
|       | 2011/10/24 | No.87 | V   | V   | V      | Page34, Modify L2402,L2405,L2408 P/N From SC300000I00 to SM070000K00 for ESD Request (Footprint SM070000I00)                                |
|       | 2011/10/24 | No.88 | V   | V   | V      | Page34, Modify L2403, L2404, L2400, L2401, L2406, L2407 P/N from SC300000I00 to SM070001500 for ESD Request                                 |
|       | 2011/10/24 | No.89 | V   | V   | V      | Page27, Modify D2102,D2103,D2105 P/N From SC300001Y00 to SC300002C00 for ESD Request                                                        |
|       | 2011/10/24 | No.90 | V   | V   | V      | Page35, Modify D2413 P/N From SC000001000 to SA000001000 for ESD Request                                                                    |
|       | 2011/10/25 | No.91 | V   | V   | V      | Page31, Modify JSPK1 P/N From SP030000000 to DC030000000 for LD Requirement                                                                 |
|       | 2011/10/25 | No.92 | V   | V   | V      | Page29, Add R1140 connect to SPK_RT_Detect# to GND for Speaker Verify                                                                       |
|       | 2011/10/25 | No.93 | V   | V   | V      | Page28, Del D2412 with CRT_ODC_DATA & CRT_ODC_CLK for AMD Design Guide Require                                                              |
|       | 2011/10/26 | No.94 | V   | V   | V      | Page27, Del R2122,R2124, R2122, R2124 EDIO_CLK pull up for Duplicate Pull up error                                                          |
|       | 2011/10/26 | No.95 | V   | V   | V      | Page26, Modify R2174 BOM Structure to @ for BOM Error                                                                                       |
|       | 2011/10/26 | No.96 | V   | V   | V      | Reserve R2116, R2117 to Connect from CSCL & CSCA to EC_SMB_DA2 & EC_SMB_CK2 for Power Leakage issue                                         |
|       | 2011/10/26 | No.97 | V   | V   | V      | Page29, Modify D1101,D1102 BOM Structure From @ to POP for Audio Noise issue                                                                |
|       | 2011/10/27 | No.98 | V   | V   | V      | Page31, Modify D2416 P/N From SC000001000 to SC000001000 for ESD Request                                                                    |
|       | 2011/10/27 | No.99 | V   | V   | V      | Page29, Modify C1111 ,C1114 BOM Structure From POP to @ for Audio Noise issue                                                               |

| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                          |
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| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2008/08/10 | Deciphered Date    | 2011/03/04 | Title                    | EE modify list           |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 48 of 50                 |

| Phase | Date       | No.   | BOM | Sch | Layout | Description                                                                                                                                                             |
|-------|------------|-------|-----|-----|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FVT   | 2011/11/14 | No. 1 | V   |     |        | Page17~24, Modify U1401 P/N From SA000047H00 to SA000047H50 for GPU Version update                                                                                      |
|       | 2011/11/14 | No. 2 | V   |     |        | Page36, Modify R2305 P/N From SD028200280 (20K 0402_5%) to SD028150380 (150K 0402_5%) for Power Consumption & Power Sequence tuning                                     |
|       | 2011/11/14 | No. 3 | V   |     |        | Page36, Modify R2304 P/N From SD028470280 (47K 0402_5%) to SD028470380 (470K 0402_5%) for Power Consumption & Power Sequence tuning                                     |
|       | 2011/11/14 | No. 4 | V   |     |        | Page36, Modify R2315 P/N From SD028750280 (75K 0402_5%) to SD028220380 (220K 0402_5%) for Power Consumption & Power Sequence tuning                                     |
|       | 2011/11/14 | No. 5 | V   |     |        | Page36, Modify R2442~R2459 BOM Structure From POP to @ for EMI Request                                                                                                  |
|       | 2011/11/14 | No. 6 | V   |     |        | Page27, Modify R2126~R2133 BOM Structure From POP to @ for EMI Request                                                                                                  |
|       | 2011/11/14 | No. 7 | V   | V   | V      | Page14, Replace C222~C237 to R216~R231 on all usb port signal for AMD Design checklist update (USB no function issue)                                                   |
|       | 2011/11/14 | No. 8 | V   | V   | V      | Page19, Add R1461 to connect PXS_PUREN to RUNPWR0K for PXS0 Power Enable                                                                                                |
|       | 2011/11/14 | No. 9 | V   | V   | V      | Page30, Modify J0DD1 Location to J0DD2 for ME BOM Common                                                                                                                |
|       | 2011/11/14 | No.10 | V   | V   | V      | Page14, Remove R230~R231 on all usb port signal for AMD Design checklist update (USB no function issue)                                                                 |
|       | 2011/11/15 | No.11 | V   | V   | V      | Page35, Remove Q2415 for ESD Request                                                                                                                                    |
|       | 2011/11/21 | No.12 | V   | V   | V      | Page31, Reserve R2414, C2421 for G Sensor Vendor Suggestion                                                                                                             |
|       | 2011/11/21 | No.13 | V   | V   | V      | Page29, Modify JSPK1 Conn From 4Pin to 6Pin & Move R1140 to connect JSPK1 Pin5 For Speaker main stream & retail                                                         |
|       | 2011/11/21 | No.14 | V   | V   | V      | Page31, Add J2200, J2201 to improve EC Power Source +3VLP or +3VALW to +3VALW_EC Power Source Option and modify +3VALW Net Name to +3VALW_EC for Lenovo S4 Lid Function |
|       | 2011/11/21 | No.15 | V   | V   | V      | Page31, Update Borad ID table for FVT Phase                                                                                                                             |
|       | 2011/11/21 | No.16 | V   | V   | V      | Page31, Modify R2209 From 8_2K to 10K for FVT BRDID update                                                                                                              |
|       | 2011/11/21 | No.17 | V   | V   | V      | Page30, C2417 BOM Change from 10U (SE000005T80) to 10K (SD013100280) for G Sensor Vendor Suggestion                                                                     |
|       | 2011/11/21 | No.18 | V   | V   | V      | Page36, Add R2321, R2322, C2317, C2318, C2319, Q2313, Q2314 for +3V_FCH Power Control                                                                                   |
|       | 2011/11/21 | No.19 | V   | V   | V      | Page31, U2200 Pin70 Add FCH_PWR_EN0 for +3V_FCH Power Control                                                                                                           |
|       | 2011/11/22 | No.20 | V   | V   | V      | Page35, Add R2481 Pull up to +3VLP & Reserve R2482 Pull up to +3VALW for Lenovo S4 LID Function                                                                         |
|       | 2011/11/22 | No.21 | V   | V   | V      | Page18, Y1400 P/N From SJ10000DY00 to SJ10000CX00 for BOM Change                                                                                                        |
|       | 2011/11/22 | No.22 | V   | V   | V      | Page12, X1 P/N From SJ10000EL00 to SJ10000CX00 for BOM Change                                                                                                           |
|       | 2011/11/22 | No.23 | V   | V   | V      | Page25, Modify R2117 connect to TL_DATA & R2116 connect to TL_CLK, Two signals connect to R2177, R2178 pull up to +3VS for LVDS Translator EEPROM Reserve               |
|       | 2011/11/22 | No.24 | V   | V   | V      | Page31, Modify U2200 Pin86 EAPD to TL_DATA & Add U2200 Pin85 TL_CLK for LVDS Translator EEPROM Reserve Function                                                         |
|       | 2011/11/22 | No.25 | V   | V   | V      | Page31, Add U2200 Pin26 EAPD_R for LVDS Translator EEPROM Reserve Function                                                                                              |
|       | 2011/11/22 | No.26 | V   | V   | V      | Page31, Add R2223 & R2224 to option EAPD GPIO Output singal from Pin26 (EAPD_R) or Pin86 (TL_DATA) for LVDS Translator EEPROM Reserve Function                          |
|       | 2011/11/23 | No.27 | V   | V   | V      | Page14, Del R216~R229 for USB2_0 Signals tuning circuit remove                                                                                                          |
|       | 2011/11/23 | No.28 | V   | V   | V      | Page14, Reserve R230~R234 & C222~C226 with USB2_0 N signals port 0,6,10,11,12 for AMD Suggestion                                                                        |
|       | 2011/11/24 | No.29 | V   | V   | V      | Page36, Del R2321, R2322, C2317, C2318, C2319, Q2313, Q2314 for +3V_FCH Power Control                                                                                   |
|       | 2011/11/24 | No.30 | V   | V   | V      | Page31, U2200 Pin70 Del FCH_PWR_EN0 for +3V_FCH Power Control                                                                                                           |
|       | 2011/11/24 | No.31 | V   | V   | V      | Page31, U2200 Pin127 Add VSB_ON & Reserve R2226 for +VSB Power Control                                                                                                  |
|       | 2011/11/25 | No.32 | V   | V   | V      | Page35, Add H18 for ME Drawing lose                                                                                                                                     |
|       | 2011/11/25 | No.33 | V   | V   | V      | Page31, Modify R2217, R2218 Power Source from +3VS to +3VALW for +3VGS Power Leakage issue                                                                              |
|       | 2011/11/25 | No.34 | V   | V   | V      | Page18, Install Q1400, R1427, R1428 & Remove R1433, R1435 for +3VGS Power Leakage issue                                                                                 |
|       | 2011/11/25 | No.35 | V   | V   | V      | Page31, Del R2226 for VSB_ON resistor double reserve                                                                                                                    |
|       | 2011/11/26 | No.36 | V   | V   | V      | Page31, Add R2226, R2227 Pull up to +3VS & Reserve R2217, R2218 pull up to +3VALW for SMBUS Leakage issue                                                               |
|       | 2011/11/28 | No.37 | V   | V   | V      | Page7, Del R65, R69 & Reserve R45 & R45 with APU_SID & APU_SIC By Pass APU_SID_R & APU_SIC_R for SMBUS Power Leakage Issue                                              |
|       | 2011/11/28 | No.38 | V   | V   | V      | Page31, Reserve C2219, C2210 to +3VALW For SMBUS2 AC Decoupling                                                                                                         |
|       | 2011/11/28 | No.39 | V   | V   | V      | Page31, Del C2213, C2214 & Modify R2226, R2227 BOM Structure to @ & R2217, R2218 to POP For SMBUS Power Leakage issue                                                   |
|       | 2011/11/29 | No.40 | V   | V   | V      | Page7, Modify R45, R48 BOM Structure to POP & Q9 to @ For SMBUS Power Leakage issue                                                                                     |
|       | 2011/11/29 | No.41 | V   | V   | V      | Page36, Modify R2309 P/N from SD028750180(7.5K) to SD028150380(150K) for Power Sequence tuning                                                                          |
|       | 2011/11/29 | No.42 | V   | V   | V      | Page36, Modify C2316 P/N from SE042104K80(0.1U) to SE080105K80(1U) for Power Sequence tuning                                                                            |
|       | 2011/11/29 | No.43 | V   | V   | V      | Page19, Modify R1400 P/N from SE002100380 (10K) to SE002100380 (10K) for Power Sequence tuning                                                                          |
|       | 2011/11/29 | No.44 | V   | V   | V      | Page19, Modify C1470 P/N from SE042104K80(0.1U) to SE080105K80(1U) for Power Sequence tuning                                                                            |
|       | 2011/11/29 | No.45 | V   | V   | V      | Page13, Modify U4 P/N from SA000041P00(MXIC) to SA000003K800(winbond) for ROM Part Issue                                                                                |

| Phase | Date       | No.    | BOM | Sch | Layout | Description                                                                                                                                    |
|-------|------------|--------|-----|-----|--------|------------------------------------------------------------------------------------------------------------------------------------------------|
| SIT   | 2012/01/03 | No. 1  | V   | V   | V      | Page31, Add R2228 connect from MAINPWON_R to MAINPWON for Power Circuit update                                                                 |
|       | 2012/01/03 | No. 2  | V   | V   | V      | Page31, Modify R2236 BOM Structure from POP to @ for +3VS Power Leakage Issue                                                                  |
|       | 2012/01/04 | No. 3  | V   | V   | V      | Page7, delete Q9, short and remove 0 ohm: R45&R48                                                                                              |
|       | 2012/01/04 | No. 4  | V   | V   | V      | Page7,9,13, short and remove R64&R68, change Page13 net name ML_VGA_HPDP, change page7 net name LVDS_HPDP                                      |
|       | 2012/01/04 | No. 5  | V   | V   | V      | Page14, Modify +VDDAN_11 USB S power source from +1.1VALW to +1.1V_FCH for reduce power consumption                                            |
| D     | 2012/01/04 | No. 6  | V   | V   | V      | Page15, Modify +VDDCR_11V USB power source from +1.1VALW to +1.1V_FCH for reduce power consumption                                             |
|       | 2012/01/04 | No. 7  | V   | V   | V      | Page15, Modify +VDDAN_11 SSUSB & +VDDCR_11 SSUSB power source from +1.1VALW to +1.1V_FCH for reduce power consumption                          |
|       | 2012/01/04 | No. 8  | V   | V   | V      | Page15, Modify +VDDIO_33 S power source from +3V_FCH to +3VALW for reduce power consumption                                                    |
|       | 2012/01/04 | No. 9  | V   | V   | V      | Page15, Modify +VDDXL_3.3V power source from +3V_FCH to +3VALW for reduce power consumption                                                    |
|       | 2012/01/04 | No. 10 | V   | V   | V      | Page15, Modify +VDDPL_11 SYS S power source from +1.1VALW to +1.1V_FCH for reduce power consumption                                            |
|       | 2012/01/04 | No. 11 | V   | V   | V      | Page15, Modify +VDDAN_11 USB S power source from +1.1VALW to +1.1V_FCH for reduce power consumption                                            |
|       | 2012/01/04 | No. 12 | V   | V   | V      | Page334, Modify R2314, R2318, R2320, Q2311 BOM Structure from @ to POP for Reduce Power Consumption                                            |
|       | 2012/01/04 | No. 13 | V   | V   | V      | Page36, Add Q2313, Q2314, U2304, C2309, C2312, C2321, R2323, R2310, R2324 for +3VALW to +3V_FCH Circuit (Reduce Power Consumption)             |
|       | 2012/01/04 | No. 14 | V   | V   | V      | Page36, Add Q2316, Q2309, U2303, C2317, C2320, C2318, C2319, R2322, R2317 for +1.1VALW to +1.1V_FCH Circuit (Reduce Power Consumption)         |
|       | 2012/01/04 | No. 15 | V   | V   | V      | Page14, Remove R287 for component part reduce                                                                                                  |
|       | 2012/01/04 | No. 16 | V   | V   | V      | Page32, Remove R471 & R472 for component part reduce                                                                                           |
|       | 2012/01/04 | No. 17 | V   | V   | V      | Page29, Remove R1106, R1107, R1119, R1134, R1109 for component part reduce                                                                     |
|       | 2012/01/04 | No. 19 | V   | V   | V      | Page35, Remove R2465, R2466 for component part reduce                                                                                          |
|       | 2012/01/04 | No. 20 | V   | V   | V      | Page33, Reserve R2483 & R2485 to connect EC_SMB_CK2 & EC_SMB_DA2 for Lenovo Multi-touch function                                               |
|       | 2012/01/04 | No. 21 | V   | V   | V      | Page14, Modify U2209 Pin70 Net name from FCH_PWR_EN to FCH_PWR_EN_R for S4 LID Function (common QILEX)                                         |
|       | 2012/01/04 | No. 22 | V   | V   | V      | Page26, Del R2176 to connect to EC_INVPWM for common QILEX                                                                                     |
|       | 2012/01/05 | No. 23 | V   | V   | V      | Page14, Add R146 & R148 for component part reduce                                                                                              |
|       | 2012/01/05 | No. 24 | V   | V   | V      | Page14, Modify +3V_FCH netname to +3V_FCH for component part reduce                                                                            |
|       | 2012/01/05 | No. 25 | V   | V   | V      | Page36, Modify +1.1V_FCH netname to +1.1VS_FCH for component part reduce                                                                       |
|       | 2012/01/05 | No. 26 | V   | V   | V      | Page15, Modify +VDDAN_11 USB S power source from +1.1V_FCH to +1.1VS_FCH for reduce power consumption                                          |
|       | 2012/01/05 | No. 27 | V   | V   | V      | Page15, Modify +VDDCR_11V USB power source from +1.1V_FCH to +1.1VS_FCH for reduce power consumption                                           |
|       | 2012/01/05 | No. 28 | V   | V   | V      | Page15, Modify +VDDAN_11 SSUSB & +VDDCR_11 SSUSB power source from +1.1V_FCH to +1.1VS_FCH for reduce power consumption                        |
|       | 2012/01/05 | No. 29 | V   | V   | V      | Page15, Modify +VDDIO_33 S power source from +3VALW to +3VS_FCH for reduce power consumption                                                   |
|       | 2012/01/05 | No. 30 | V   | V   | V      | Page15, Modify +VDDXL_3.3V power source from +3VALW to +3VS_FCH for reduce power consumption                                                   |
|       | 2012/01/05 | No. 31 | V   | V   | V      | Page15, Modify +VDDPL_11 SYS S power source from +1.1V_FCH to +1.1VS_FCH for reduce power consumption                                          |
|       | 2012/01/05 | No. 32 | V   | V   | V      | Page15, Modify +VDDAN_33 HWM power source from +3VALW to +3VS_FCH for reduce power consumption                                                 |
|       | 2012/01/05 | No. 33 | V   | V   | V      | Page29, Remove R1108, R1135, R1110, C1127 for component part reduce                                                                            |
|       | 2012/01/05 | No. 34 | V   | V   | V      | Page31, Remove Pin25 EC_INVT_PWM for Circuit Common                                                                                            |
|       | 2012/01/05 | No. 35 | V   | V   | V      | Page31, Modify EC_U2209_11Pin from +3VALW_EC to +3VLP for S4 LID Function (common QILEX)                                                       |
|       | 2012/01/05 | No. 36 | V   | V   | V      | Page31, Modify U2209 Pin70 Net name to FCH_PWR_EN for component part reduce                                                                    |
|       | 2012/01/05 | No. 37 | V   | V   | V      | Page15, Modify +VDDAN_33 USB power source from +3VS_FCH to +3V_FCH for reduce power consumption                                                |
|       | 2012/01/05 | No. 38 | V   | V   | V      | Page15, Modify +VDDPL_33 SSUSB S power source from +3VS_FCH to +3V_FCH for reduce power consumption                                            |
|       | 2012/01/05 | No. 39 | V   | V   | V      | Page15, Modify +VDDPL_33 USB S power source from +3VS_FCH to +3V_FCH for reduce power consumption                                              |
|       | 2012/01/05 | No. 40 | V   | V   | V      | Page15, Modify +VDDIO_33 S power source from +3V_FCH to +3VALW for reduce power consumption                                                    |
|       | 2012/01/05 | No. 41 | V   | V   | V      | Page15, Modify +VDDAN_33 HWM power source from +3V_FCH to +3VALW for reduce power consumption                                                  |
|       | 2012/01/05 | No. 42 | V   | V   | V      | Page36, Add J2302 From +1.1VALW to +1.1V_FCH for reduce power consumption                                                                      |
|       | 2012/01/05 | No. 43 | V   | V   | V      | Page36, Modify U2304 Power source from +3V_FCH to +3V for reduce power consumption                                                             |
|       | 2012/01/05 | No. 44 | V   | V   | V      | Page36, Add J2303 from +3VALW to +3V for reduce power consumption                                                                              |
|       | 2012/01/05 | No. 45 | V   | V   | V      | Page36, Modify U2303 Power source from +1.1V_FCH to +1.1V for reduce power consumption                                                         |
|       | 2012/01/05 | No. 46 | V   | V   | V      | Page36, Modify J2302 From +1.1V_FCH to +1.1V for reduce power consumption                                                                      |
|       | 2012/01/05 | No. 47 | V   | V   | V      | Page15, Modify +VDDAN_11 USB S power source from +1.1V_FCH to +1.1V for reduce power consumption                                               |
|       | 2012/01/05 | No. 48 | V   | V   | V      | Page15, Modify +VDDCR_11V USB power source from +1.1V_FCH to +1.1V for reduce power consumption                                                |
|       | 2012/01/05 | No. 49 | V   | V   | V      | Page15, Modify +VDDAN_11 SSUSB & +VDDCR_11 SSUSB power source from +1.1V_FCH to +1.1V for reduce power consumption                             |
|       | 2012/01/05 | No. 50 | V   | V   | V      | Page15, Modify +VDDPL_11 SYS S power source from +1.1V_FCH to +1.1V for reduce power consumption                                               |
|       | 2012/01/05 | No. 51 | V   | V   | V      | Page15, Modify +VDDAN_33 USB power source from +3V_FCH to +3V for reduce power consumption                                                     |
|       | 2012/01/05 | No. 52 | V   | V   | V      | Page15, Modify +VDDPL_33 SSUSB S power source from +3V_FCH to +3V for reduce power consumption                                                 |
|       | 2012/01/05 | No. 53 | V   | V   | V      | Page15, Modify +VDDPL_33 USB S power source from +3V_FCH to +3V for reduce power consumption                                                   |
|       | 2012/01/05 | No. 54 | V   | V   | V      | Page15, Modify +VDDIO_33 S power source from +3VALW to +3V_FCH for reduce power consumption                                                    |
|       | 2012/01/05 | No. 55 | V   | V   | V      | Page15, Modify +VDDAN_33 HWM power source from +3VALW to +3V_FCH for reduce power consumption                                                  |
|       | 2012/01/05 | No. 56 | V   | V   | V      | Page15, Modify +VDDXL_3.3V power source from +3V_FCH to +3V for reduce power consumption                                                       |
|       | 2012/01/09 | No. 57 | V   | V   | V      | Page33, Add R2493, R2492, R2491, R2494, Q2400, Q2400, C2494, C2493 for AOAC Power Circuit                                                      |
|       | 2012/01/09 | No. 58 | V   | V   | V      | Page31, U2209 add netname FCH_PWR_EN# on Pin70 for +3V & +1.1V Power Control                                                                   |
|       | 2012/01/09 | No. 59 | V   | V   | V      | Page36, Add R2325 FWH from FCH_PWR_EN# to FCH_PWR_EN# R for +3V & +1.1V Power Control                                                          |
|       | 2012/01/09 | No. 60 | V   | V   | V      | Page36, Add FCH_PWR_EN# R on Q2313.2, Q2314.2, Q2316.2, Q2309.2 for +3V & +1.1V Power Control Enable Option                                    |
|       | 2012/01/09 | No. 61 | V   | V   | V      | Page33, Modify JMINI1 pin1 from FCH_PCIE_WAKE# to WLAN_WAKE# for AOAC Function                                                                 |
|       | 2012/01/09 | No. 62 | V   | V   | V      | Page31, Modify U2209 Pin26 from EAPD_R to WLAN_WAKE# for AOAC Function                                                                         |
|       | 2012/01/09 | No. 63 | V   | V   | V      | Page31, Add U2209 Pin19 from NC to EAPD_R for Audio Function                                                                                   |
|       | 2012/01/09 | No. 64 | V   | V   | V      | Page31, Add U2209 Pin91 from NC to AOAC_WLAN for AOAC Function                                                                                 |
|       | 2012/01/10 | No. 65 | V   | V   | V      | Page31, Modify U2209 Pin19 net name from ODD_DA# to WL_OFF_EC# for Circuit common with Intel                                                   |
|       | 2012/01/10 | No. 66 | V   | V   | V      | Page30, Del R2435 for component reduce                                                                                                         |
|       | 2012/01/10 | No. 67 | V   | V   | V      | Page33, Add R2496 & reserve R2495 for RF_OFF# source option                                                                                    |
|       | 2012/01/10 | No. 68 | V   | V   | V      | Page33, Modify JMINI1 Pin20 net name from WL_OFF# to RF_OFF# for Circuit common with Intel                                                     |
|       | 2012/01/10 | No. 69 | V   | V   | V      | Page31, Modify R2205 BOM Structure to @ for Common Circuit with Intel                                                                          |
|       | 2012/01/10 | No. 70 | V   | V   | V      | Page31, Modify R2232, R2230 from 18K to 100K & Modify R2202, R2230, R2232 pull up from +3VALW_EC to +3VALW for Common Circuit with Intel       |
|       | 2012/01/11 | No. 71 | V   | V   | V      | Page31, Modify L2200.1 Power Source from +3VALW to +3VALW_EC for EC_AVCC Power Leakage Issue                                                   |
|       | 2012/01/11 | No. 72 | V   | V   | V      | Page31, BRDID Table update for SIT Build                                                                                                       |
|       | 2012/01/11 | No. 73 | V   | V   | V      | Page31, Modify R2209 from 18K to 33K for FVT BRDID update                                                                                      |
|       | 2012/01/11 | No. 74 | V   | V   | V      | Page26, Modify R2166 P/N from S0628330980 (33ohm) to S0634499180 (4.99K) for logo led brightness fine tune                                     |
|       | 2012/01/11 | No. 75 | V   | V   | V      | Page35, Remove R2469 for logo led brightness fine tune                                                                                         |
| MEMO  | 2012/01/11 | No. 76 | V   | V   | V      | Page18, Modify C1445, C1446 P/N from SE071200JN0 to SE071200J80 for FVT SMT Memo                                                               |
|       | 2012/01/11 | No. 77 | V   | V   | V      | Page36, Modify C2316 P/N from SE080105K80 to SE080906Q10 for FVT SMT Memo                                                                      |
|       | 2012/01/11 | No. 78 | V   | V   | V      | Page26, Add C2144, C2145 P/N SE071220J80 (22P) for FVT SMT Memo                                                                                |
|       | 2012/01/11 | No. 79 | V   | V   | V      | Page36, Add Q2317 to Replace U2303 for +1.1V Power Mos layout space not enough issue                                                           |
|       | 2012/01/11 | No. 80 | V   | V   | V      | Page36, Add Q2318 to Replace U2304 for +3V Power Mos layout space not enough issue                                                             |
|       | 2012/01/11 | No. 81 | V   | V   | V      | Page29, Modify R1102, R1104, R1105 BOM Structure to @ for Vendor suggestion                                                                    |
|       | 2012/01/12 | No. 82 | V   | V   | V      | Page36, Modify R2323.1 & R2322.1 from +VS to +SVALW for VGS over spec issue                                                                    |
|       | 2012/01/12 | No. 83 | V   | V   | V      | Page36, Modify Q2317 & Q2318 P/N: from S060600LQ00 to S0623050030 for VGS over spec issue                                                      |
|       | 2012/01/12 | No. 84 | V   | V   | V      | Page31, 35 Modify U2209 Pin70 Net name from FCH_PWR_EN# to FCH_PWR_EN_R for +3V & +1.1V power control solution change                          |
|       | 2012/01/12 | No. 85 | V   | V   | V      | Page36, Modify R2325 to POP from FCH_PWR_EN to FCH_PWR_EN_R for +3V & +1.1V Power Control                                                      |
|       | 2012/01/12 | No. 86 | V   | V   | V      | Page36, Delete R2314, R2318, R2320, Q2311 for Reduce Power Consumption                                                                         |
|       | 2012/01/16 | No. 87 | V   | V   | V      | Page36, Modify R2230 BOM Structure from POP to @ for double pull up error                                                                      |
|       | 2012/01/16 | No. 88 | V   | V   | V      | Page31, Modify R2208 BOM Structure from POP to @ for internal pull high solution                                                               |
|       | 2012/01/16 | No. 89 | V   | V   | V      | Page36, Modify Q2313, Q2314, U2304, C2309, C2312, C2321, R2323, R2310, R2324 to @ for +3VALW to +3V_FCH Circuit (Reduce Power Consumption)     |
|       | 2012/01/16 | No. 90 | V   | V   | V      | Page36, Modify Q2316, Q2309, U2303, C2317, C2320, C2318, C2319, R2322, R2317 to @ for +1.1VALW to +1.1V_FCH Circuit (Reduce Power Consumption) |

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