

# Compal Confidential

## G400/G500 UMA M/B Schematics Document

### Intel Ivy Bridge Processor with DDRIII + Panther Point PCH

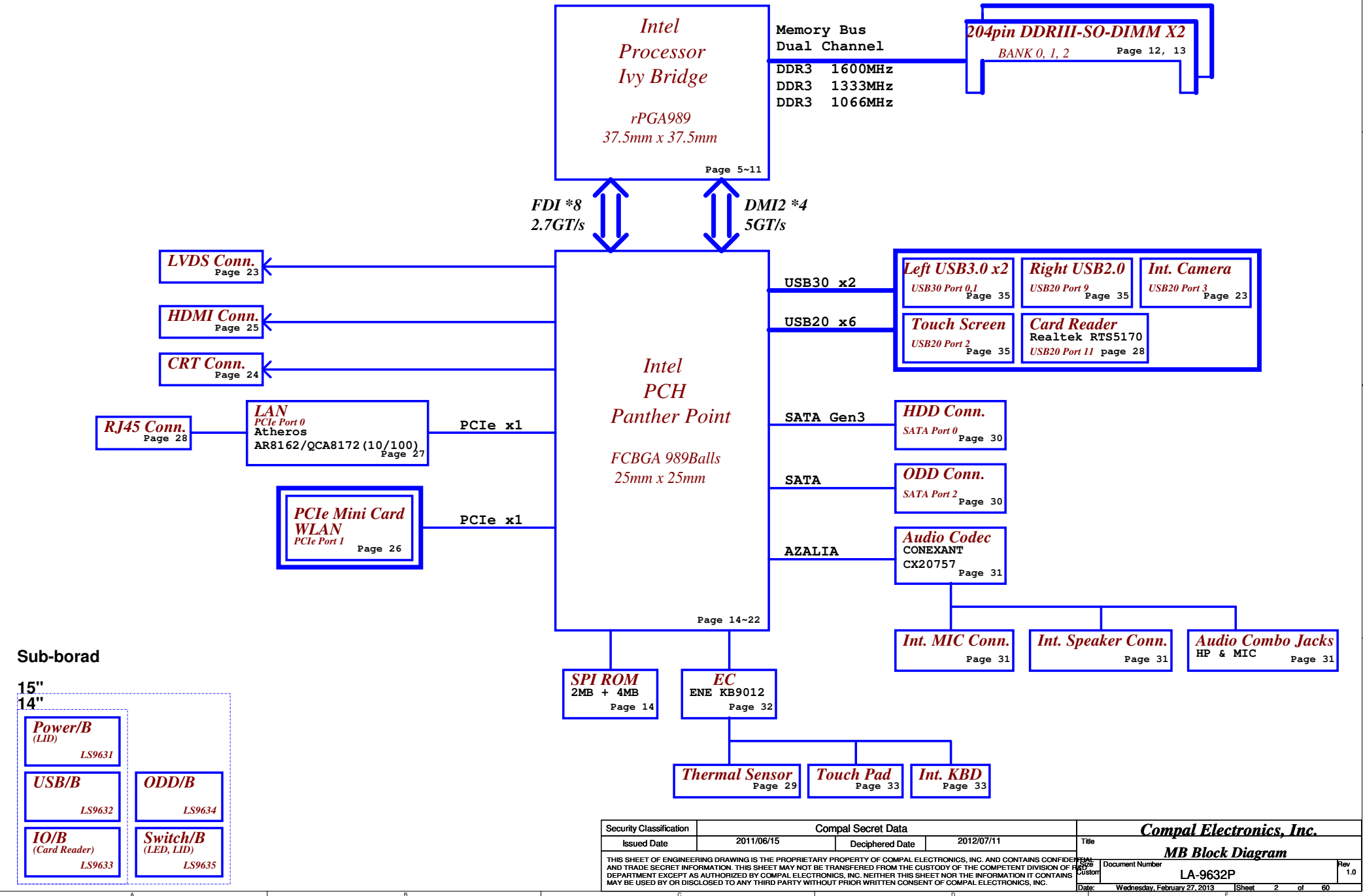
2013-02-27

LA-9632P

REV: 1.0

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                 |            |                          |                 |       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|-----------------|-------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                         | Compal Secret Data |                 |            | Compal Electronics, Inc. |                 |       |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2011/06/15         | Deciphered Date | 2012/07/11 | Title                    |                 |       |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                 |            | 1.0                      | LA-9632P        | 1.0   |
| Date: Wednesday, February 27, 2013                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                 |            | Sheet                    | 1               | of 60 |

# Chief River



Voltage Rails

| power plane                    | +B | +5VALW<br><br>+3VALW | +1.5V | +5VS<br>+3VS<br>+1.5VS<br>+V1.05S_VCCP<br>+VCC_CORE<br>+VGA_CORE<br>+VCC_GFXCORE_AXG |
|--------------------------------|----|----------------------|-------|--------------------------------------------------------------------------------------|
|                                |    |                      |       | +1.8VS<br>+0.75VS<br>+1.05VS                                                         |
| State                          |    |                      |       |                                                                                      |
| S0                             | ○  | ○                    | ○     | ○                                                                                    |
| S3                             | ○  | ○                    | ○     | ✗                                                                                    |
| S5 S4/AC                       | ○  | ○                    | ✗     | ✗                                                                                    |
| S5 S4/ Battery only            | ○  | ✗                    | ✗     | ✗                                                                                    |
| S5 S4/AC & Battery don't exist | ✗  | ✗                    | ✗     | ✗                                                                                    |

BOARD ID Table

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

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

| Vcc      | 3.3V        | Board ID / SKU ID Table for AD channel |             |             |             |     |  |  |
|----------|-------------|----------------------------------------|-------------|-------------|-------------|-----|--|--|
| R694     | 100K +/- 1% |                                        |             |             |             |     |  |  |
| Board ID | R695        | VAD_BID min                            | VAD_BID typ | VAD_BID max | EC AD       |     |  |  |
| 0        | 0           | 0 V                                    | 0 V         | 0 V         | 0x00 - 0x0B | MP  |  |  |
| 1        | 12K +/- 1%  | 0.347V                                 | 0.354V      | 0.360V      | 0x0C - 0x1C | PVT |  |  |
| 2        | 15K +/- 1%  | 0.423V                                 | 0.430V      | 0.438V      | 0x1D - 0x26 | DVT |  |  |
| 3        | 20K +/- 1%  | 0.541V                                 | 0.550V      | 0.559V      | 0x27 - 0x30 | EVT |  |  |

EC SM Bus1 address

| Device        | Address   | Device         | Address   |
|---------------|-----------|----------------|-----------|
| Smart Battery | 0001 011x | Thermal Sensor | 0100 1100 |

EC SM Bus2 address

PCH SM Bus address

| Device     | Address       | Device                  | Address       |
|------------|---------------|-------------------------|---------------|
| DDR_JDIMM1 | 1010 000x A0h | Internal thermal sensor | 0100 0001 41h |
| DDR_JDIMM2 | 1010 010x A4h |                         |               |

AMD-GPU SM Bus address

USB Port Table

|       | USB 2.0 | Port | 3 External USB Port          |
|-------|---------|------|------------------------------|
| EHCI1 | UHCI0   | 0    | USB Port (Left Side)USB3.0   |
|       |         | 1    | USB Port (Left Side)USB3.0   |
|       | UHCI1   | 2    | Touch Screen                 |
|       |         | 3    | Camera                       |
|       | UHCI2   | 4    |                              |
|       |         | 5    |                              |
|       | UHCI3   | 6    |                              |
| EHCI2 |         | 7    |                              |
|       | UHCI4   | 8    |                              |
|       |         | 9    | USB Port (Right Side USB-BD) |
|       | UHCI5   | 10   | Mini Card(WLAN)              |
|       |         | 11   | Card Reader                  |
|       | UHCI6   | 12   |                              |
|       |         | 13   |                              |

BOM Structure Table

| Item                    | BOM Structure |
|-------------------------|---------------|
| VIWGP (14")             | 14@           |
| VIWGR (15")             | 15@           |
| HDMI Logo               | 45@           |
| LAN 10/100              | 8162@         |
| LAN 10/100              | 8172@         |
| LAN Switch mode         | SWR@          |
| LAN LDO Mode            | LDO@          |
| LAN Gas tube            | GAS@          |
| Camera                  | CMOS@         |
| HDMI                    | HDMI@         |
| PCH is HM76             | HM76@         |
| PCH is HM70             | HM70@         |
| PCH is NM70             | NM70@         |
| VGA is Mars XT          | Mars@         |
| VGA is Sun Pro          | Sun@          |
| For VGA                 | PX@           |
| For VRAM and Strap      | X76@          |
| For UMA Strap           | UMA@          |
| Microphone              | MIC@          |
| Touch Screen            | TS@           |
| Connector               | ME@           |
| Board ID for EVT        | EVT@          |
| Board ID for DVT        | DVT@          |
| Board ID for PVT        | PVT@          |
| For USB2.0 (All PCH)    | USB2@         |
| For USB3.0 (HM76, HM70) | USB3@         |
| For share ROM           | SROM@         |
| For non-share ROM       | NOSROM@       |

SMBUS Control Table

|              | SOURCE | VGA   | BATT   | KB9012 | SODIMM | WLAN | Thermal Sensor | PCH    |
|--------------|--------|-------|--------|--------|--------|------|----------------|--------|
| SMB_EC_CK1   | KB9012 | ✗     | ✓      | ✗      | ✗      | ✗    | ✗              | ✗      |
| SMB_EC_DA1   | +3VALW |       | +3VALW |        |        |      |                |        |
| SMB_EC_CK2   | KB9012 | ✓     | ✗      | ✗      | ✗      | ✗    | ✓              | ✓      |
| SMB_EC_DA2   | +3VS   | +3VGS |        |        |        |      | +3VS           | +3VALW |
| PCH_SMBCLK   | PCH    | ✗     | ✗      | ✗      | ✓      | ✓    | ✗              | ✗      |
| PCH_SMBDATA  | +3VALW |       |        |        | +3VS   | +3VS |                |        |
| PCH_SML0CLK  | PCH    | ✗     | ✗      | ✗      | ✗      | ✗    | ✗              | ✗      |
| PCH_SML0DATA | +3VALW |       |        |        |        |      |                |        |
| SML1CLK      | PCH    | ✓     | ✗      | ✓      | ✗      | ✗    | ✓              | ✗      |
| SML1DATA     | +3VALW | +3VGS |        | ✓      |        |      | +3VS           |        |

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|                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                 |            | Date:                    | Wednesday, February 27, 2013 | Sheet | 3   | of 60 |

|   |   |   |   |   |
|---|---|---|---|---|
| 5 | 4 | 3 | 2 | 1 |
| D |   |   |   | D |
| C |   |   |   | C |
| B |   |   |   | B |
| A |   |   |   | A |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                 |            |                          |                              |
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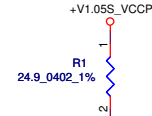


14" UMA PCB\_LA9632P  
DA6000WP000  
PCB 0Y0 LA-9632P REV0 M/B UMA 3

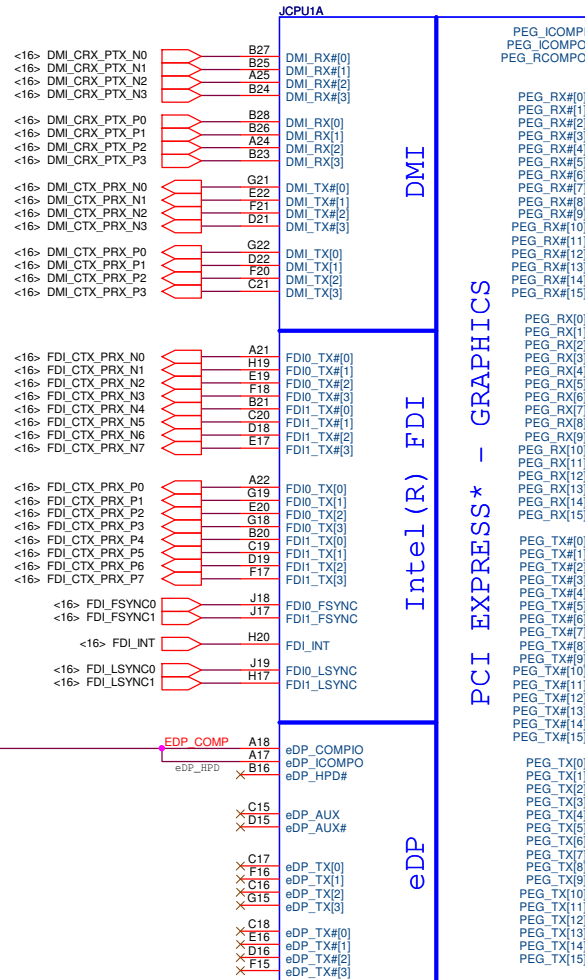


15" UMA PCB\_LA9632P  
DA6000WP100  
PCB 0Y0 LA-9632P REV0 M/B UMA 5

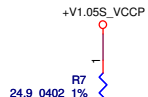
PEG\_ICOMPI and RCOMPO signals should be  
shorted and routed  
with - max length = 500 mils - typical  
impedance = 43 mohms  
PEG\_ICOMPO signals should be routed with -  
max length = 500 mils  
- typical impedance = 14.5 mohms



| PEG Static Lane Reversal - CFG2 is for the 16x |                                                                                                |
|------------------------------------------------|------------------------------------------------------------------------------------------------|
| CFG2                                           | 1: Normal Operation; Lane # definition matches socket pin map definition<br>★ 0: Lane Reversed |



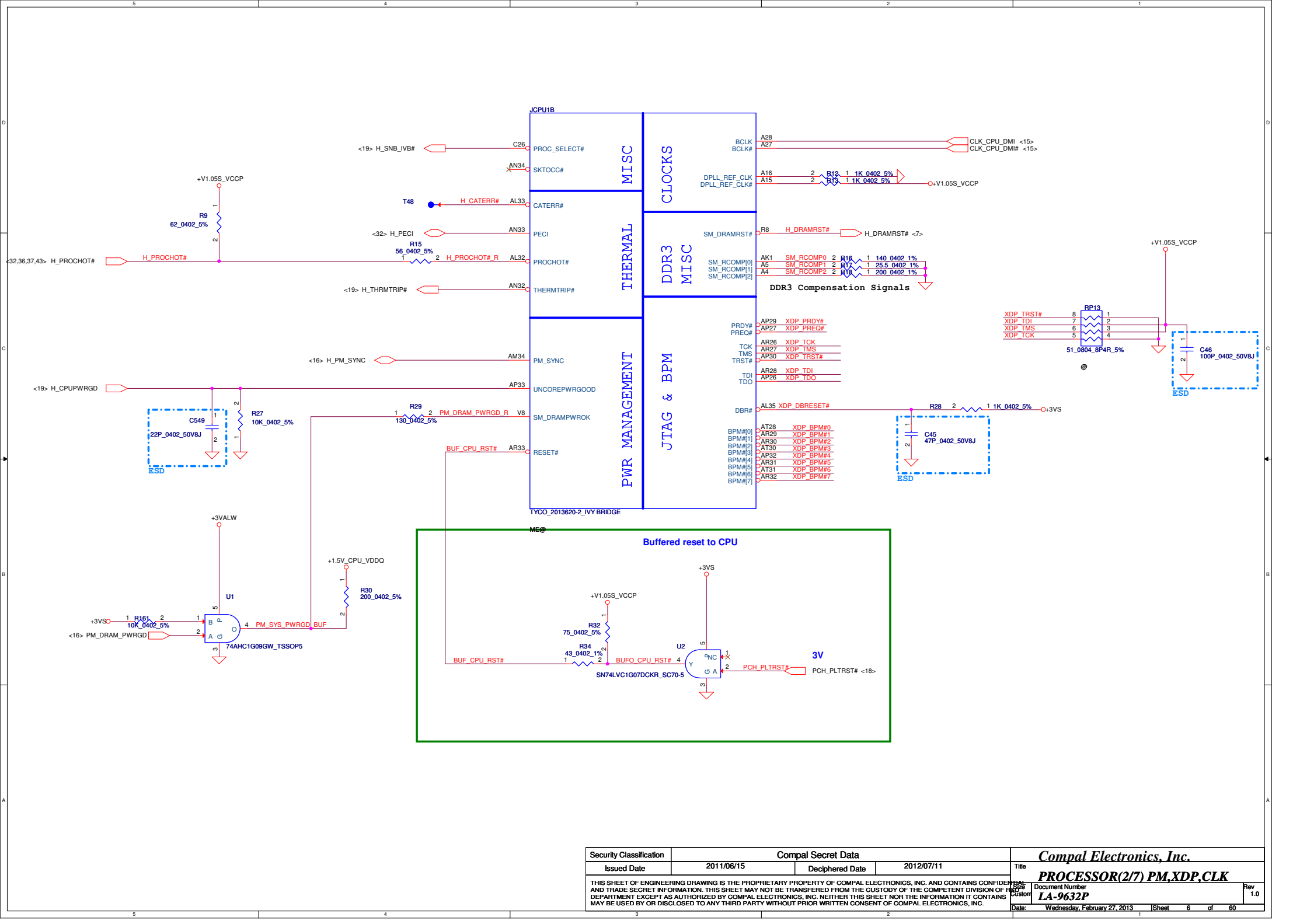
eDP\_COMPIO and ICOMPO signals  
should be shorted near balls  
and routed with typical  
impedance <25 mohms

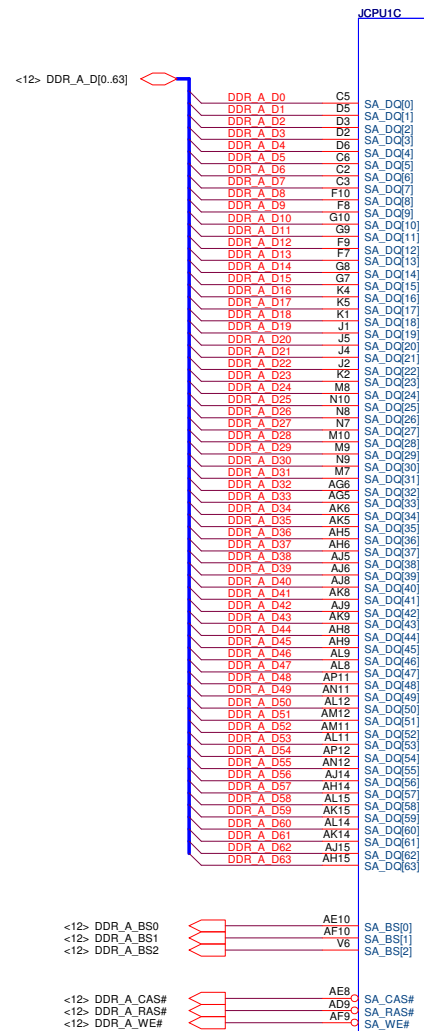


TYCO\_2013620-2\_IVY BRIDGE

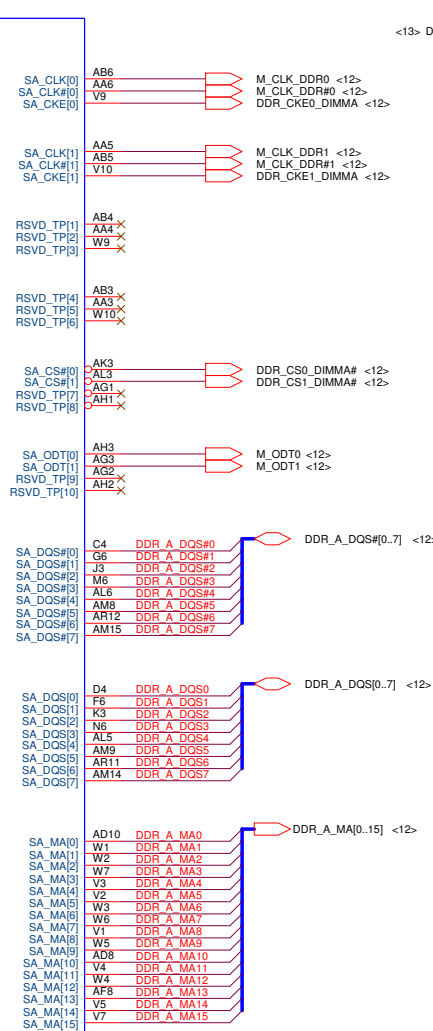
ME@

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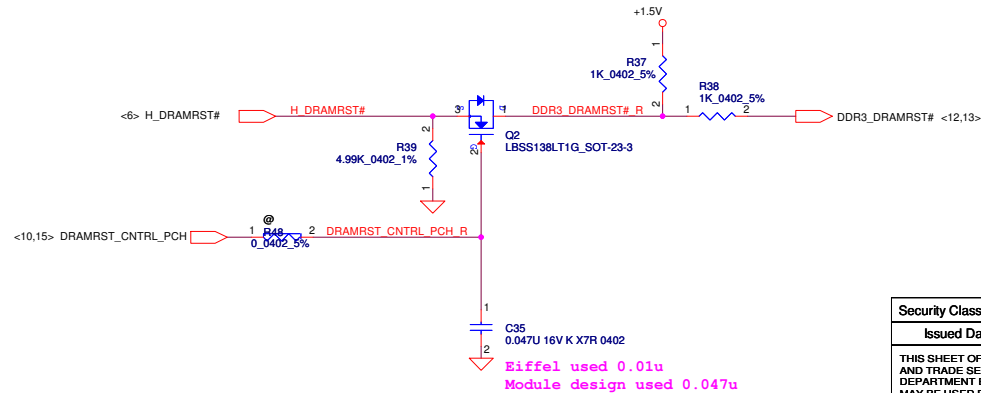
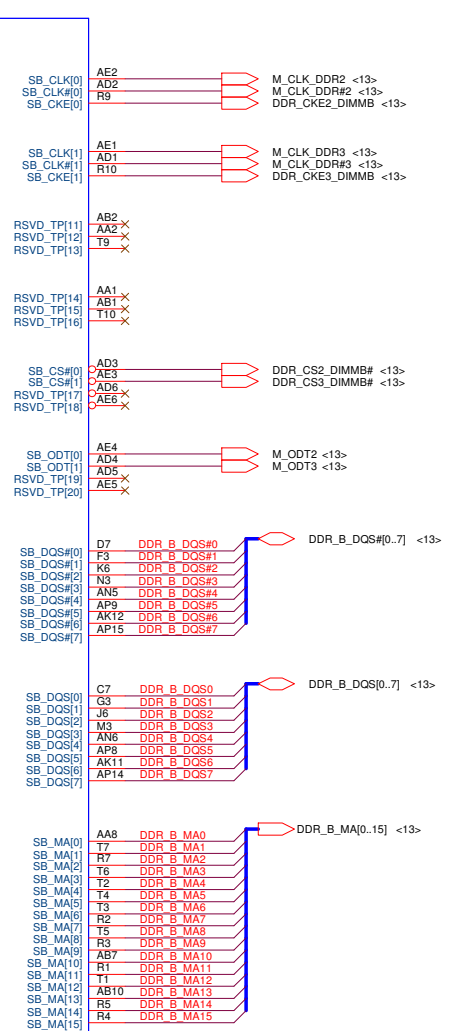




DDR SYSTEM MEMORY A

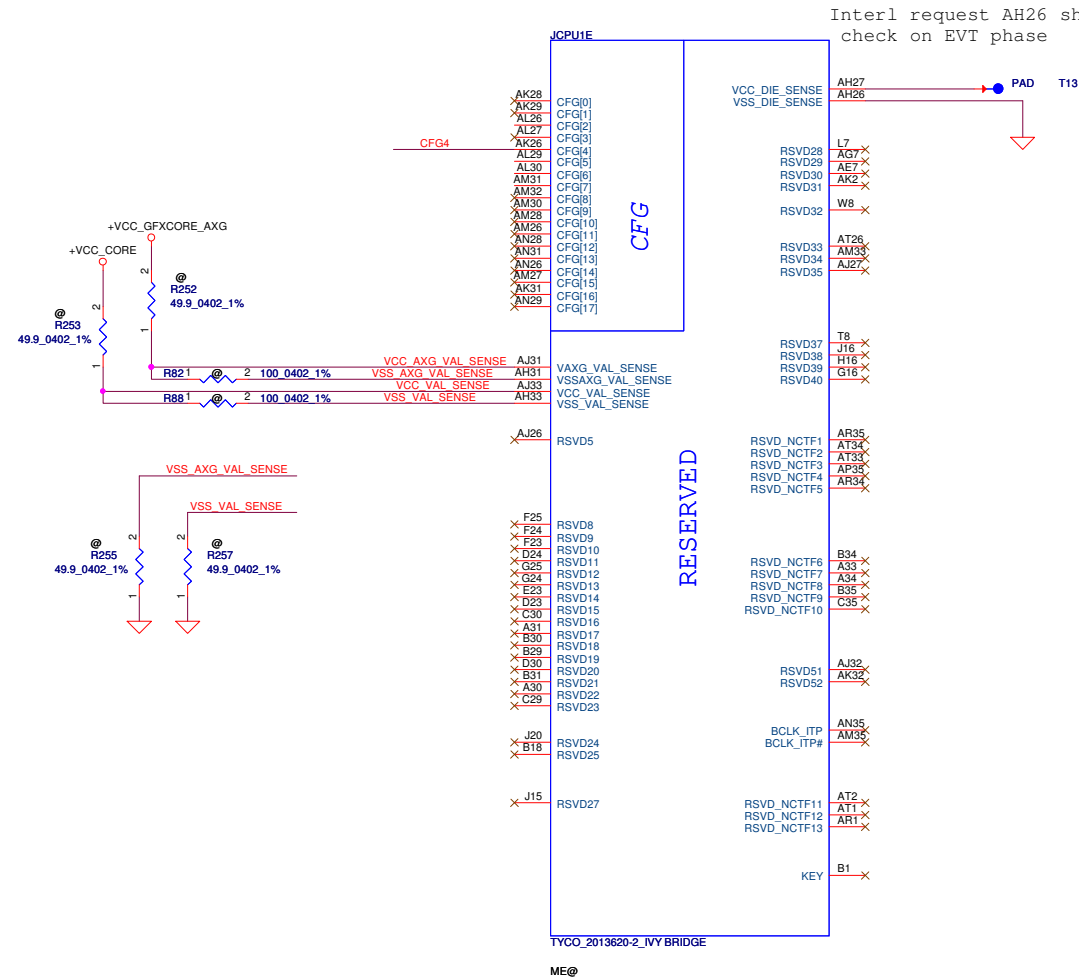


DDR SYSTEM MEMORY B



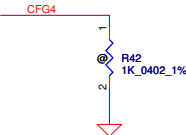
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                 |            | Sheet                    | 7 of 60                      |

CFG Straps for Processor



Interl request AH26 short GND  
check on EVT phase

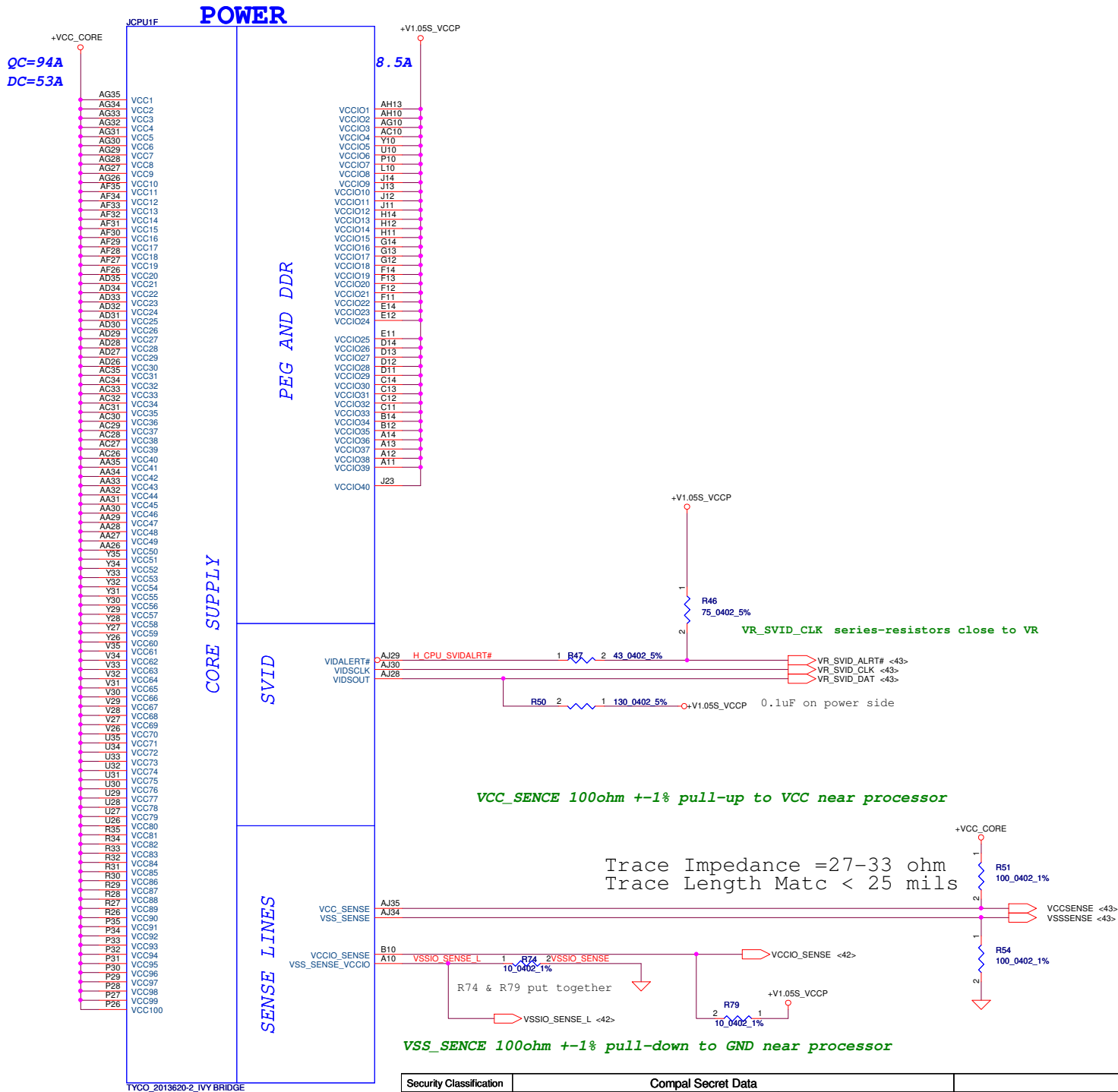
| PEG Static Lane Reversal - CFG2 is for the 16x |                                                                                                |
|------------------------------------------------|------------------------------------------------------------------------------------------------|
| CFG2                                           | 1: Normal Operation; Lane # definition matches socket pin map definition<br>★ 0: Lane Reversed |



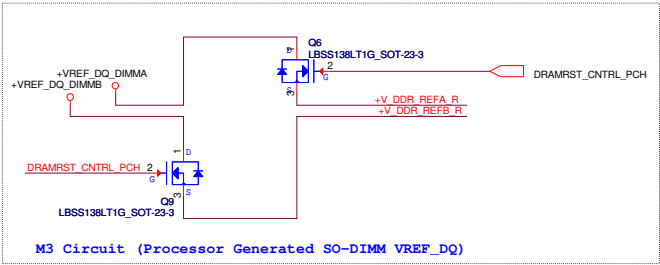
| Display Port Presence Strap |                                                                                                                                                                      |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CFG4                        | ★ 1 : Disabled; No Physical Display Port attached to Embedded Display Port<br>0 : Enabled; An external Display Port device is connected to the Embedded Display Port |

| PCIe Port Bifurcation Straps |                                                                                                                                                                                                                                                        |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CFG[6:5]                     | 11: (Default) x16 - Device 1 functions 1 and 2 disabled<br>★ 10: x8, x8 - Device 1 function 1 enabled ; function 2 disabled<br>01: Reserved - (Device 1 function 1 disabled ; function 2 enabled)<br>00: x8,x4,x4 - Device 1 functions 1 and 2 enabled |

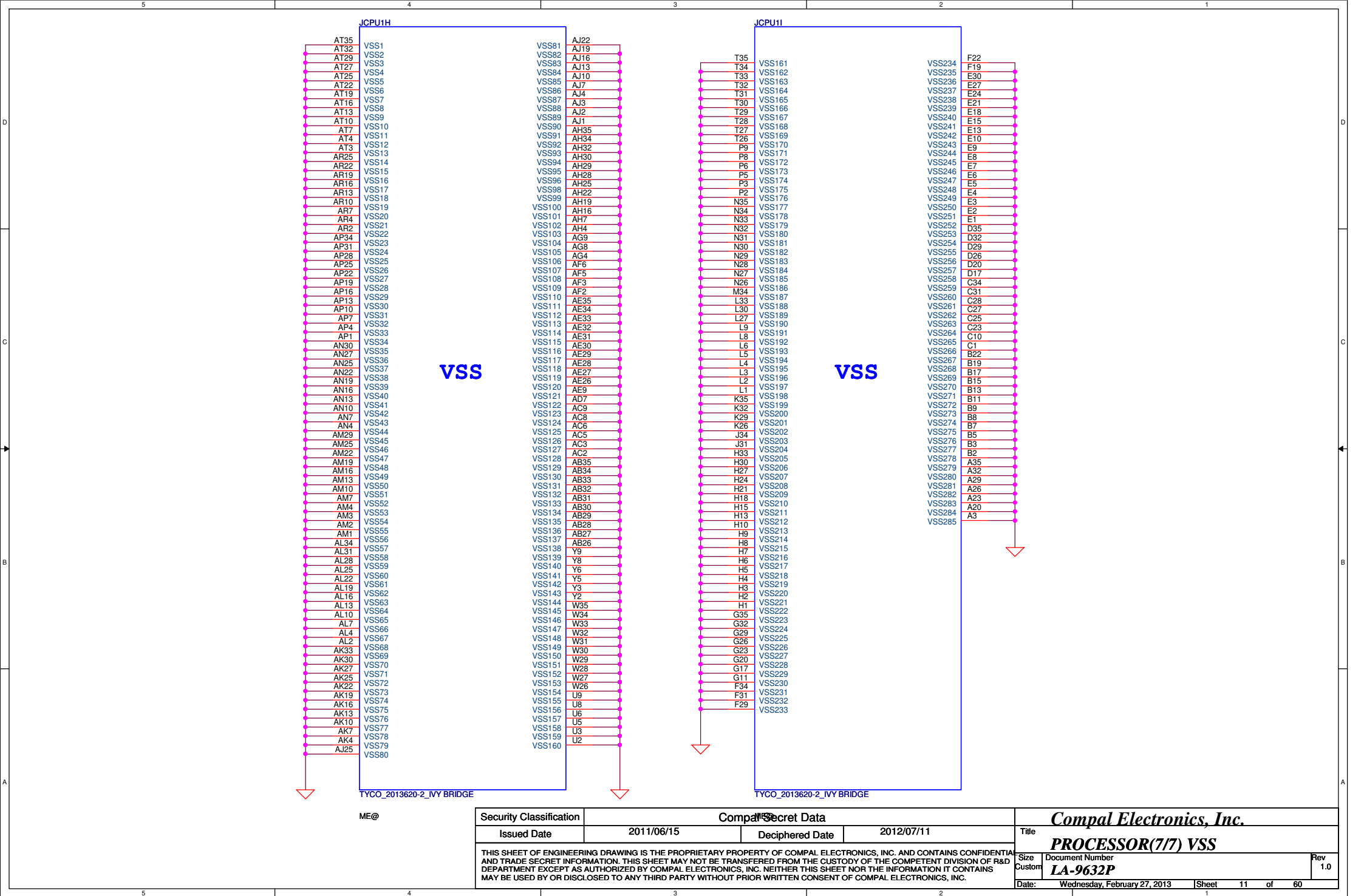
| PEG DEFER TRAINING |                                                                                                         |
|--------------------|---------------------------------------------------------------------------------------------------------|
| CFG7               | 1: (Default) PEG Train immediately following xxRESETB de assertion<br>0: PEG Wait for BIOS for training |



|                                                                                                                                                                                                                                                                                                                                                      |            |                    |            |                              |               |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                                    |            |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Document Number<br><b>LA-9632P</b> | Rev<br>1.0 |  |
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Issued Date

2011/06/15

Deciphered Date

2012/07/11

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PROCESSOR(7/7) VSS

Size Custom

Document Number

LA-9632P

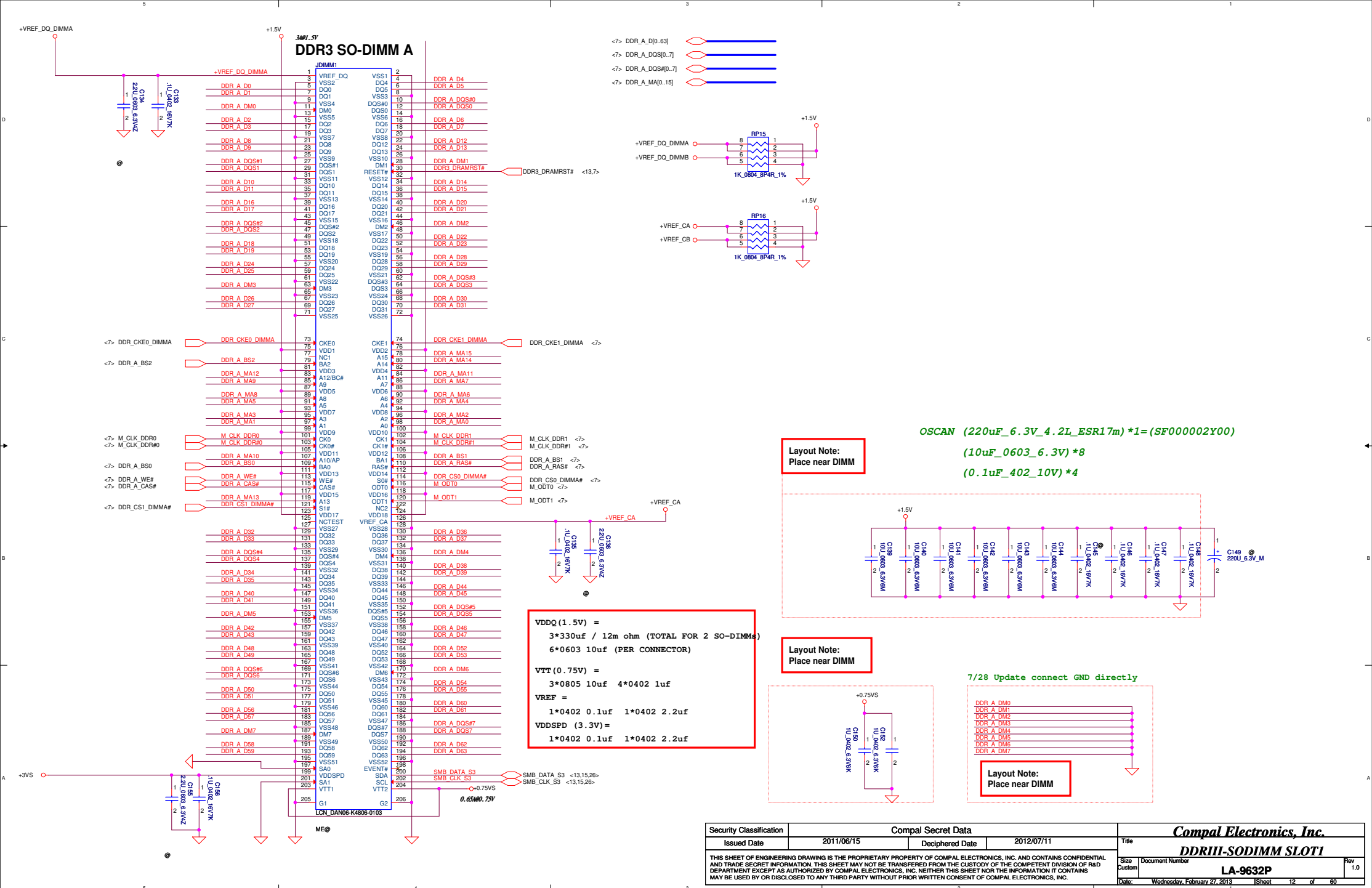
Rev 1.0

Date:

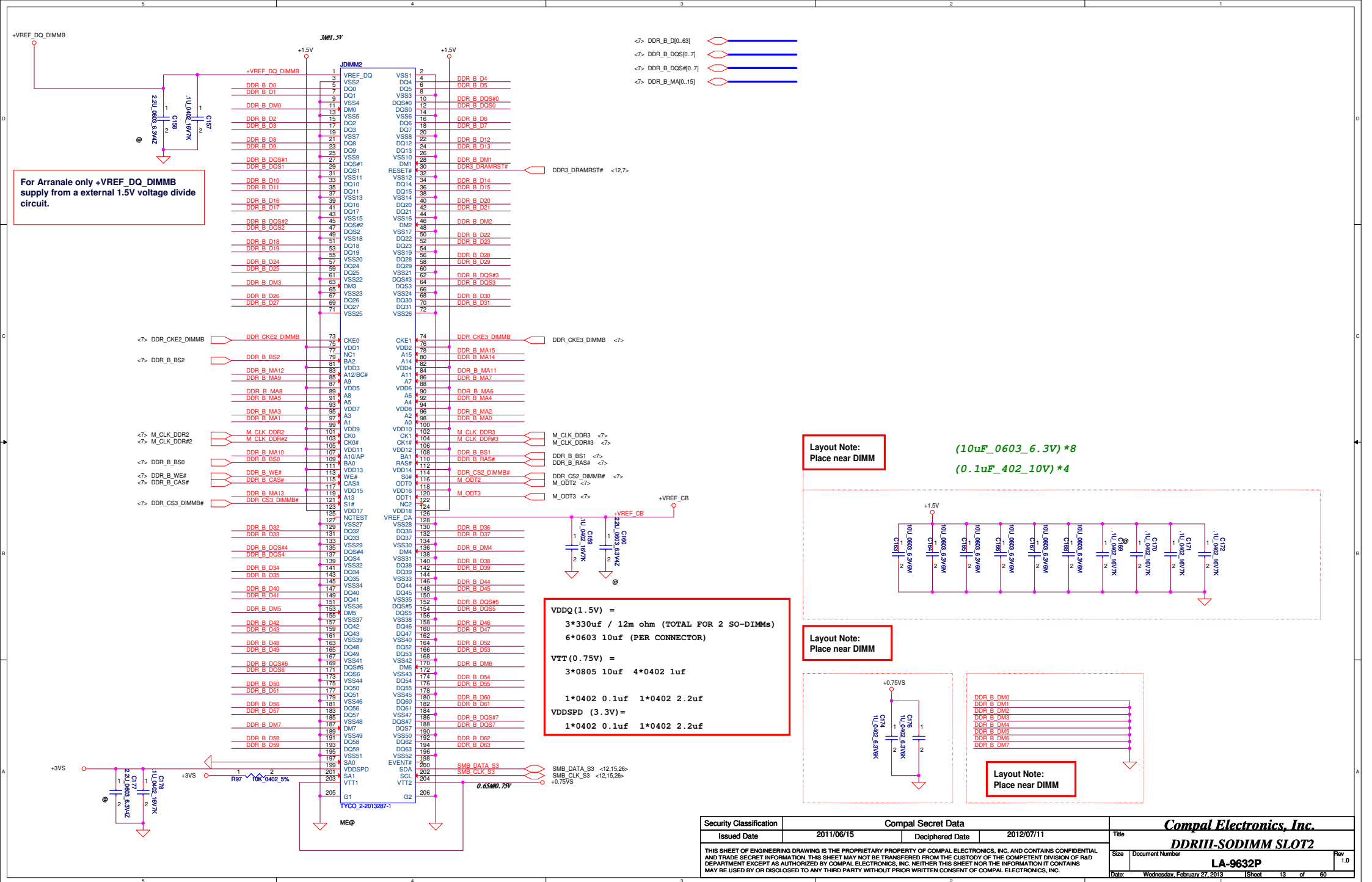
Wednesday, February 27, 2013

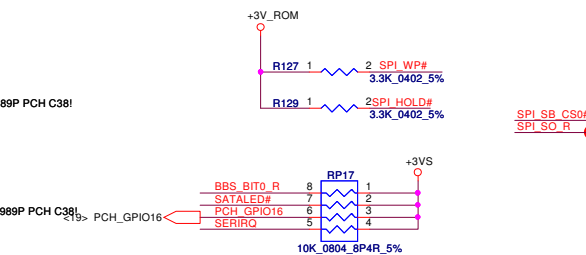
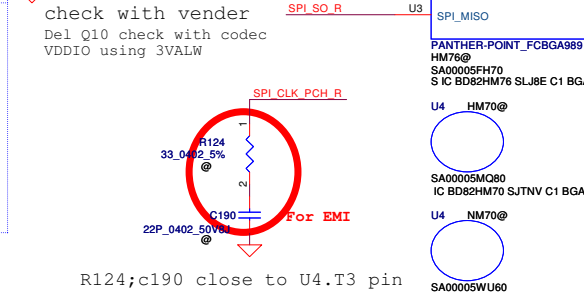
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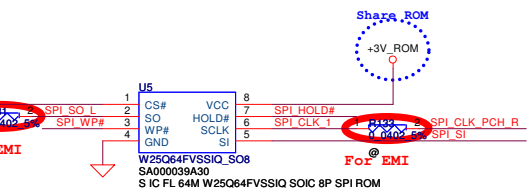


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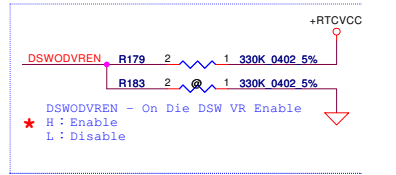
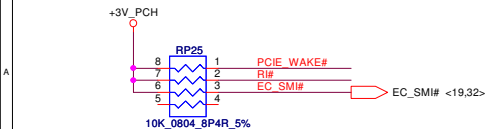


| CLRP3 | TPM setting            |
|-------|------------------------|
| Shunt | Clear ME RTC Registers |
| Open  | Keep ME RTC Registers  |

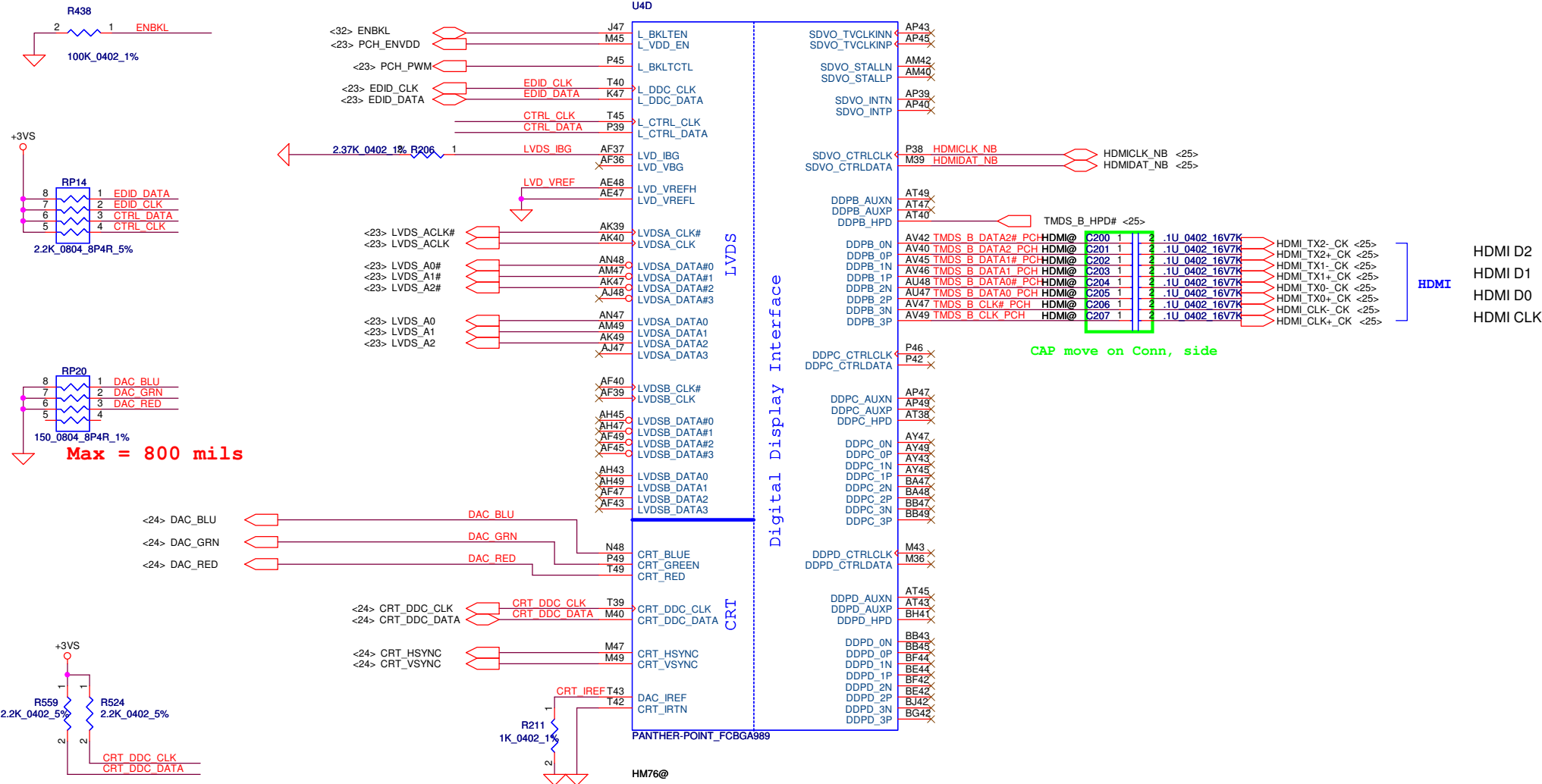


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                                                                              |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|------------------------------------------------------------------------------|----------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | <b>Compal Electronics, Inc.</b><br><b>PCH (I/O) SATA, HDA, SPI, LPC, XDP</b> |          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/15 | Deciphered Date    | 2012/07/11 | Title                                                                        |          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Document Number<br><b>LA-9632P</b>                                           |          |
| Date: Wednesday, March 06, 2013                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                                                                        | 14 of 60 |

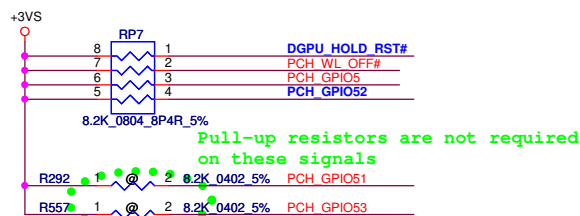




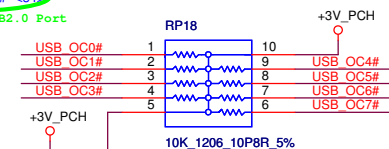
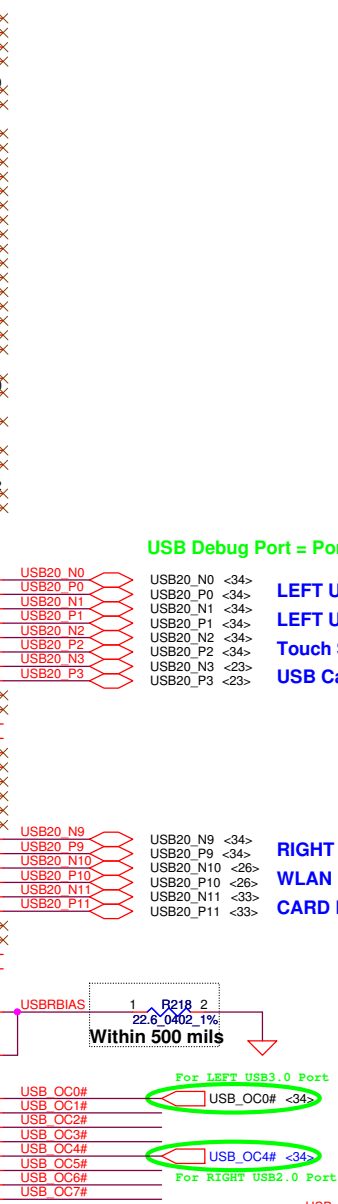
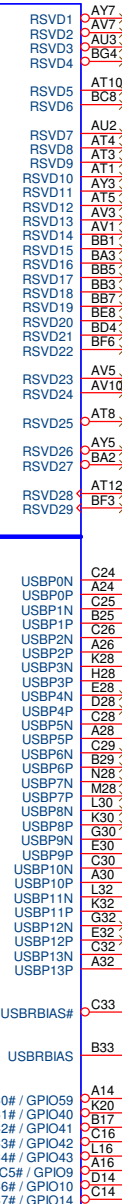
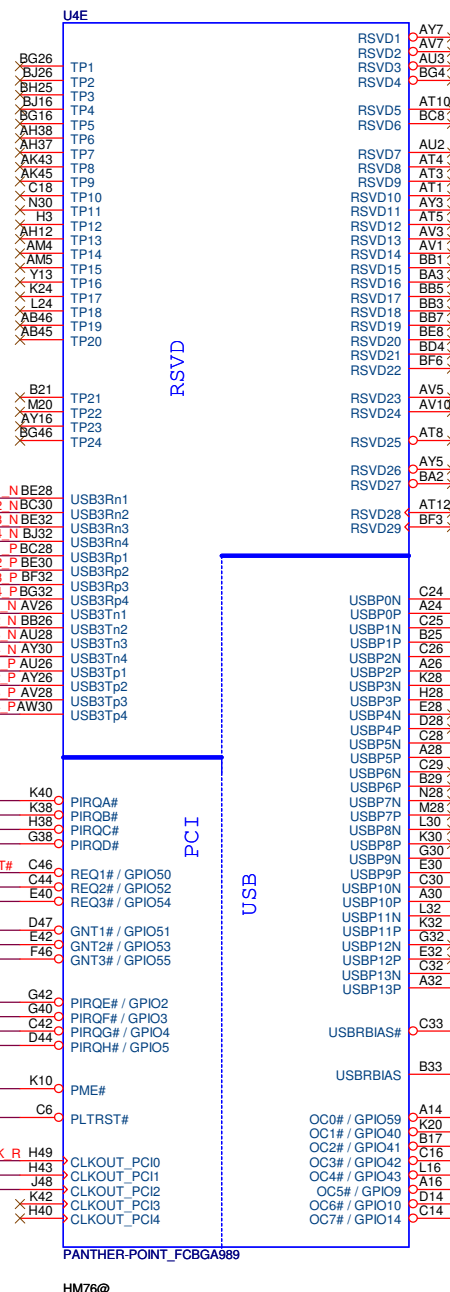
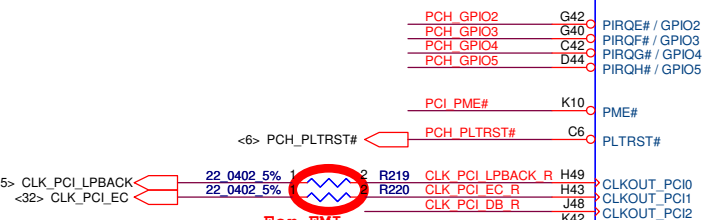
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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|-------------------------------------------------------------------|------------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                            |            | Compal Secret Data |            | <i>Compal Electronics, Inc.</i><br><b>PCH (3/9) DMI, FDI, PM,</b> |                                    |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2011/06/15 | Deciphered Date    | 2012/07/11 | Title                                                             | Document Number<br><b>LA-9632P</b> |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  | Compal Secret Data         |  |                 |  | Title                        |  |                |  |
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| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  | 2011/06/15                 |  | Deciphered Date |  | 2012/07/11                   |  | Date           |  |
| 2011/06/15                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |  | 2012/07/11                 |  | 2012/07/11      |  | 2012/07/11                   |  | 2012/07/11     |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  | Rev 1.0                    |  |                 |  |                              |  |                |  |

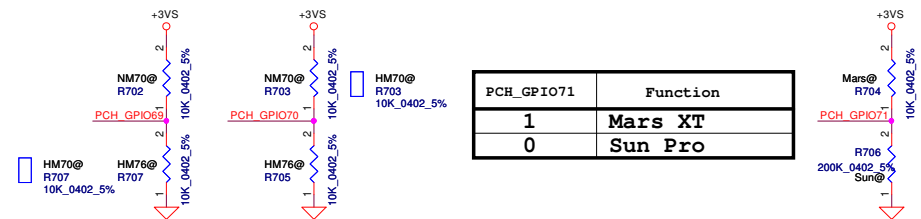


|                                   |                                                                                                |                   |                |
|-----------------------------------|------------------------------------------------------------------------------------------------|-------------------|----------------|
| <div>&lt;34&gt; USB3_RX1_N</div>  | <div></div>   | USB3_RX1_NBE28    | USB3Rn1        |
| <div>&lt;34&gt; USB3_RX2_N</div>  | <div></div>   | USB3_RX2_NBC30    | USB3Rn2        |
|                                   |                                                                                                | USB3_RX3_NBE32    | USB3Rn3        |
|                                   |                                                                                                | USB3_RX4_NBJ32    | USB3Rn4        |
| <div>&lt;34&gt; USB3_RX1_P</div>  | <div></div>   | USB3_RX1_PBC28    | USB3Rp1        |
| <div>&lt;34&gt; USB3_RX2_P</div>  | <div></div>   | USB3_RX2_PBE30    | USB3Rp2        |
|                                   |                                                                                                | USB3_RX3_PBF32    | USB3Rp3        |
|                                   |                                                                                                | USB3_RX4_PBG32    | USB3Rp4        |
| <div>&lt;34&gt; USB3_TX1_N</div>  | <div></div>   | USB3_TX1_NAV26    | USB3Tn1        |
| <div>&lt;34&gt; USB3_TX2_N</div>  | <div></div>   | USB3_TX2_NBB26    | USB3Tn2        |
|                                   |                                                                                                | USB3_TX3_NAU28    | USB3Tn3        |
|                                   |                                                                                                | USB3_TX4_NAY30    | USB3Tn4        |
| <div>&lt;34&gt; USB3_TX1_P</div>  | <div></div>   | USB3_TX1_PAU26    | USB3Tp1        |
| <div>&lt;34&gt; USB3_TX2_P</div>  | <div></div>   | USB3_TX2_PAY26    | USB3Tp2        |
|                                   |                                                                                                | USB3_TX3_PAV28    | USB3Tp3        |
|                                   |                                                                                                | USB3_TX4_PAW30    | USB3Tp4        |
|                                   |                                                                                                |                   |                |
|                                   |                                                                                                | PCI_PIRQA#K40     | PIRQA#         |
|                                   |                                                                                                | PCI_PIRQB#K38     | PIRQB#         |
|                                   |                                                                                                | PCI_PIRQC#H38     | PIRQC#         |
|                                   |                                                                                                | PCI_PIRQD#G38     | PIRQD#         |
|                                   |                                                                                                |                   |                |
|                                   |                                                                                                | DGPU_HOLD_RST#C46 | REQ1# / GPIO50 |
|                                   |                                                                                                | PCH_GPIO52C44     | REQ2# / GPIO52 |
|                                   |                                                                                                | E40               | REQ3# / GPIO54 |
| <div>&lt;32&gt; DGPU_PWR_EN</div> | <div></div>  |                   |                |
|                                   |                                                                                                |                   |                |
|                                   |                                                                                                | PCH_GPIO51D47     | GNT1# / GPIO51 |
|                                   |                                                                                                | PCH_GPIO53E42     | GNT2# / GPIO53 |
| <div>&lt;26&gt; PCH_WL_OFF#</div> | <div></div> | PCH_WL_OFF#F46    | GNT3# / GPIO55 |

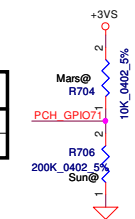


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                           |                              |                |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Title                     |                              |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/15         | Deciphered Date | 2012/07/11 | <b>PCH (5/9) PCL, USB</b> |                              |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Custom                    | <b>LA-9632P</b>              | 1.0            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date:                     | Wednesday, February 27, 2013 | Sheet 18 of 60 |

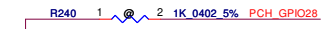
| PCH_GPIO69 | PCH_GPIO70 | Function |
|------------|------------|----------|
| 1          | 1          | NM70     |
| 1          | 0          | Reserved |
| 0          | 1          | HM70     |
| 0          | 0          | HM76     |



| PCH_GPIO71 | Function |
|------------|----------|
| 1          | Mars XT  |
| 0          | Sun Pro  |



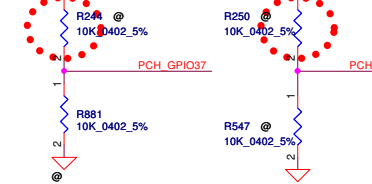
GPIO28  
On-Die PLL Voltage Regulator  
This signal has a weak internal pull up  
★ H : On-Die voltage regulator enable  
L : On-Die PLL Voltage Regulator disable



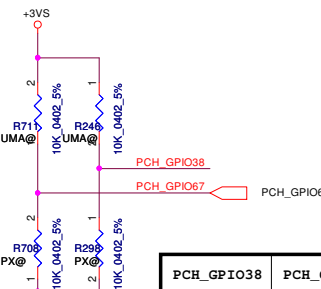
★ PCH\_GPIO27 (Have internal Pull-High)  
High: VCCVRM VR Enable  
Low: VCCVRM VR Disable



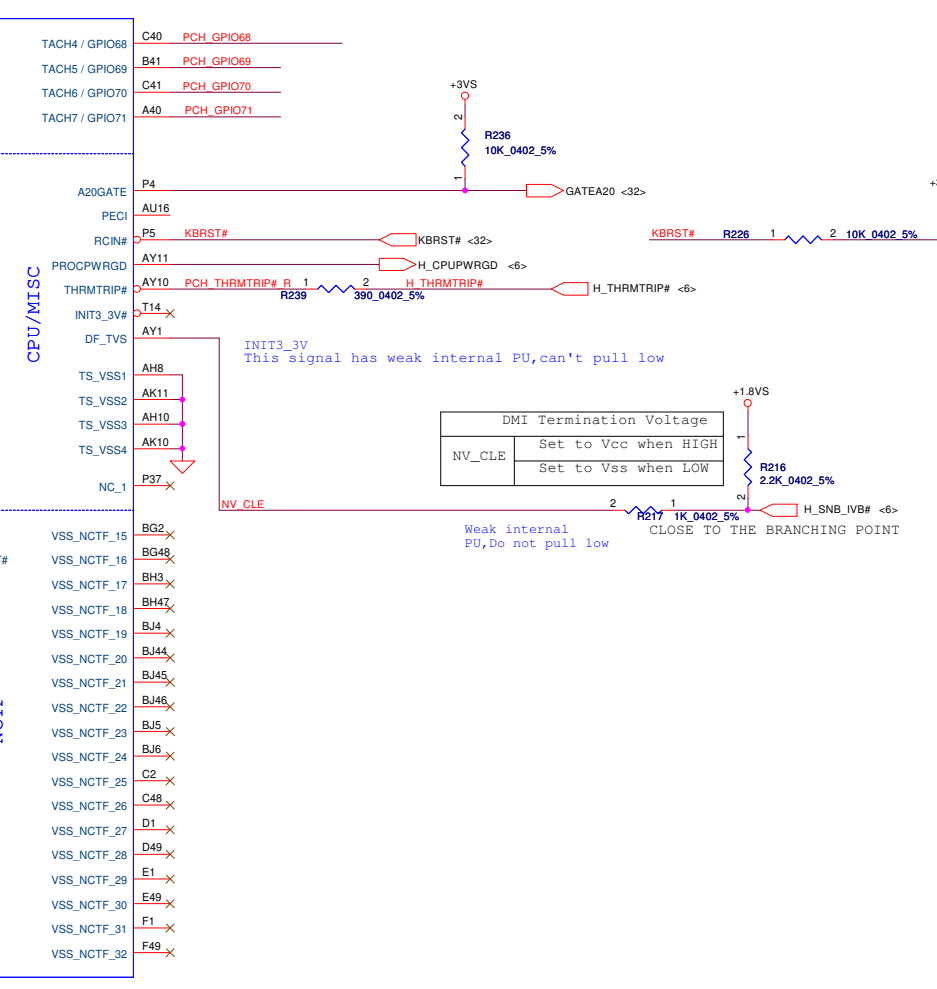
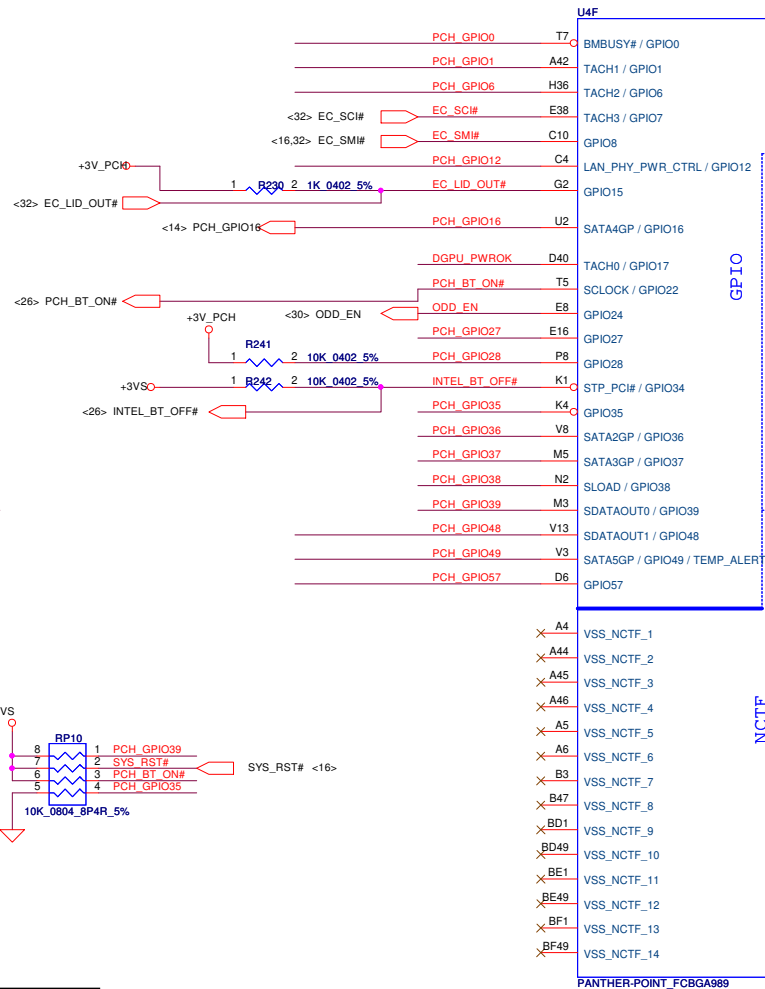
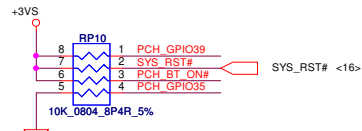
GPIO36, 37  
When Unused as GPIO or SATA\*GP  
Use 8.2K-10K pull-down to ground.



BIOS Request SKU ID



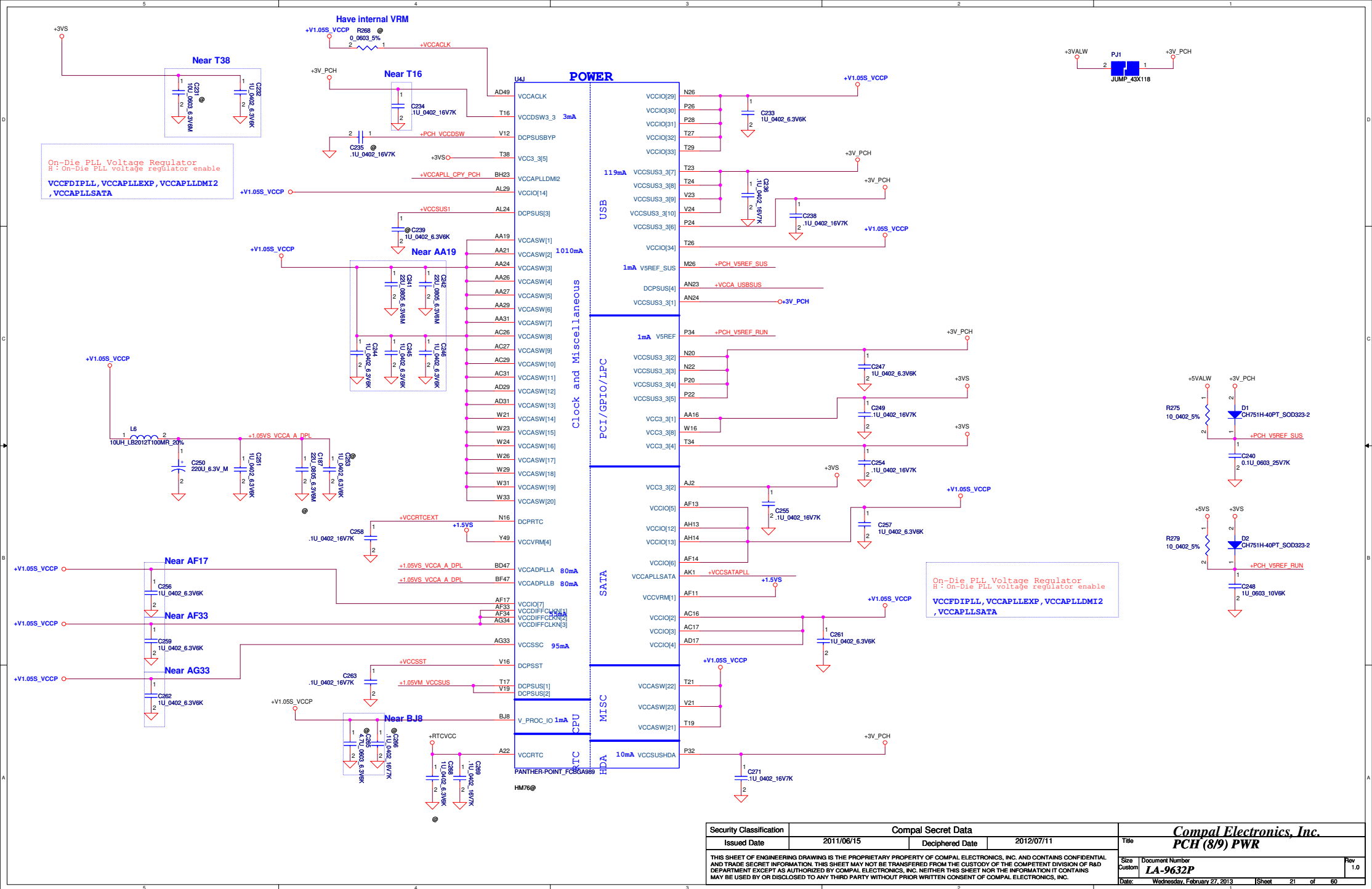
| PCH_GPIO38 | PCH_GPIO67 | Function         |
|------------|------------|------------------|
| 0          | 0          | SG(Optimus / PX) |
| 0          | 1          | Reserved         |
| 1          | 0          | DIS              |
| 1          | 1          | UMA              |



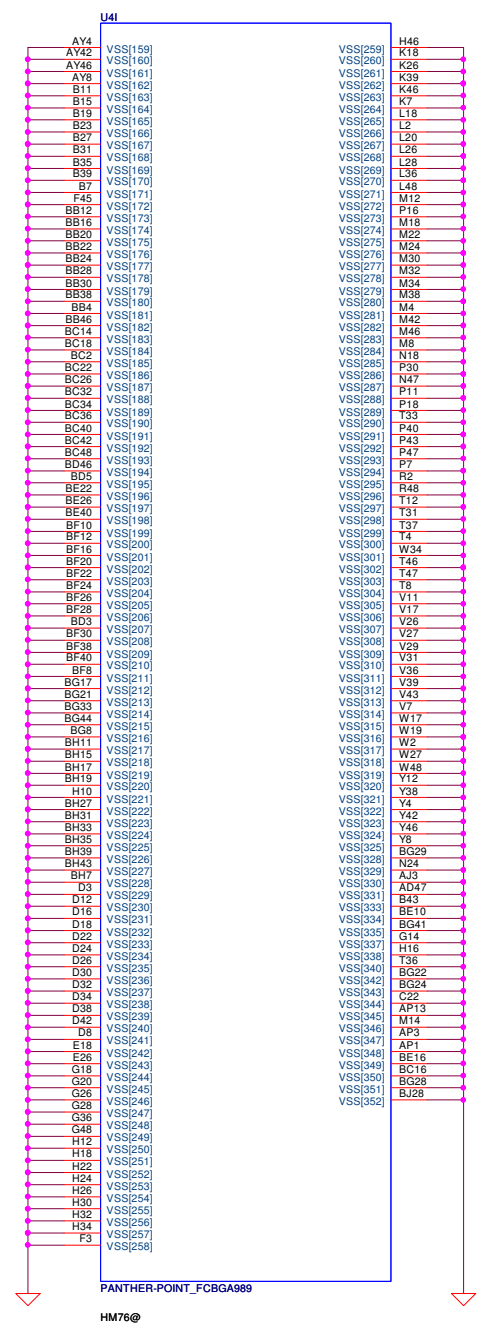
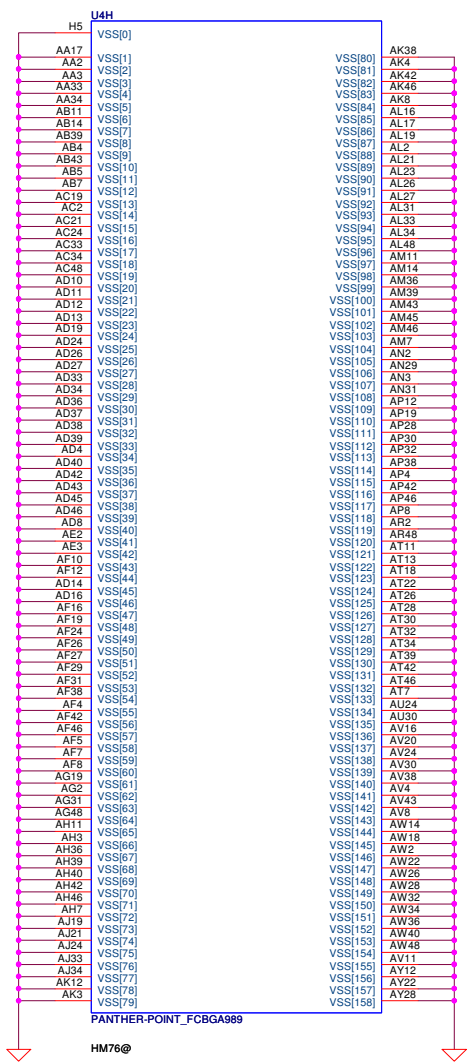
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Title  |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------|-----------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/15         | Deciphered Date | 2012/07/11 | Size   | Document Number |
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| Date: Wednesday, February 27, 2013                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                 |            | Sheet  | 19 of 60        |

Compal Electronics, Inc.





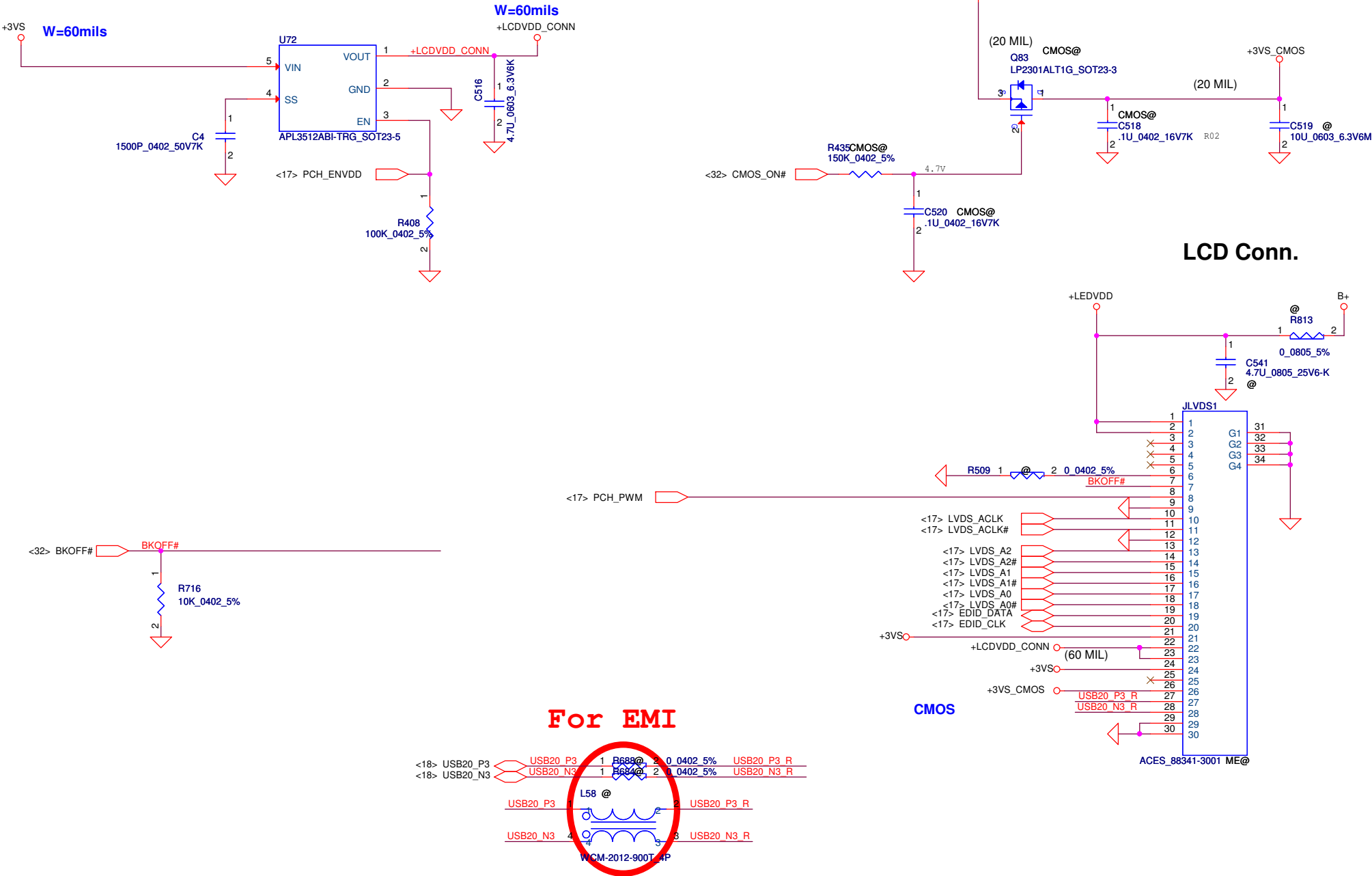
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|---------------------------------------------------------|------------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | <i>Compal Electronics, Inc.</i><br><b>PCH (8/9) PWR</b> |                                    |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/15 | Deciphered Date    | 2012/07/11 | Title                                                   |                                    |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                                                   | Wednesday, February 27, 2013       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                                                   | 21 of 60                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev                                                     | 1.0                                |



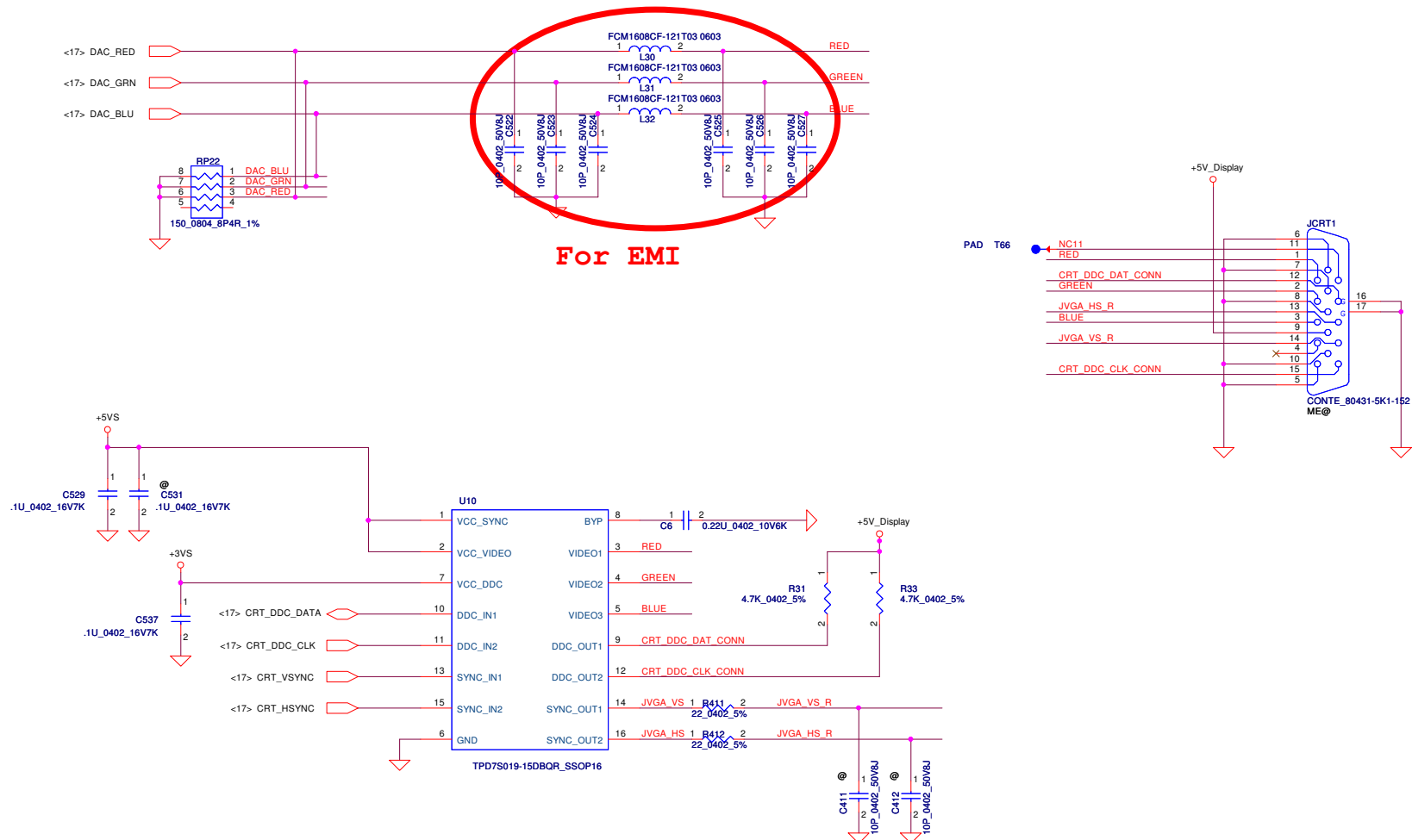
LCD POWER CIRCUIT

Camera

LCD Conn.

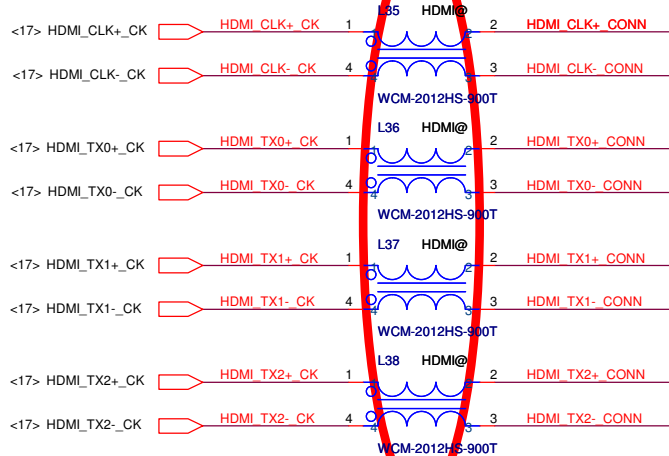


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |                 |                                 |                                    |                 |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|-----------------|---------------------------------|------------------------------------|-----------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Compal Secret Data |                 | <b>Compal Electronics, Inc.</b> |                                    |                 |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | 2011/06/15         | Deciphered Date | 2012/07/11                      |                                    | Title           |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |                 |                                 | Size                               | Document Number | Rev            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |                 |                                 | Custom                             | <b>LA-9632P</b> | 1.0            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |                 |                                 | Date: Wednesday, February 27, 2013 |                 | Sheet 23 of 60 |

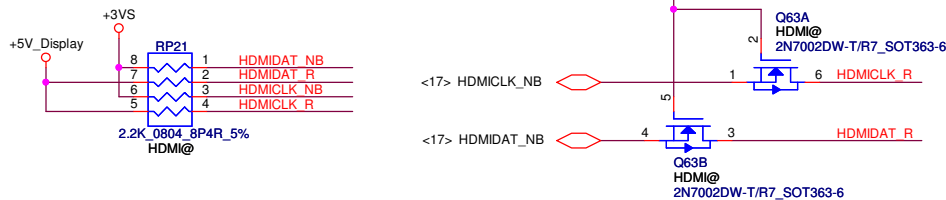


|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                    |  |                 |  |                                 |  |                                    |  |                      |  |     |  |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Compal Secret Data |  |                 |  | <b>Compal Electronics, Inc.</b> |  |                                    |  |                      |  |     |  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | 2011/06/15         |  | Deciphered Date |  | 2012/07/11                      |  | Title                              |  | <b>CRT Connector</b> |  |     |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                    |  |                 |  |                                 |  | Custom                             |  | LA-9632P             |  | 1.0 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                    |  |                 |  |                                 |  | Date: Wednesday, February 27, 2013 |  | Sheet 24 of 60       |  |     |  |

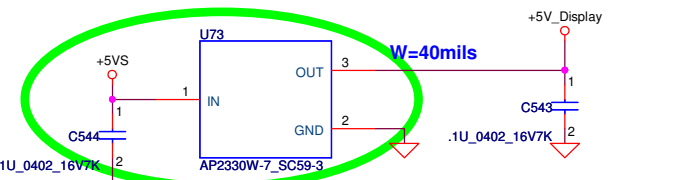
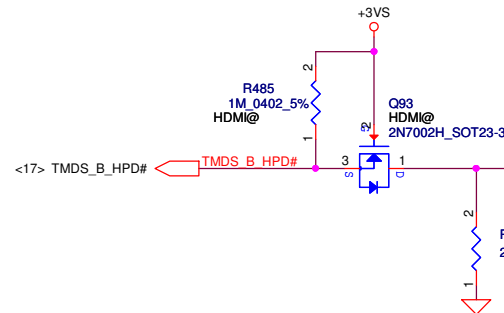
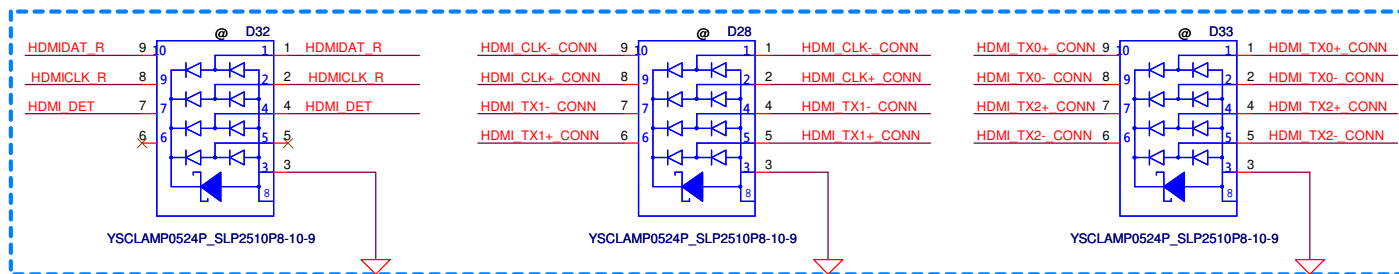
# For EMI



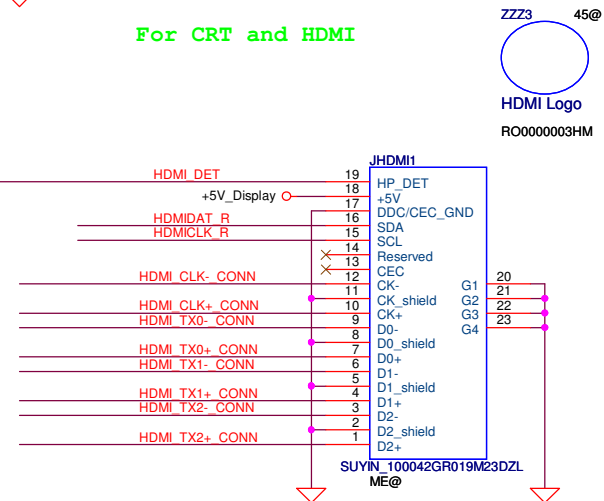
Pull up R for PCH OR VGA SIDE



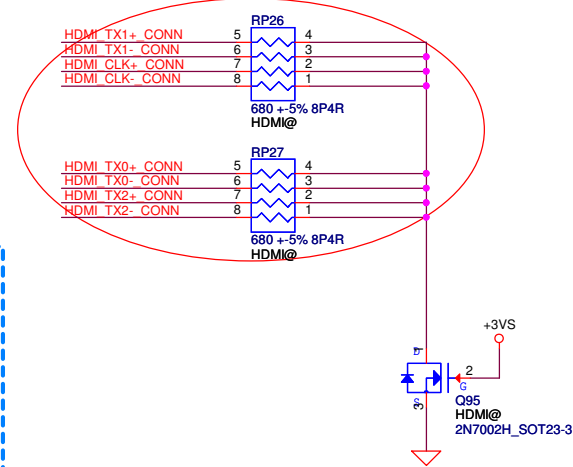
ESD



For CRT and HDMI

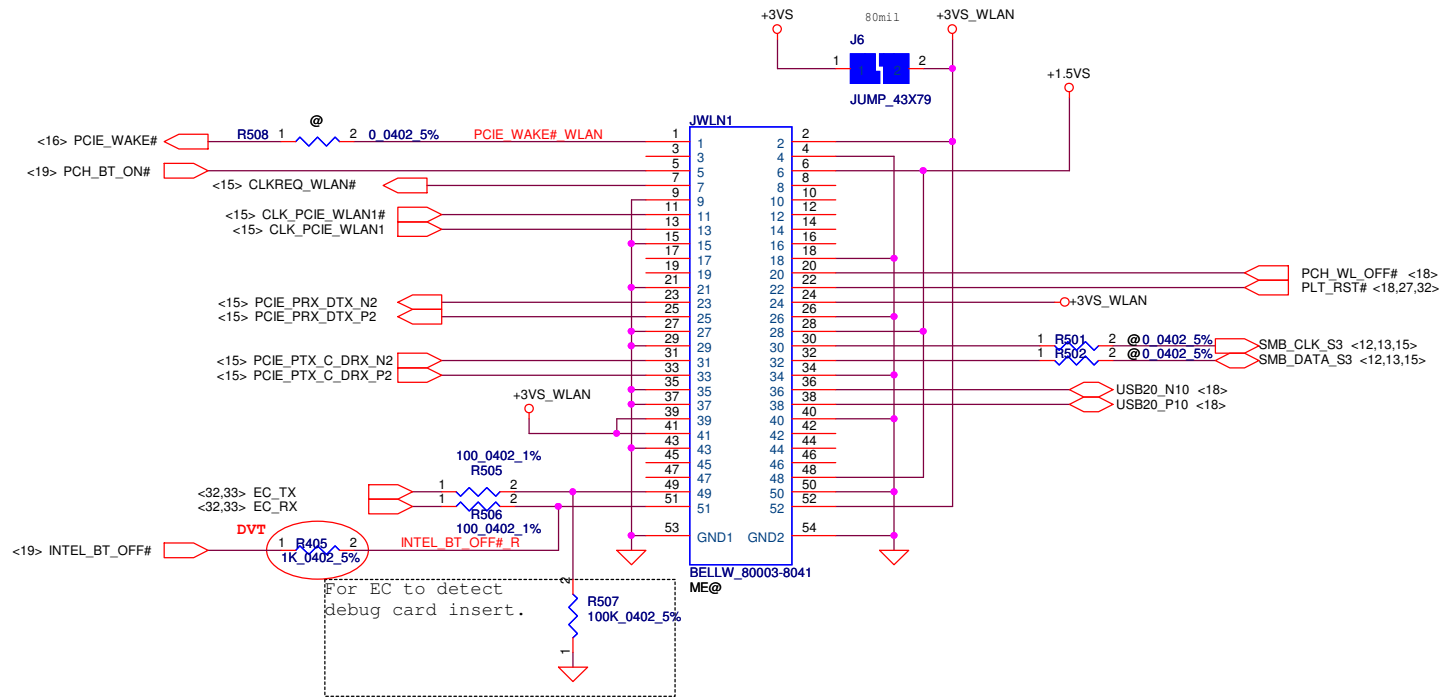


DVT



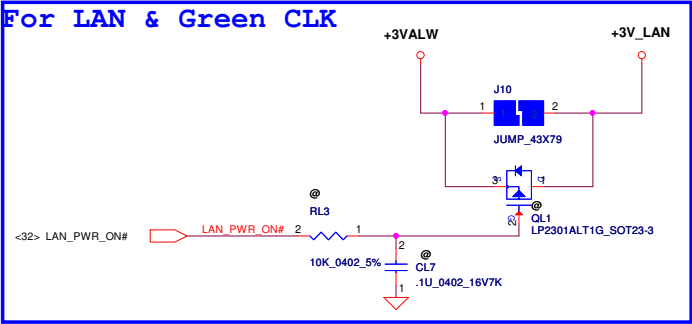
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                                    |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|------------------------------------|-----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc.           |                 |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/15 | Deciphered Date    | 2012/07/11 | Title                              | HDMI CONN       |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | LA-9632P                           | Rev 1.0         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date: Wednesday, February 27, 2013 | Sheet 25 of 60  |

# Mini Card for WLAN/WiMAX(Half)

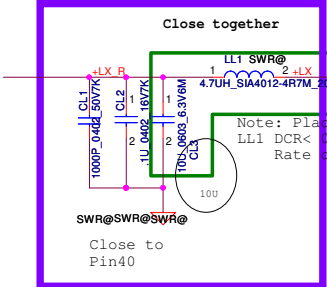
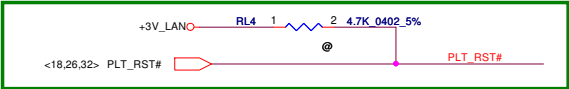


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                          |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|-----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                 |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/15         | Deciphered Date | 2012/07/11 | Title                    |                 |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | LA-9632P                 | Rev 1.0         |
| Date: Wednesday, February 27, 2013                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                 |            | Sheet                    | 26 of 60        |

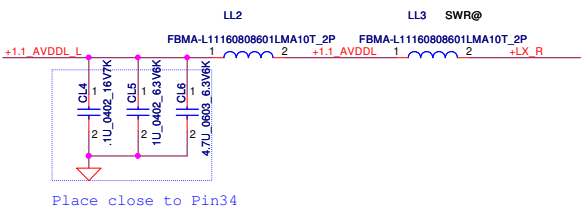
For LAN & Green CLK



Vendor recommend reseve the  
PU resistor close LAN chip

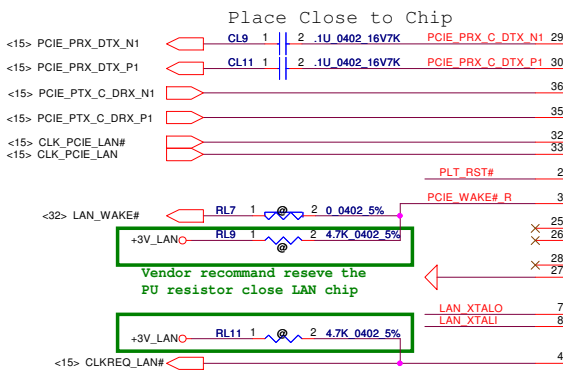


Note: Place Close to LAN chip  
LL1 DCR< 0.15 ohm  
Rate current > 1A

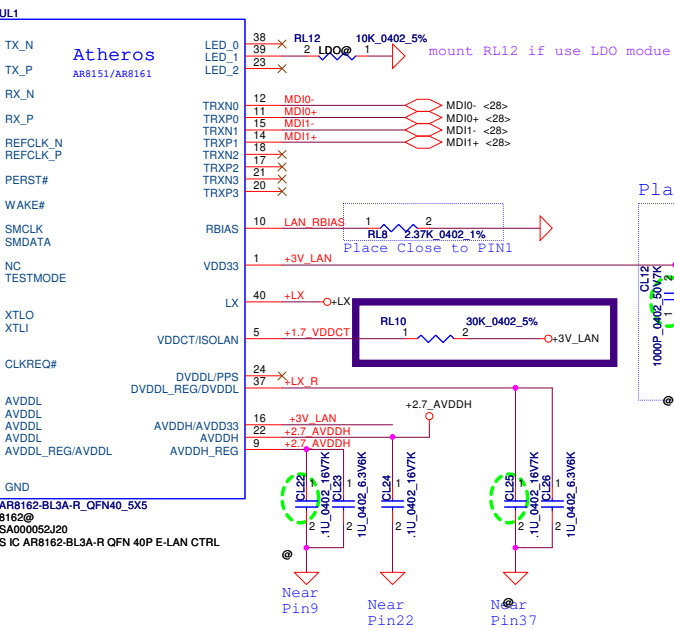
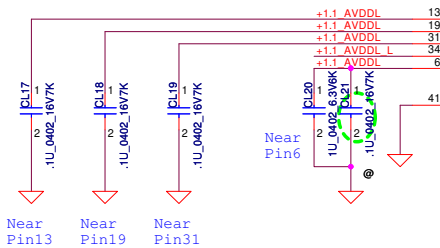


Place close to Pin34

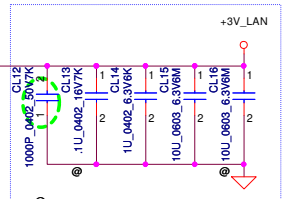
UL1 8172@  
QCA8172-BL3A-R  
SA00005410  
S IC QCA8172-BL3A-R QFN 40P E-LAN CTRL



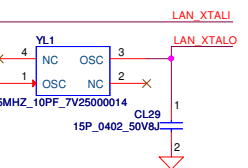
Vendor recommend reseve the  
PU resistor close LAN chip



Place Close to PIN1



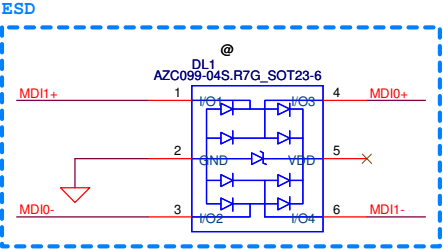
don't @ (could be B C cost done)



| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|------------------------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/15 | Deciphered Date    | 2012/07/11 | Title                    | LAN-AR8162/8172              |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date                     | Wednesday, February 27, 2013 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 27 of 60                     |

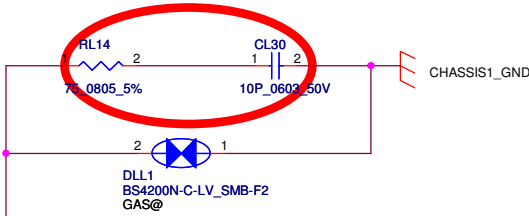
DL1  
1'S PN:SC300001G00  
2'S PN:SC300002E00

Place Close to TL1



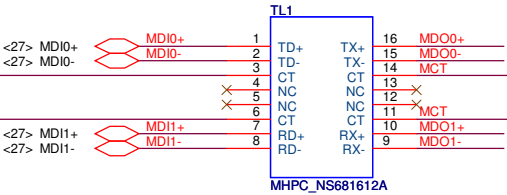
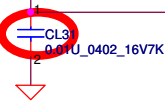
Reserve gas tube for EMI go rural solution

For EMI

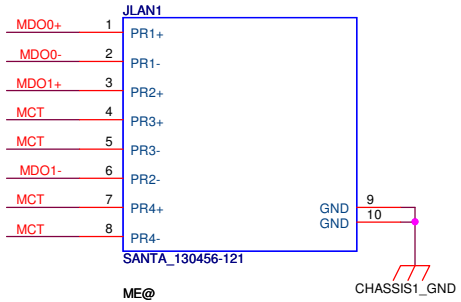
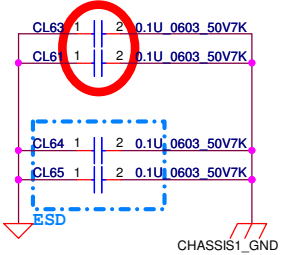


Place Close to TL1

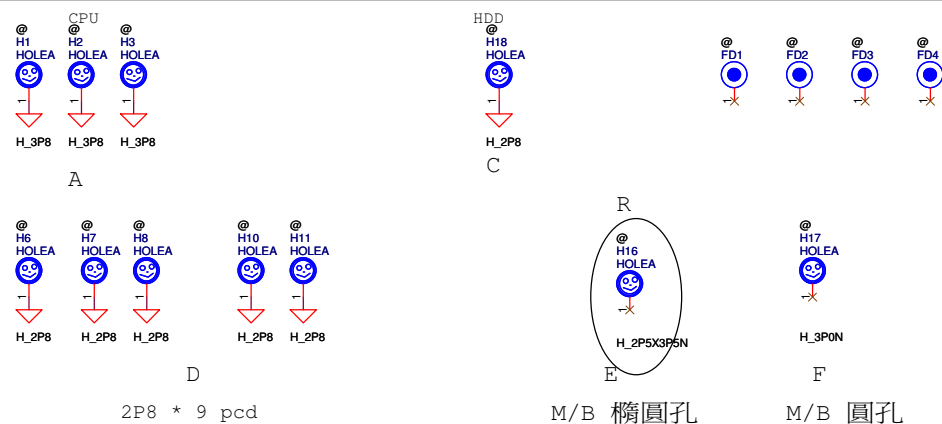
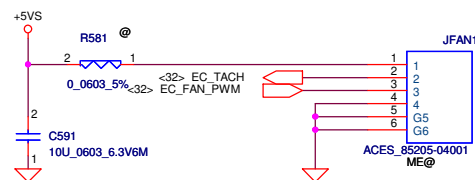
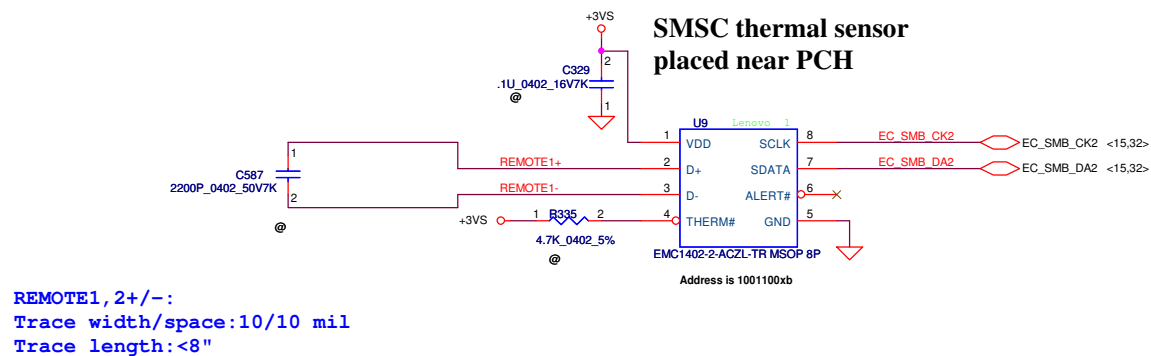
For EMI



For EMI

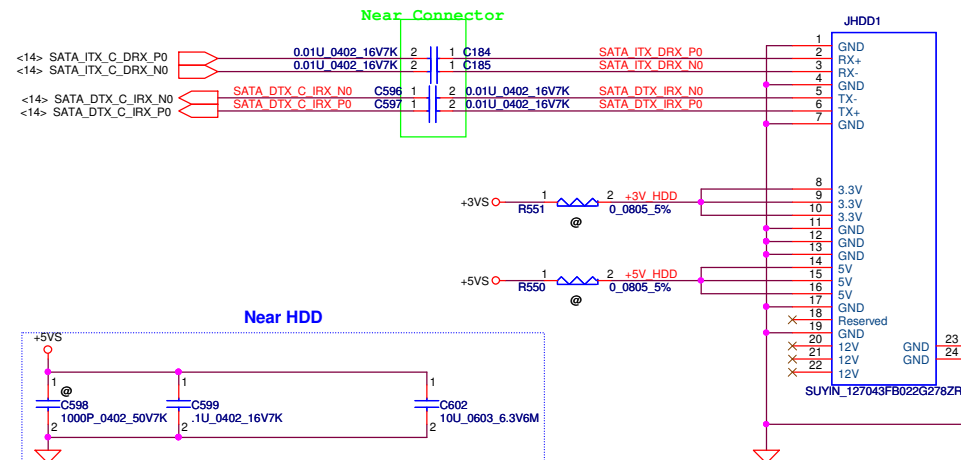


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                              |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/15 | Deciphered Date    | 2012/07/11 | Title                    | LAN_Transformer              |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                    | Wednesday, February 27, 2013 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 28 of 60                     |

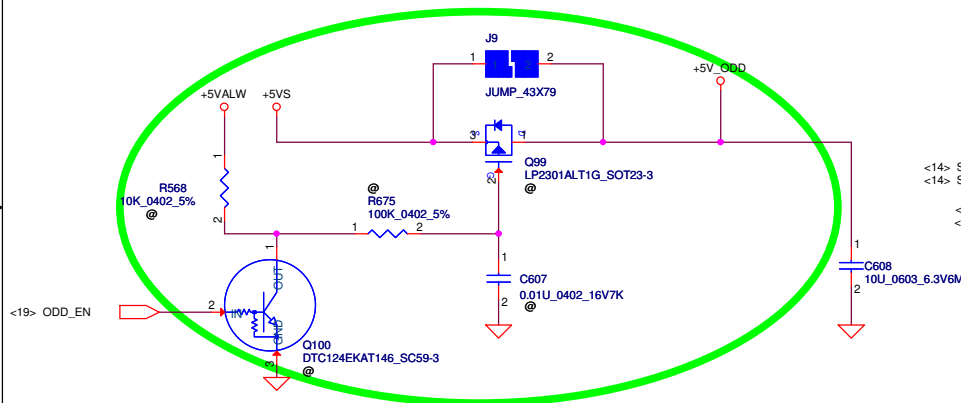


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|------------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                                    |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/15 | Deciphered Date    | 2012/07/11 | Title                    | Fintek-Thermal IC/FAN/screw        |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Custom                   |                                    |
| Date: Wednesday, February 27, 2013                                                                                                                                                                                                                                                                                                                                                                                                                            |            |                    |            | Sheet                    | 29 of 60                           |

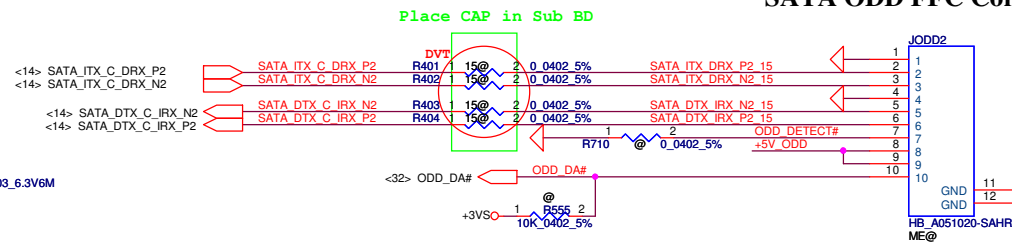
# SATA HDD Conn.



## ODD Power Control

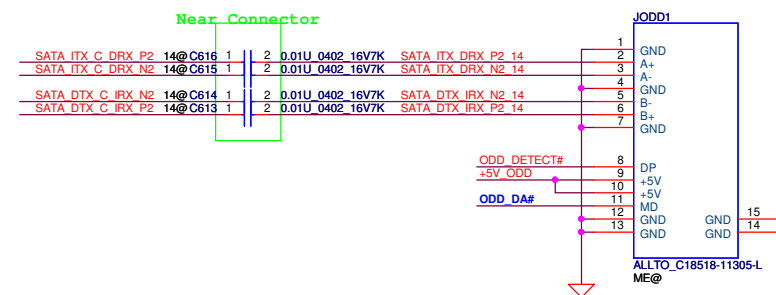


# FOR 15" SATA ODD FFC Conn.



Co-lay

# FOR 14" SATA ODD Conn.



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |  |                          |                              |       |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--|--------------------------|------------------------------|-------|----------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            |  | Compal Electronics, Inc. |                              |       |          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/15         | Deciphered Date | 2012/07/11 |  | Title                    | HDD/ODD/BT Connector         |       |          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |  | Customer                 | LA-9632P                     |       |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |  | Date:                    | Wednesday, February 27, 2013 | Sheet | 30 of 60 |

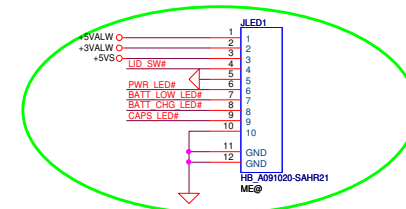
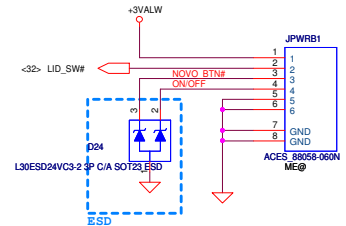
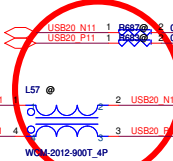
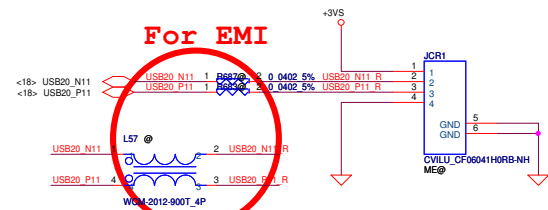
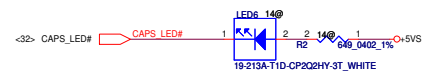
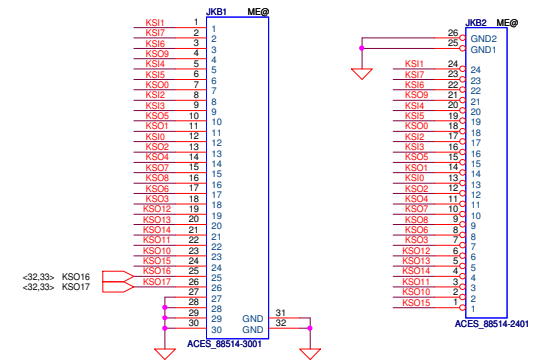
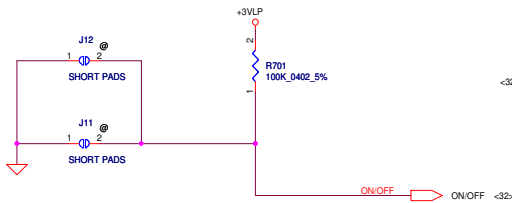
An integrated 3.3 V to 1.8V Low-dropout voltage regulator (LDO).



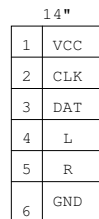
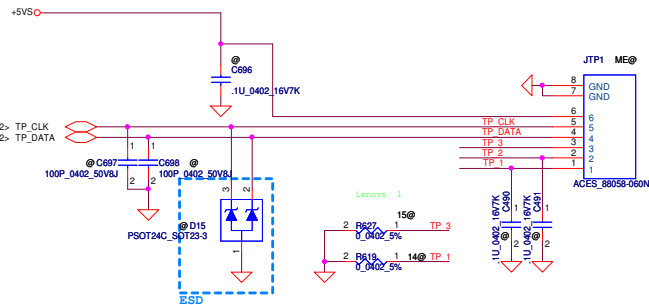
For EMI

|                                 |                         |       |          |
|---------------------------------|-------------------------|-------|----------|
| <b>Compal Electronics, Inc.</b> |                         |       |          |
| Title                           |                         |       |          |
| CX20751 Codec                   |                         |       |          |
| Size                            | Document Number         |       | Rev      |
| Custom                          | LA-9632P                |       | 1.0      |
| Date:                           | Tuesday, March 05, 2013 | Sheet | 31 of 60 |



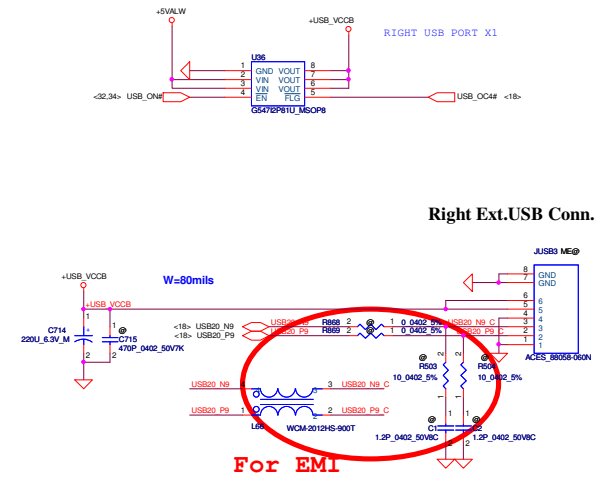


For 15"

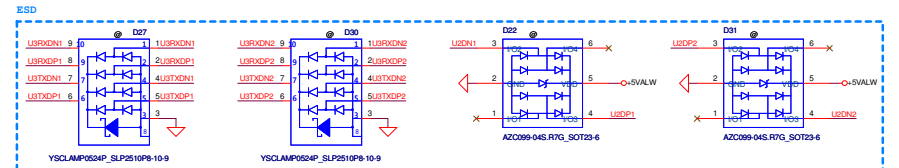
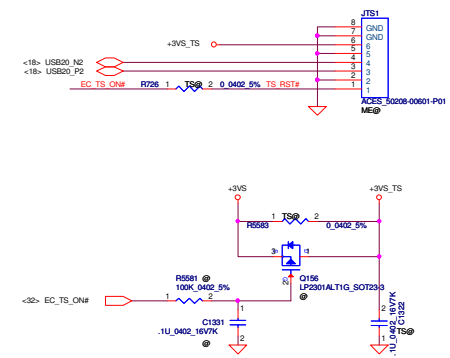


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                                                                      |                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|----------------------------------------------------------------------|------------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | <b>Compal Electronics, Inc.</b><br><b>ROM/KB/PWR/CR/LED/TP Conn.</b> |                                    |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/15 | Deciphered Date    | 2012/07/11 | Title                                                                |                                    |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev                                                                  | 1.0                                |
| Date: Wednesday, March 06, 2013 13:04:29                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                    |            |                                                                      |                                    |

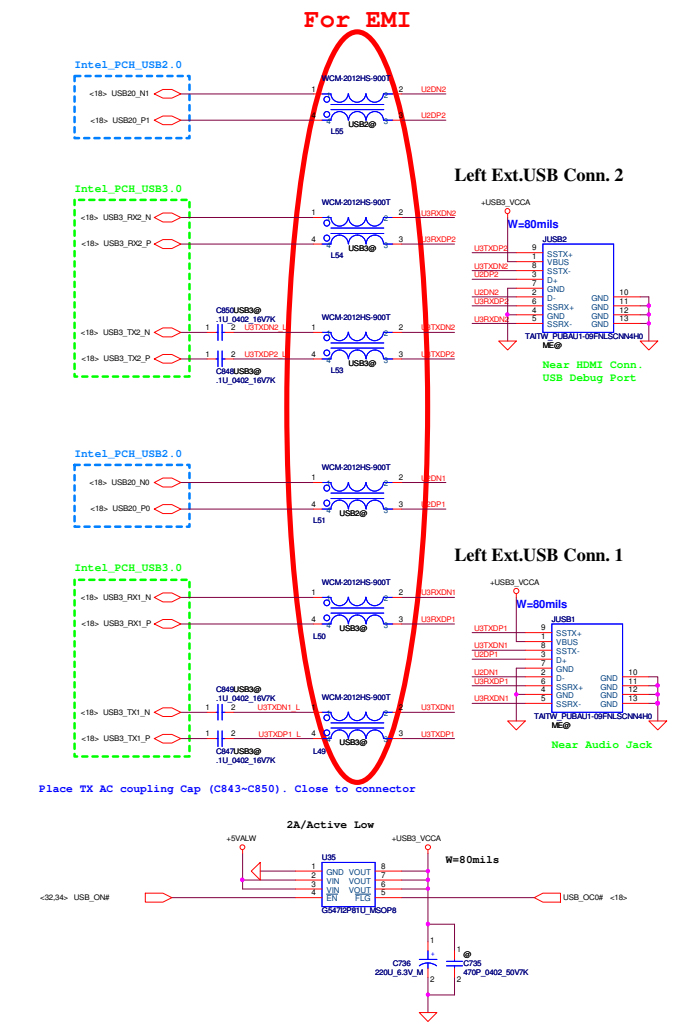
Ext. USB2.0



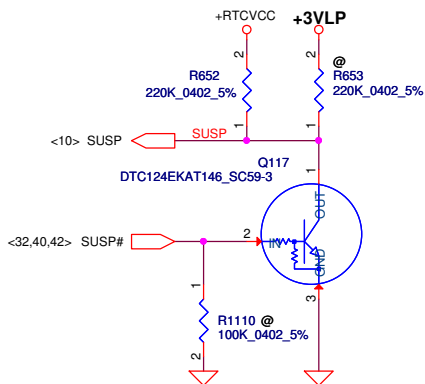
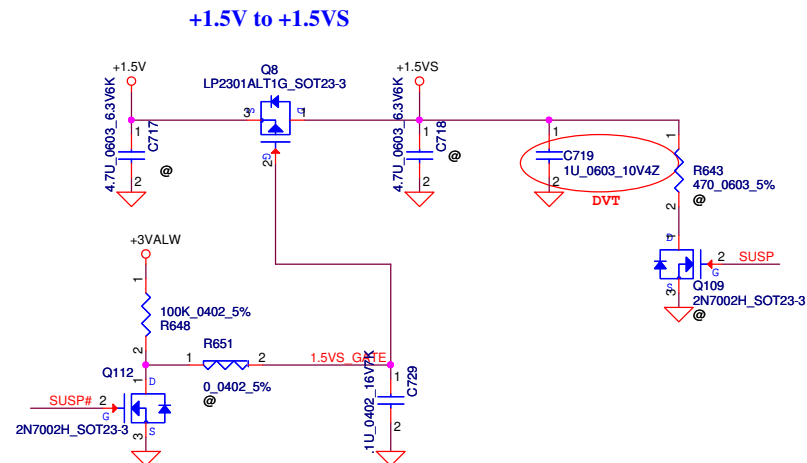
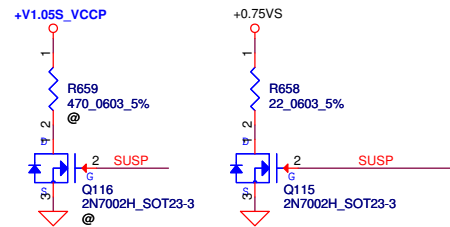
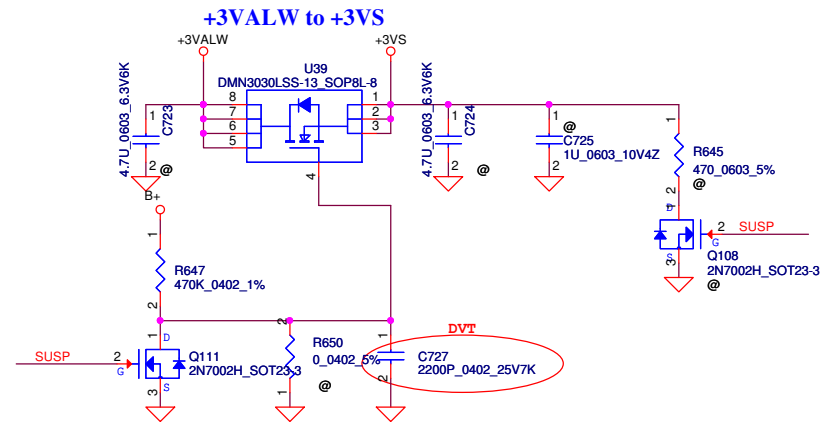
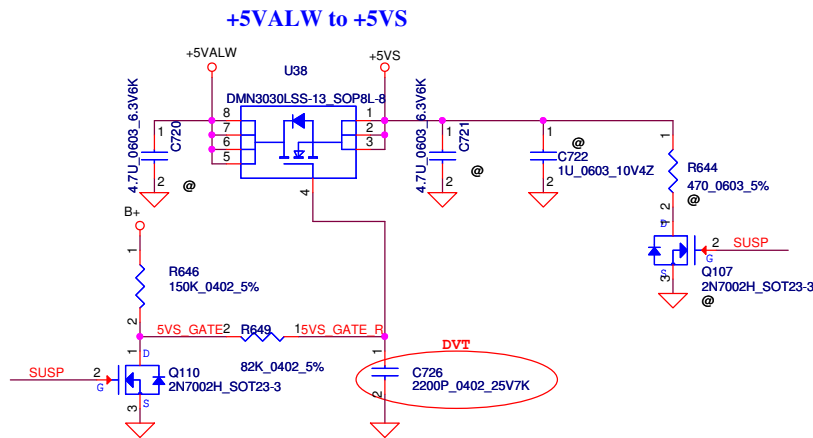
Touch Screen



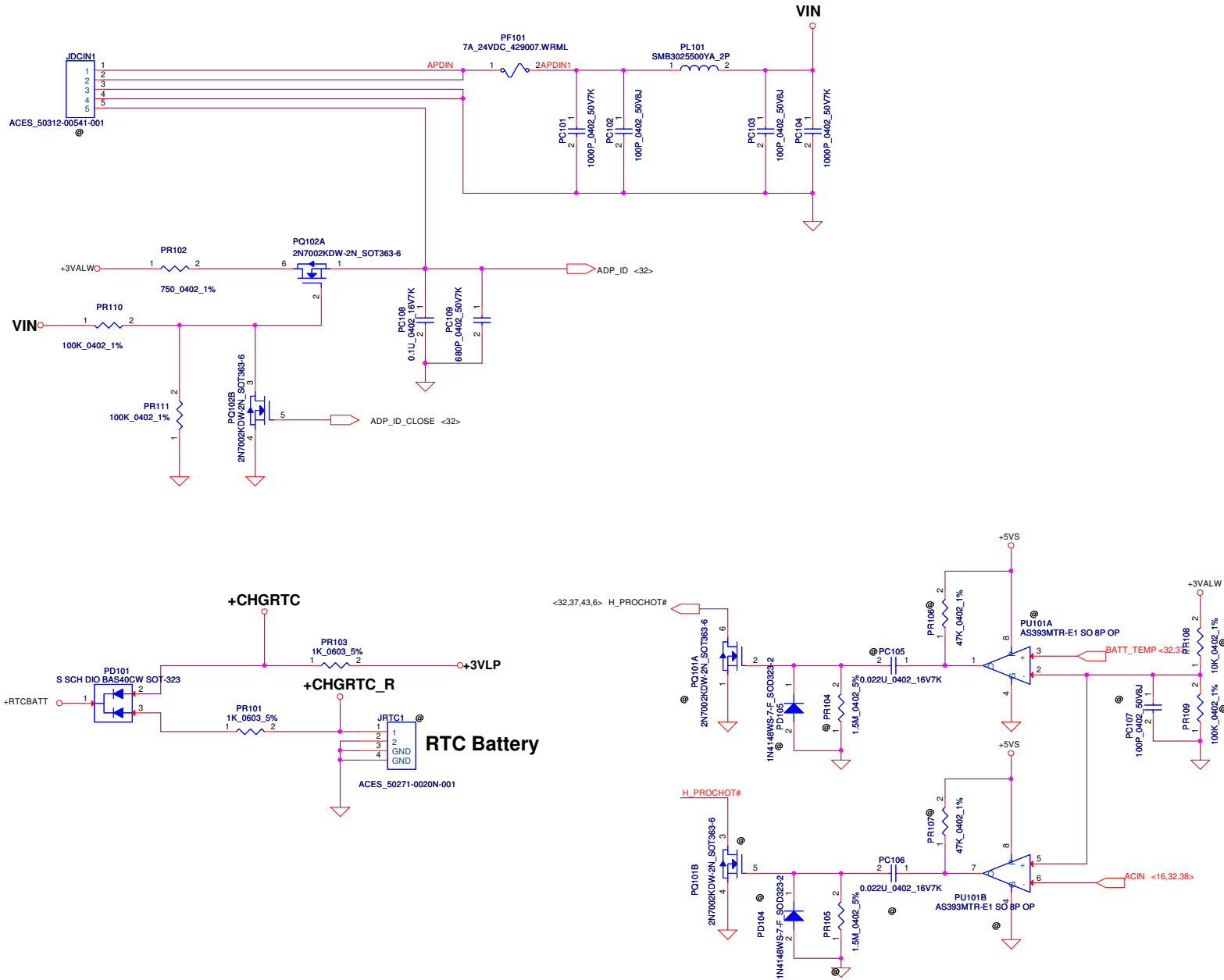
USB3.0



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                              |                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Compal Secret Data           | Compal Electronics, Inc. |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2011/06/15                   | 2012/07/11               |
| Deciphered Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                              |                          |
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| Document Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                | USB3.0/Left USB Ports        | Rev 1.0                  |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Wednesday, February 27, 2013 | Sheet 34 of 60           |

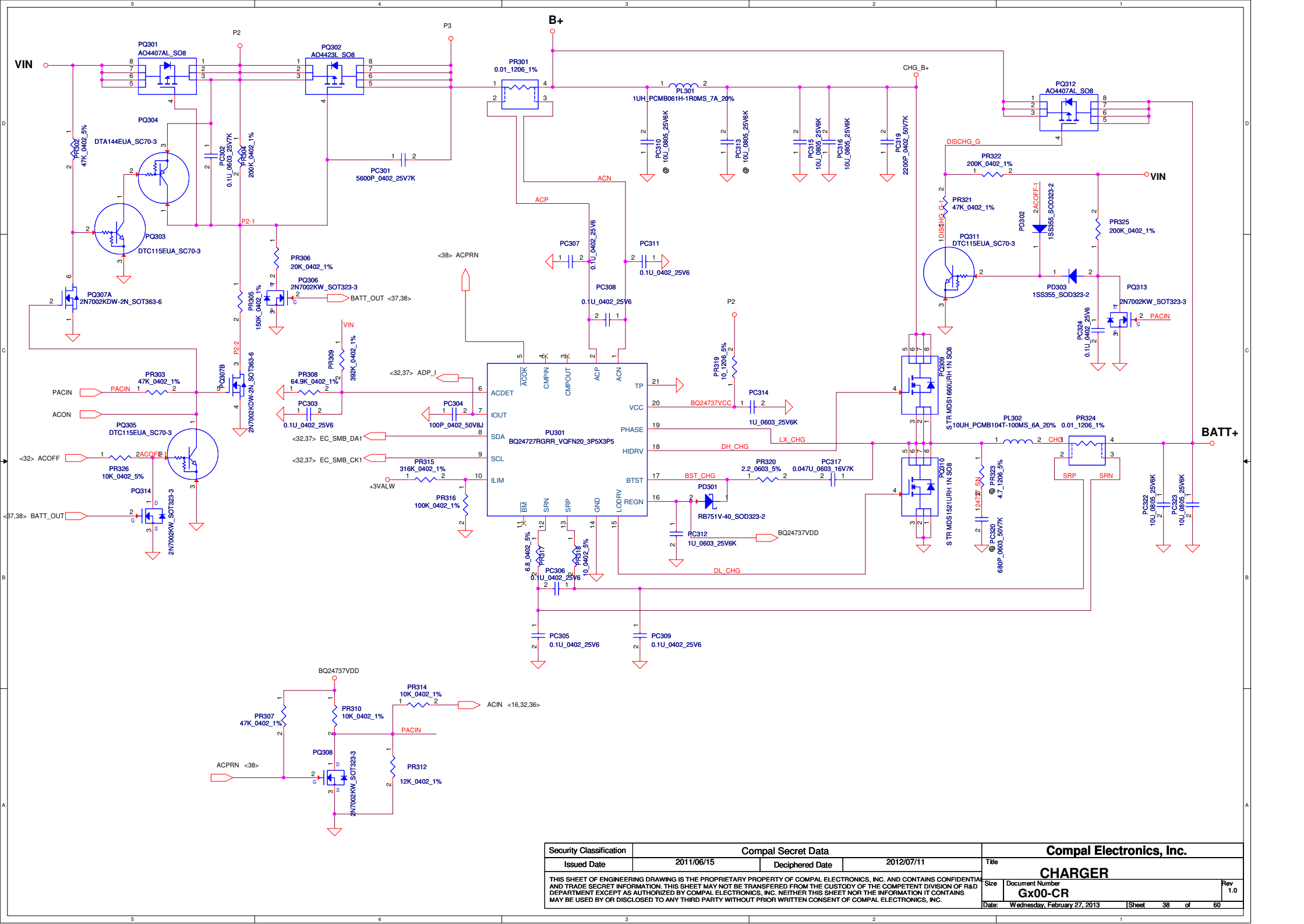


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                              |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                              |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev                      | 1.0                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                    | Wednesday, February 27, 2013 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 35 of 60                     |



|                                                                                                                                                                                                                                                                                                                                          |            |                    |            |                          |                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                  |            | Compal Secret Data |            | Compal Electronics, Inc. |                              |
| Issued Date                                                                                                                                                                                                                                                                                                                              | 2011/06/15 | Deciphered Date    | 2012/07/11 | Title                    | PWR DCIN / RTC Battery       |
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|                                                                                                                                                                                                                                                                                                                                          |            |                    |            | Date:                    | Wednesday, February 27, 2013 |
|                                                                                                                                                                                                                                                                                                                                          |            |                    |            | Sheet                    | 36 of 60                     |
|                                                                                                                                                                                                                                                                                                                                          |            |                    |            | Rev                      | 1.0                          |



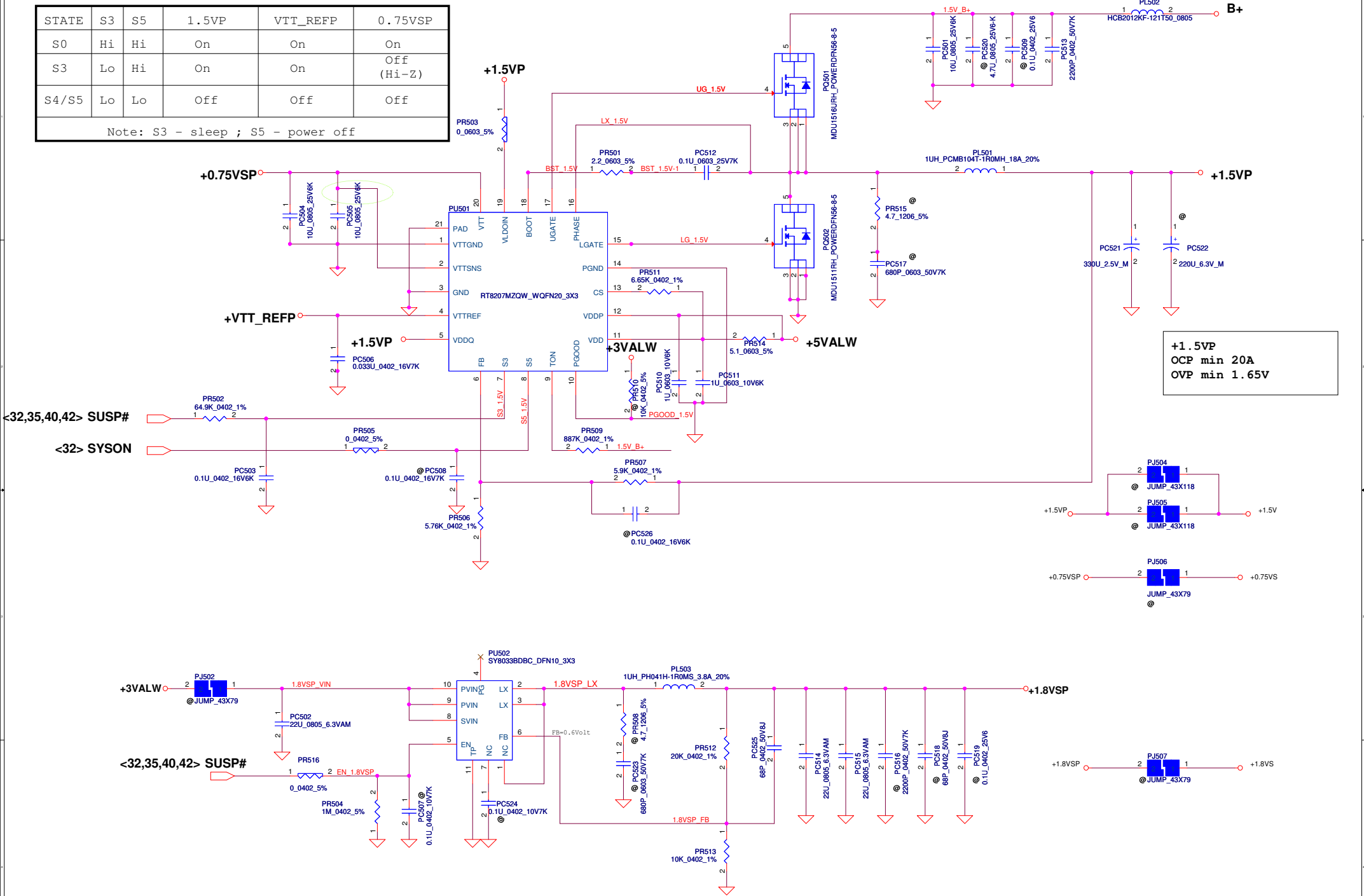


| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc.     |                 |
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| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/15 | Deciphered Date    | 2012/07/11 | Title                        |                 |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date                         | Rev             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Wednesday, February 27, 2013 | 1.0             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                        | 38 of 60        |



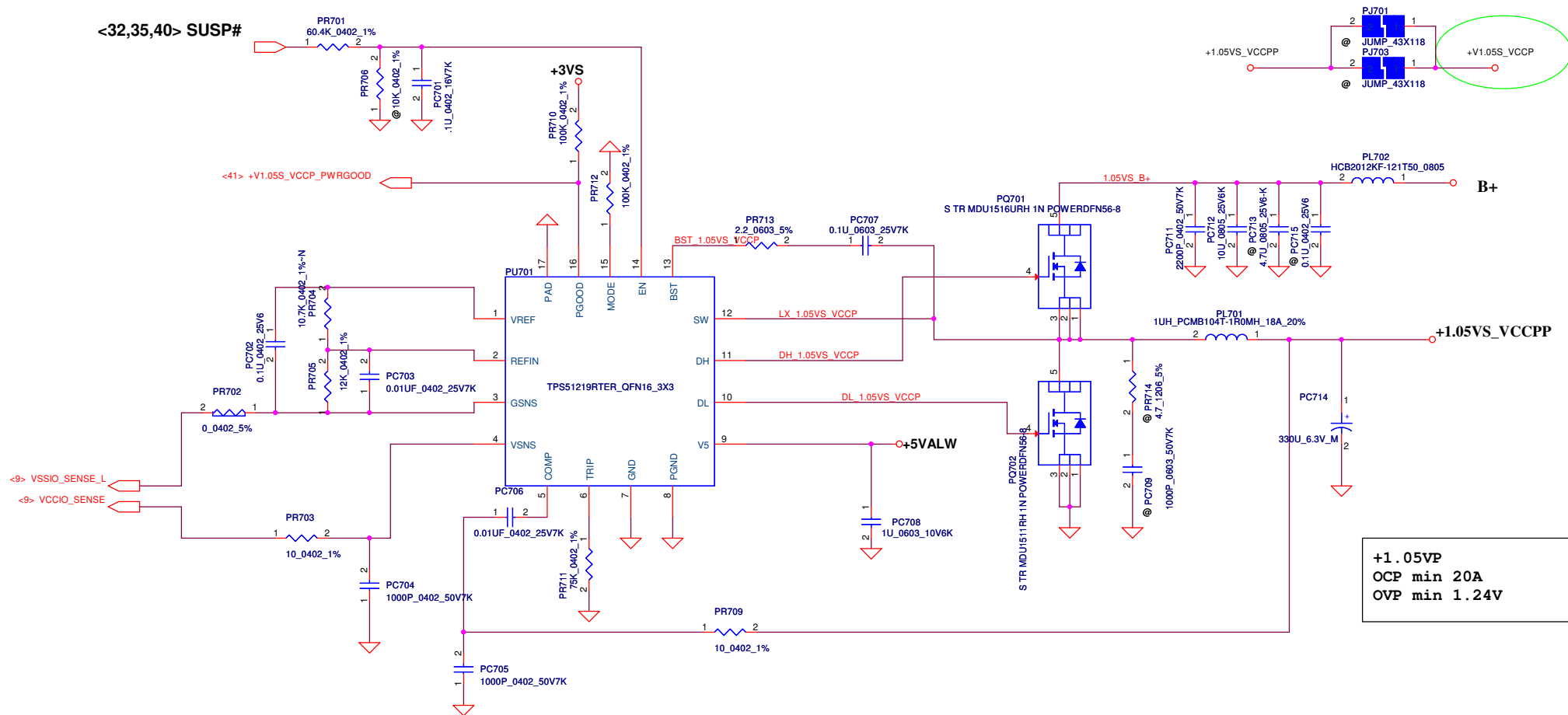
| STATE | S3 | S5 | 1.5VP | VTT_REFP | 0.75VSP    |
|-------|----|----|-------|----------|------------|
| S0    | Hi | Hi | On    | On       | On         |
| S3    | Lo | Hi | On    | On       | Off (Hi-Z) |
| S4/S5 | Lo | Lo | Off   | Off      | Off        |

Note: S3 - sleep ; S5 - power off

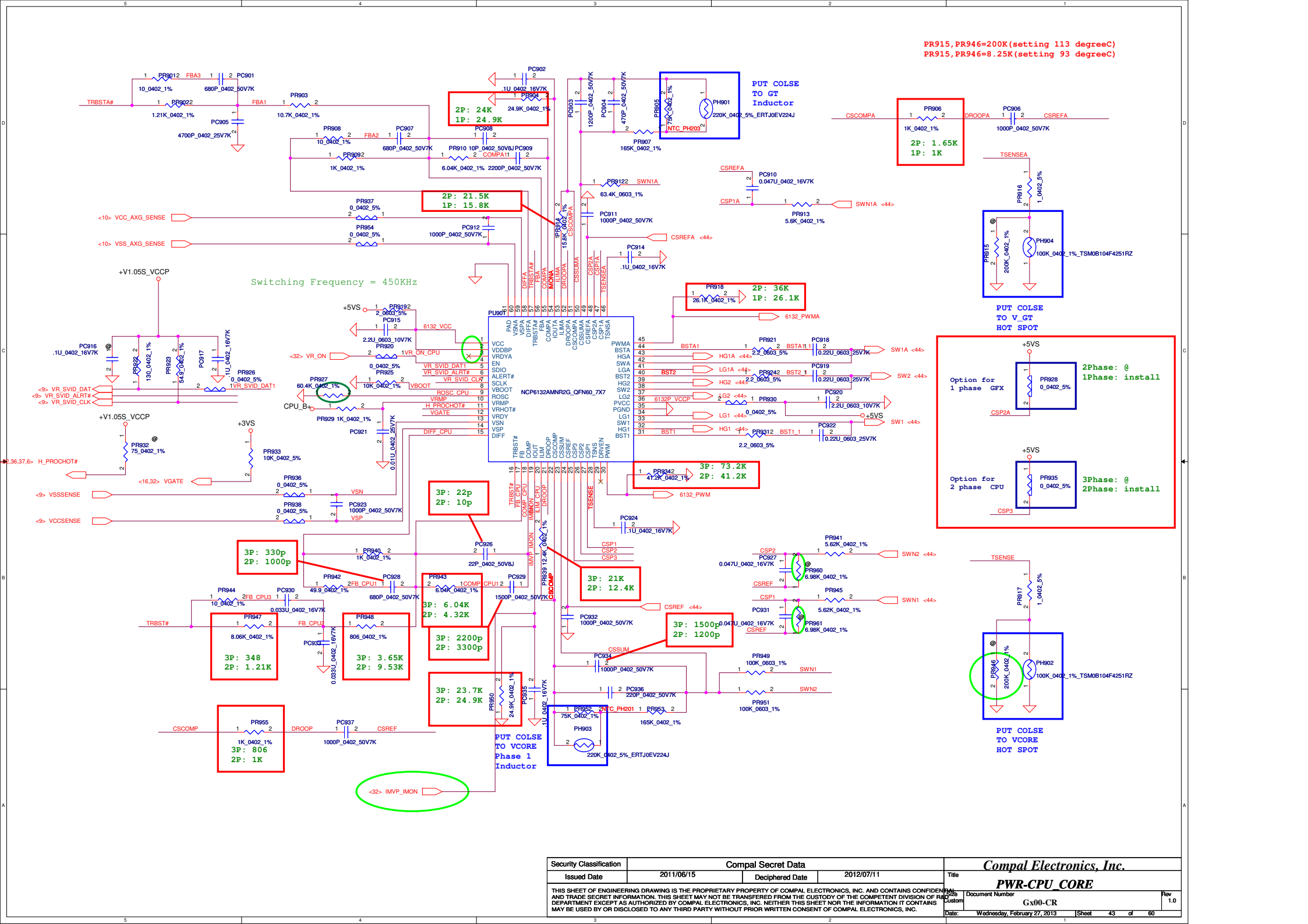


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                              |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                    | Wednesday, February 27, 2013 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 40 of 60                     |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                                   |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                                   |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/15 | Deciphered Date    | 2012/07/11 | Title                    | <b>+1.05VS VCCP</b>               |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date                     | Wednesday, February 27, 2013      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 42 of 60                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev                      | 1.0                               |



PR915,PR946=200K(setting 113 degreeC)  
PR915,PR946=8.25K(setting 93 degreeC)

Switching Frequency = 450KHz

PUT COLSE  
TO GT  
Inductor

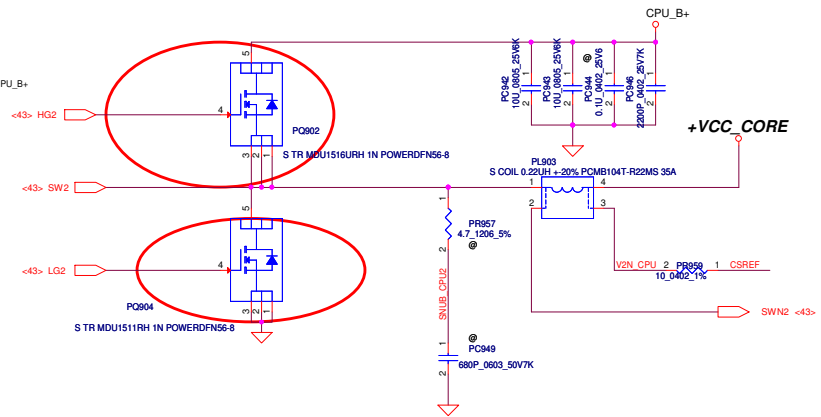
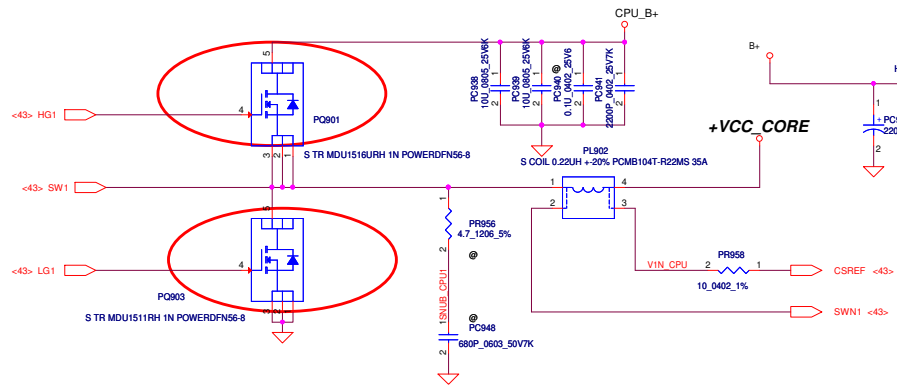
PUT COLSE  
TO V\_GT  
HOT SPOT

Option for  
1 phase GFX

Option for  
2 phase CPU

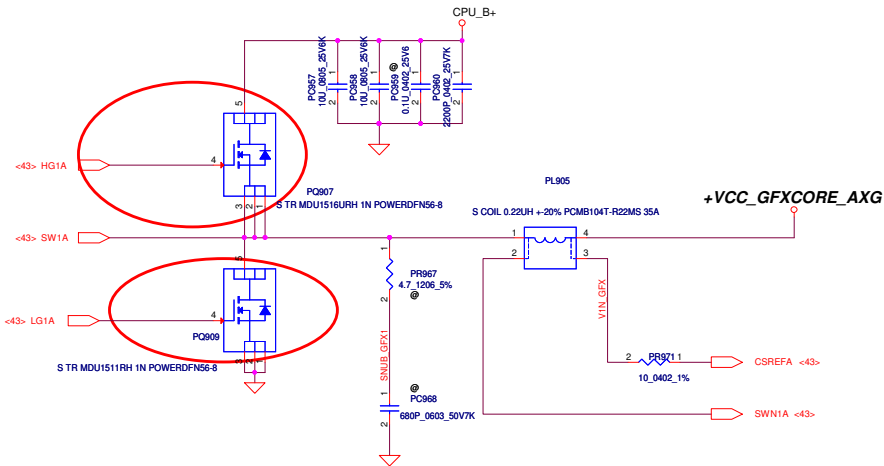
PUT COLSE  
TO VCORE  
HOT SPOT

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                              |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/15 | Deciphered Date    | 2012/07/11 | Title                    | PWR-CPU_CORE                 |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 43 of 60                     |



QC 45W CPU  
VID1=0.9V  
IccMax=94A  
Icc\_Dyn=66A  
Icc\_TDC=52A  
R\_LL=1.9m ohm  
OCP-110A

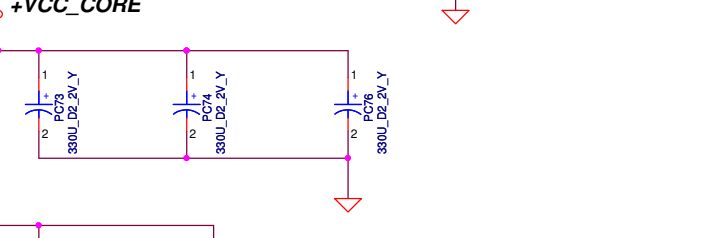
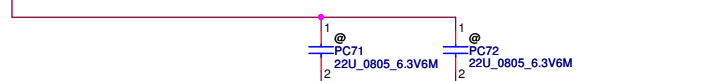
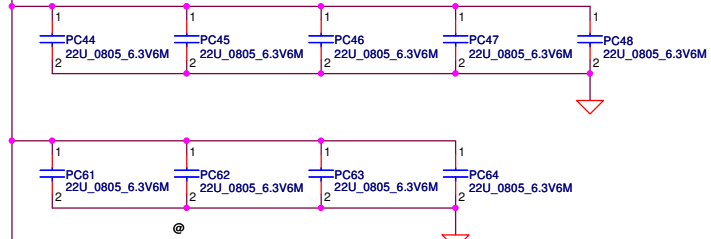
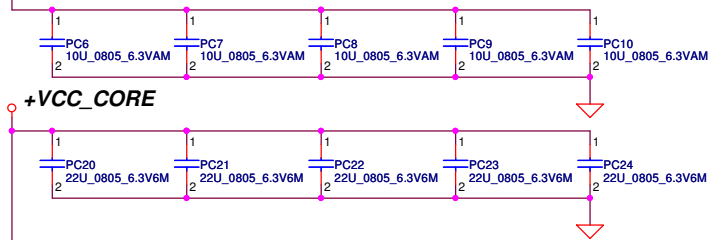
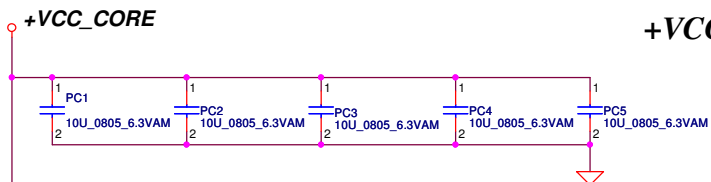
DC 35W CPU  
VID1=1.05V  
IccMax=53A  
Icc\_Dyn=43A  
Icc\_TDC=36A  
R\_LL=1.9m ohm  
OCP-65A



QC 45W GT2  
VID1=1.23V  
IccMax=46A  
Icc\_Dyn=37A  
Icc\_TDC=38A  
R\_LL=3.9m ohm  
OCP-55A

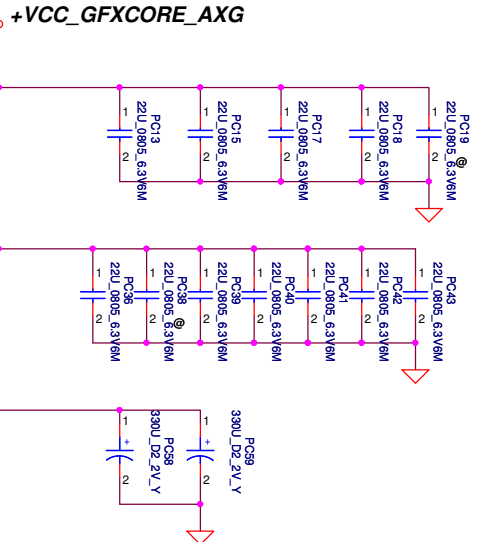
DC 35W GT2  
VID1=1.23V  
IccMax=33A  
Icc\_Dyn=20.2A  
Icc\_TDC=21.5A  
R\_LL=3.9m ohm  
OCP-40A

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |                 |                          |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------|--------------------------|--------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data           |                 | Compal Electronics, Inc. |              |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/15                   | Deciphered Date | 2012/07/11               | Title        |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number              | Gx00-CR         |                          | Rev          |
| D                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                              | 1.0             |                          |              |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Wednesday, February 27, 2013 | Sheet           | 44                       | of 60        |



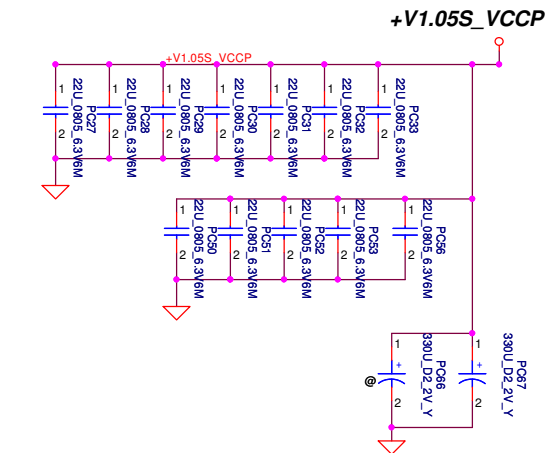
**+VCC\_CORE**

**+VCC\_GFXCORE\_AXG**



Below is 458544\_CRV\_PDDG\_0.5 Table 5-8.

|               |                                                    |
|---------------|----------------------------------------------------|
| Socket Bottom | 5 x 22 $\mu$ F (0805)<br>5 x (0805) no-stuff sites |
| Socket Top    | 7 x 22 $\mu$ F (0805)<br>2 x (0805) no-stuff sites |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                            |                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|----------------------------|------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Title                      |                              |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/15 | Deciphered Date    | 2012/07/11 | PWR - PROCESSOR DECOUPLING |                              |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                      | 45 of 60                     |
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VIWGP/R HW PIR List

| Item | Page  | MODIFICATION LIST                              | PURPOSE                           | EVT TO DVT |
|------|-------|------------------------------------------------|-----------------------------------|------------|
| 1    | P. 46 | Add PR102, PC108, PC109                        | For ADP_ID pin detect             |            |
| 2    | P. 47 | Add PR225, PR227, PR228, PQ206, PQ207, PQ208   | For protect adapter function      |            |
| 3    | P. 49 | Add PR410, PC433                               | For 3VALWP/5VALWP sequence        |            |
| 4    | P. 49 | Add PC434, PC435, PC436, PC437                 | For EMI solution                  |            |
| 5    | P. 49 | Add PC432 and change PL404 from 1.5uH to 3.3uH | For improve output voltage ripple |            |
| 6    | P. 50 | Change PR502 from 49.9k to 64.9k               | For +0.75VSP sequence             |            |
| 7    | P. 51 | Add PC637                                      | For +0.95VGSP sequence            |            |
| 8    | P. 54 | Change PC907, PR912, PR927, PC928              | For CPU Transient Compensation    |            |
| 9    |       |                                                |                                   |            |
| 10   |       |                                                |                                   |            |
| 11   |       |                                                |                                   |            |
| 12   |       |                                                |                                   |            |
| 13   |       |                                                |                                   |            |
| 14   |       |                                                |                                   |            |
| 15   |       |                                                |                                   |            |
| 16   |       |                                                |                                   |            |
| 17   |       |                                                |                                   |            |
| 18   |       |                                                |                                   |            |
| 19   |       |                                                |                                   |            |
| 20   |       |                                                |                                   |            |
| 21   |       |                                                |                                   |            |
| 22   |       |                                                |                                   |            |
| 23   |       |                                                |                                   |            |
| 24   |       |                                                |                                   |            |
| 25   |       |                                                |                                   |            |

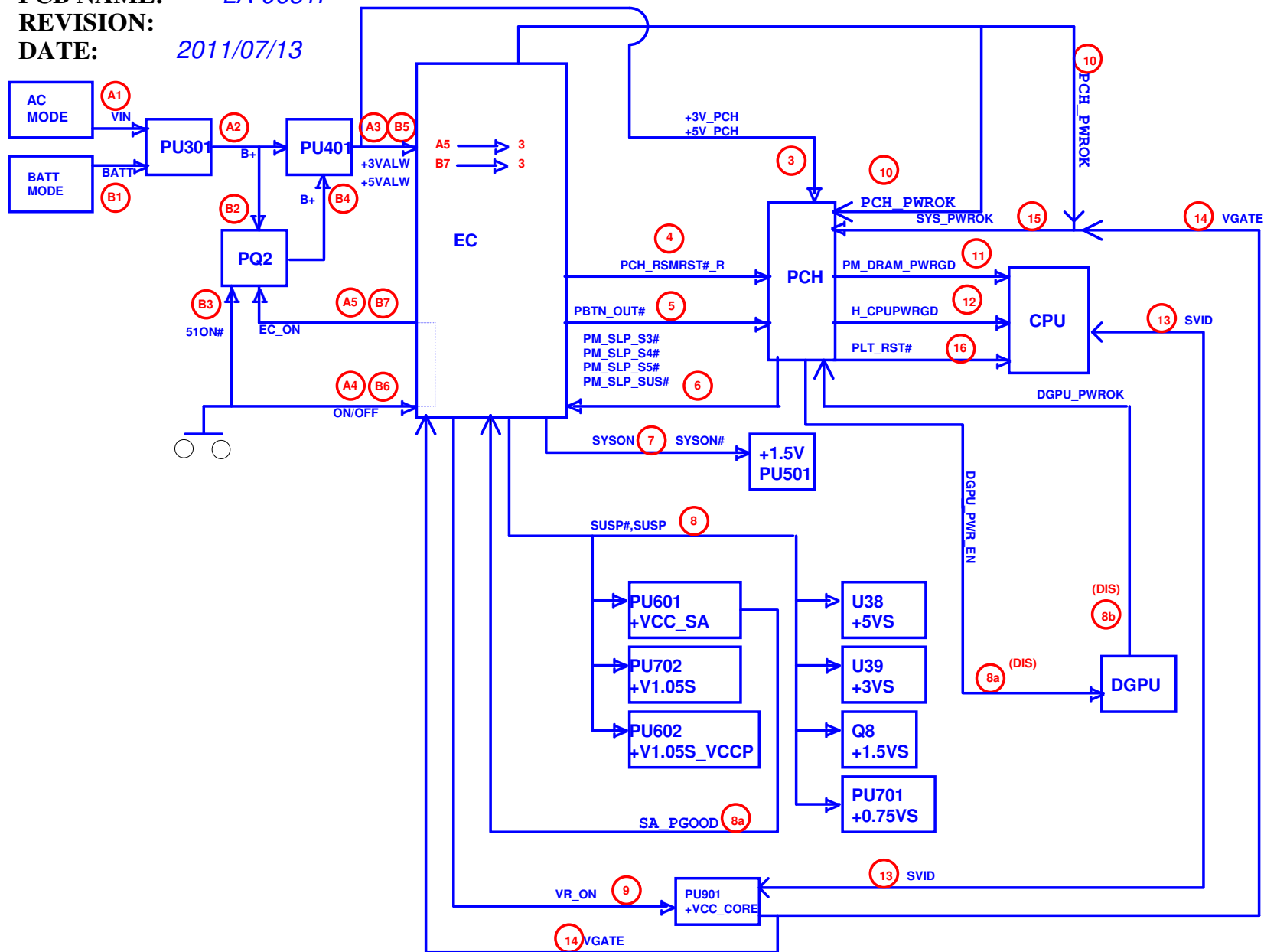
# COMPAL CONFIDENTIAL

MODEL NAME: *Power Sequence Block Diagram*

PCB NAME: *LA-9631P*

REVISION:

DATE: *2011/07/13*



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                 |            |                          |                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                         | Compal Secret Data |                 |            | Compal Electronics, Inc. |                              |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2011/06/15         | Deciphered Date | 2012/07/11 | Title                    | Power sequence               |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                 |            | Date                     | Wednesday, February 27, 2013 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                 |            | Sheet                    | 47 of 60                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                 |            | Rev                      | 1.0                          |

VIWGP/R HW PIR List

| Item | Page    | MODIFICATION LIST                                      | PURPOSE                                   | EVT TO DVT |
|------|---------|--------------------------------------------------------|-------------------------------------------|------------|
| 1    | P. 36   | Change C726, C727 to 2.2nF                             | For Sequence                              |            |
| 2    | P. 26   | Add R405                                               | For Intel Combo Card                      |            |
| 3    | P. 25   | Delete RP19. Add RP26, RP27                            | Because ME modify MIC location            |            |
| 4    | P. 14   | Add R406, R407, R408, R409                             | Reserve for improvement factory processes |            |
| 5    | P. 32   | Add EC_SPI_S0, EC_SPI_S1, EC_SPI_CLK, EC_SPI_CS# to EC | Reserve for improvement factory processes |            |
| 6    | P. 32   | Add PCH_PWR_EN to EC Pin.107                           | Reserve for improvement factory processes |            |
| 7    | P. 32   | Reserve R410                                           | Reserve Pull-high for GPIO                |            |
| 8    | P. 5~22 | Change footprint of JCPU1, U4                          | For Lenovo rule                           |            |
| 9    | P. 21   | Add Q21, R40, C237, R225, C243                         | Reserve for power consumption             |            |
| 10   | P. 24   | Add R411, R412, C411, C412                             | Reserve for EMI                           |            |
| 11   | P. 32   | Add ADP_65 to EC Pin. 21                               | For adapter protection                    |            |
| 12   | P. 32   | Add ADP_90 to EC Pin. 68                               | For adapter protection                    |            |
| 13   | P. 32   | Add ADP_135 to EC Pin. 85                              | For adapter protection                    |            |
| 14   | P. 32   | Change EC_FAN_PWM from EC Pin. 34 to EC Pin. 26        | For common design                         |            |
| 15   | P. 32   | Change NOVO# from EC Pin. 26 to EC Pin. 34             | For common design                         |            |
| 16   | P. 32   | Add ADP_ID to EC Pin. 66                               | For adapter                               |            |
| 17   | P. 32   | Change PCH_ENBKL from EC Pin. 73 to EC Pin. 76         | For common design                         |            |
| 18   | P. 32   | Change IMVP_IMON from EC Pin. 76 to EC Pin. 73         | For common design                         |            |
| 19   | P. 32   | Add VGATE to EC Pin. 74                                | Reserve for sequence                      |            |
| 20   | P. 32   | Add SYS_PWROK to EC Pin. 86                            | Reserve for sequence                      |            |
| 21   | P. 32   | Change EC_TS_ON# from EC Pin. 85 to EC Pin. 97         | For common design                         |            |
| 22   | P. 32   | Change DGPU_PWR_EN from EC Pin. 107 to EC Pin. 123     | For common design                         |            |
| 23   | P. 32   | Change SUSCLK from EC Pin. 123 to EC Pin. 122          | For common design                         |            |

VIWGP/R HW PIR List

| Item | Page  | MODIFICATION LIST                                                  | PURPOSE                                   |              |
|------|-------|--------------------------------------------------------------------|-------------------------------------------|--------------|
| 1    | P. 30 | Delete R416, Add J9                                                | No need Zero ODD Function                 | . DVT TO PVT |
| 2    | P. 26 | Reserve R508                                                       | For leakage current issue of Atheros WLAN |              |
| 3    | P. 23 | Add R509                                                           | protect BKOFF# damage                     |              |
| 4    | P. 32 | Reserve R416                                                       | Reserve +3VLP power rail to EC            |              |
| 5    | P. 32 | Change EC_RST# power rail to +3V_EC                                | Using power rail which the same with EC.  |              |
| 6    | P. 32 | Change EC_SMB_CK1 & EC_SMB_DA1 power rail to +3V_EC                | Using power rail which the same with EC.  |              |
| 7    | P. 14 | Change U5 from 4MB to 8MB ROM                                      | Follow common design                      |              |
| 8    | P. 14 | Delete R266, R221, U6                                              | It is for 2MB ROM, we don't need it       |              |
| 1    | P. 31 | Reserve resistance to +3VLP and +3VALW.                            | For Speaker Noise in S5                   |              |
| 2    | P. 32 | Reserve resistance in EC for share ROM.                            | Follow common design                      |              |
| 3    | P. 41 | Reserve +V1.05S_VCCP_PWRGOOD of +V.05S_VCCP to connect to SA_PG00D | For Celeron CPU                           |              |