

Compal Confidential

Model Name : V5MM2\_Ezel\_HW

File Name : LA-A021P

Compal Confidential

M/B Schematics Document

Intel Shark Bay ULT (Hasswell + Lynx Point-LP)

nVidia N14P-GT

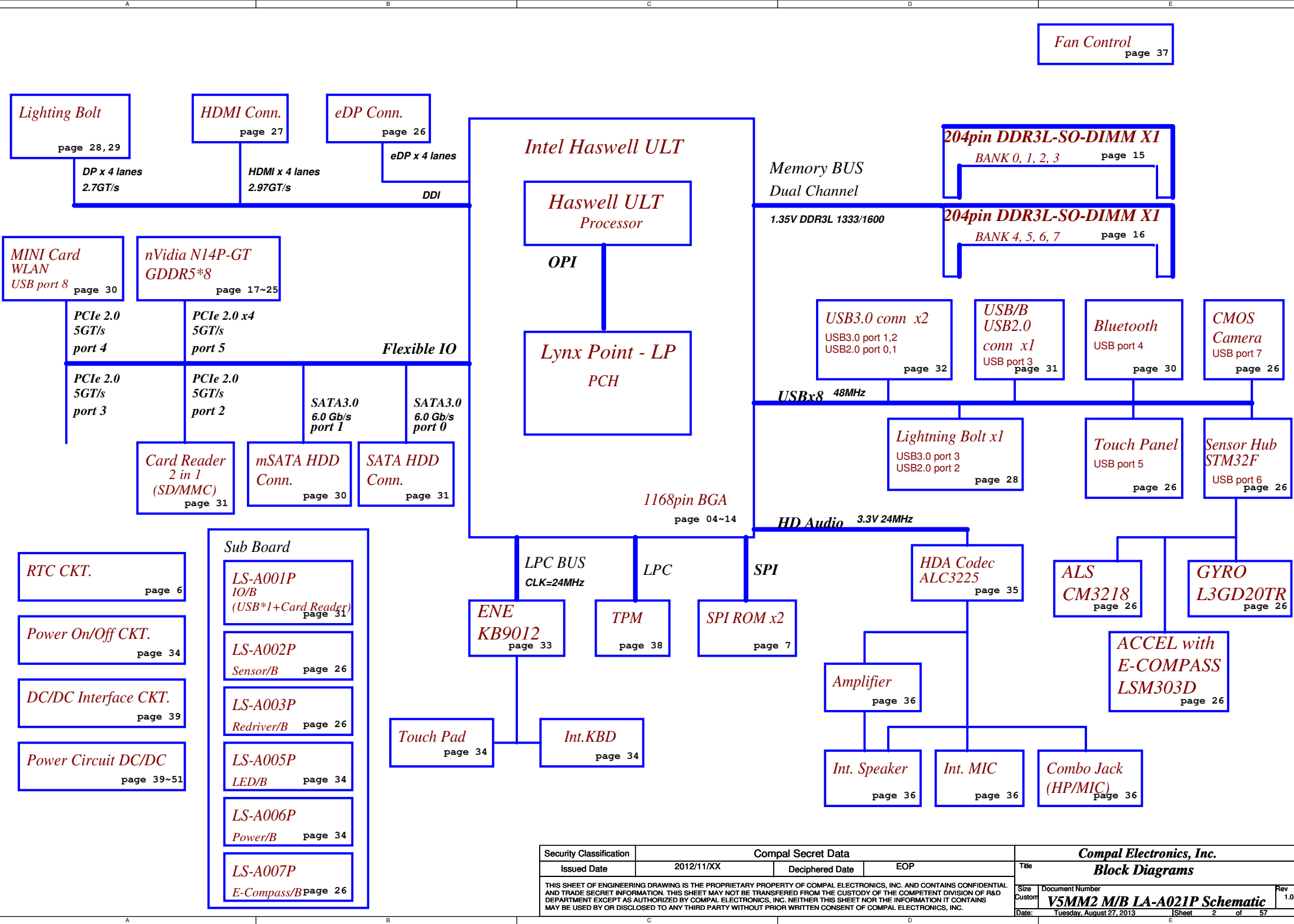
2013-08-XX

REV: 1.0

ZZZ1

| Part Number | Description                                               |
|-------------|-----------------------------------------------------------|
| DAZ0YY00100 | PCB V5MM2 LA-A021P LS-A001P/A002P/A003P/A005P/A006P/A007P |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |     |                                |               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|-----|--------------------------------|---------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |     | Compal Electronics, Inc.       |               |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2012/11/XX         | Deciphered Date | EOP | Title<br>Cover Page            |               |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |     | V5MM2 M/B LA-A021P Schematic   | 1.0           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |     | Date: Tuesday, August 27, 2013 | Sheet 1 of 57 |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |                    |                 |                          |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------|-----------------|--------------------------|-----|
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |                    |                 | Block Diagrams           |     |
| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number              |                    |                 |                          | Rev |
| Custom                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V5MM2 M/B LA-A021P Schematic |                    |                 |                          | 1.0 |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Tuesday, August 27, 2013     | Sheet              | 2               | of                       | 57  |

| Power Plane | Description                                                  | S1  | S3  | S5  |
|-------------|--------------------------------------------------------------|-----|-----|-----|
| VIN         | Adapter power supply (19V)                                   | N/A | N/A | N/A |
| BATT+       | Battery power supply (12.6V)                                 | N/A | N/A | N/A |
| B+          | AC or battery power rail for power circuit.                  | N/A | N/A | N/A |
| +CPU_CORE   | Core voltage for CPU                                         | ON  | OFF | OFF |
| +VGA_CORE   | Core voltage for GPU                                         | ON  | OFF | OFF |
| +0.675VS    | +0.675VSP to +0.675VS switched power rail for DDR terminator | ON  | OFF | OFF |
| +1.05VSDGPU | +1.05VSDGPU switched power rail for GPU                      | ON  | OFF | OFF |
| +1.05VS_VTT | +1.05VSP to +1.05VS_VTT switched power rail for CPU          | ON  | OFF | OFF |
| +1.35V      | +1.35VP to +1.35V power rail for DDRIII/L                    | ON  | ON  | OFF |
| +1.5VS      | +1.5V to +1.5VS switched power rail                          | ON  | OFF | OFF |
| +1.5VSDGPU  | +1.5VSDGPUP to +1.5VSDGPU switched power rail for GPU        | ON  | OFF | OFF |
|             |                                                              |     |     |     |
|             |                                                              |     |     |     |
| +3VALW      | +3VALW always on power rail                                  | ON  | ON  | ON* |
| +3VLP       | B+ to +3VLP power rail for suspend power                     | ON  | ON  | ON  |
| +3VS        | +3VALW to +3VS power rail                                    | ON  | OFF | OFF |
| +3VSDGPU    | +3VS to +3VSDGPU switched power rail for GPU                 | ON  | OFF | OFF |
| +5VALW      | +5VALWP to +5VALW power rail                                 | ON  | ON  | ON* |
| +5VS        | +5VALW to +5VS switched power rail                           | ON  | OFF | OFF |
|             |                                                              |     |     |     |
| +RTCVCC     | RTC power                                                    | ON  | ON  | ON  |
|             |                                                              |     |     |     |
|             |                                                              |     |     |     |
|             |                                                              |     |     |     |

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

### EC SM Bus2 address

| Device        | Address   | Device                      | Address   |
|---------------|-----------|-----------------------------|-----------|
| Smart Battery | 0001 011X | On Board Thermal Sensor     | 0100 110x |
|               |           | VGA Internal Thermal Sensor | 0100 000x |
|               |           | G Sensor                    | 0011 000x |

| Device   |       | Address   |        |
|----------|-------|-----------|--------|
| ChannelA | DIMM0 | 1001 000x | JDIMM1 |
| ChannelB | DIMM1 | 1001 010x | JDIMM2 |

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

| Board ID | PCB Revision |
|----------|--------------|
| 0        | 0.1          |
| 1        | 0.2          |
| 2        | 0.3          |
| 3        | 0.4          |
| 4        | 1.0          |
| 5        |              |
| 6        |              |
| 7        |              |

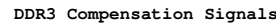
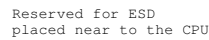
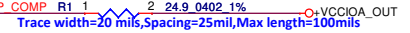
|         |      |                          |
|---------|------|--------------------------|
| USB 2.0 | Port |                          |
| EHCI1   | 0    | USB3.0 Connector (Left)  |
|         | 1    | USB3.0 Connector (Left)  |
|         | 2    | Lightning Bolt mDP Conn. |
|         | 3    | USB2.0 (USB/B)           |
|         | 4    | Mini Card (WLAN+BT)      |
|         | 5    | Touch Panel              |
|         | 6    | Sensor Hub               |
|         | 7    | Camera                   |

| USB 3.0 | Port |                       |
|---------|------|-----------------------|
| XHCI    | 1    | USB Port(Left 3.0)    |
|         | 2    | USB Port(Left 3.0)    |
|         | 3    | Lightning Bolt USB3.0 |
|         | 4    |                       |

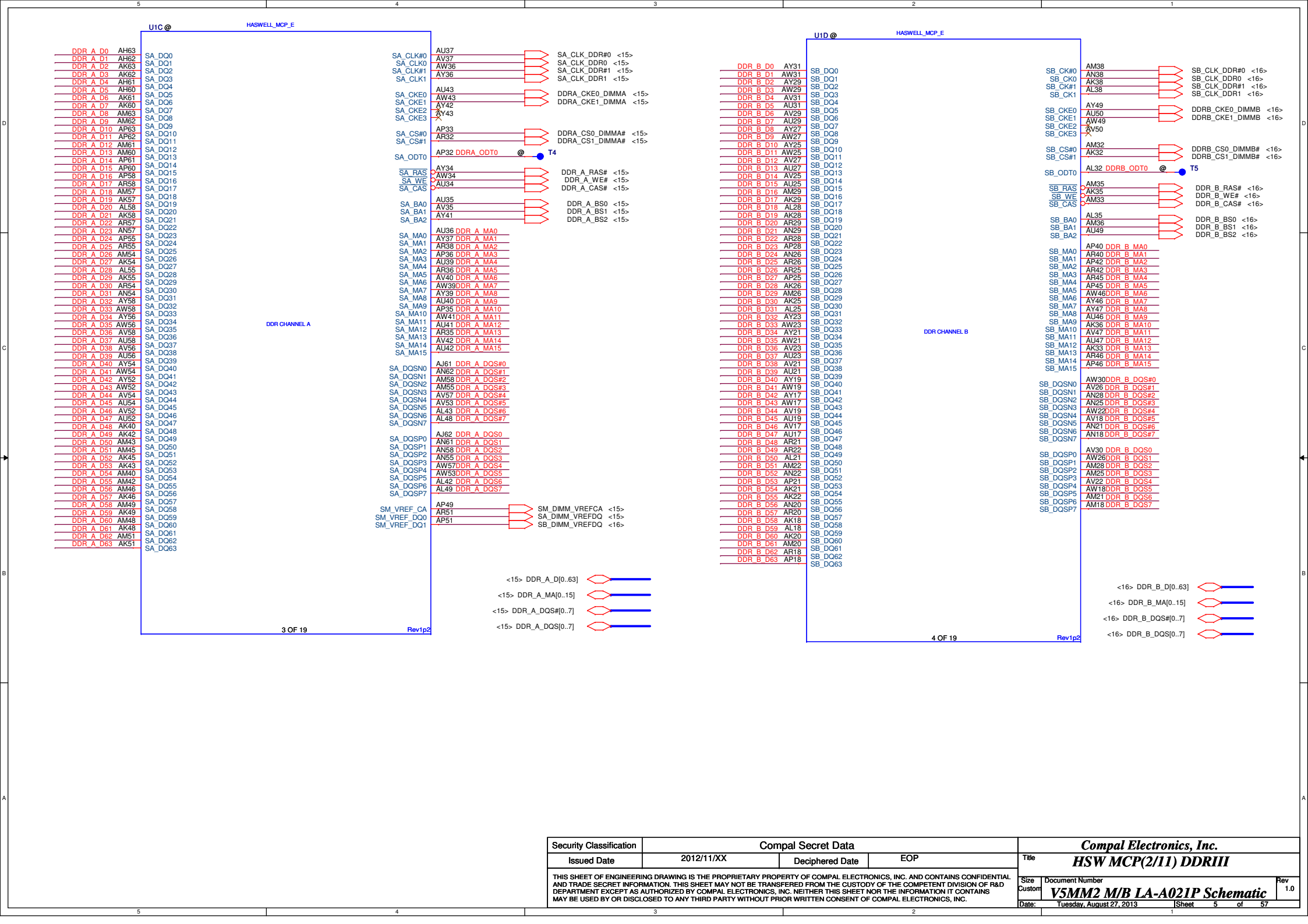
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                 |     |                          |                              |               |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                 |     | Customer                 | V5MM2 M/B LA-A021P Schematic |               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                 |     | Date:                    | Tuesday, August 27, 2013     | Sheet 3 of 57 |

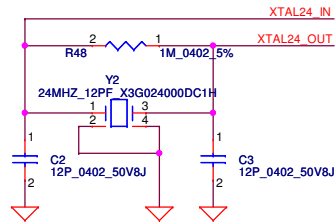
**3, 2 connected to TI-HD3SS2521**



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |     |                                                                      |                                                        |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|-----|----------------------------------------------------------------------|--------------------------------------------------------|-----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |     | <b>Compal Electronics, Inc.</b><br><b>HSW MCP(1/11) DDI,MSIC,XDP</b> |                                                        |                 |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |     | Date:                                                                | Tuesday, August 27, 2013                               | [Sheet 4 of 57] |





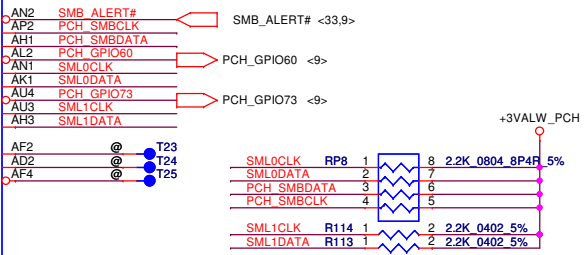
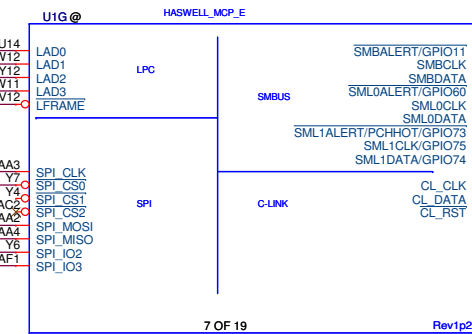
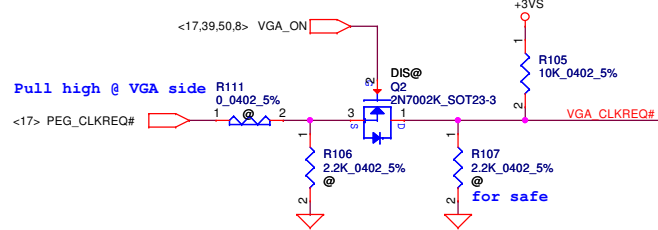
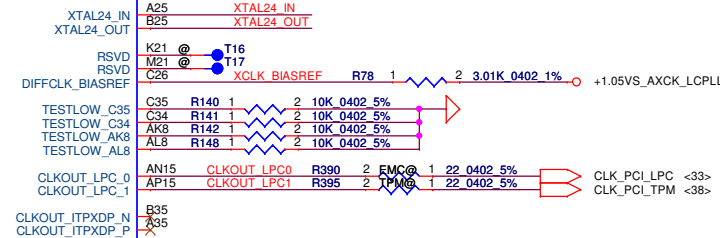
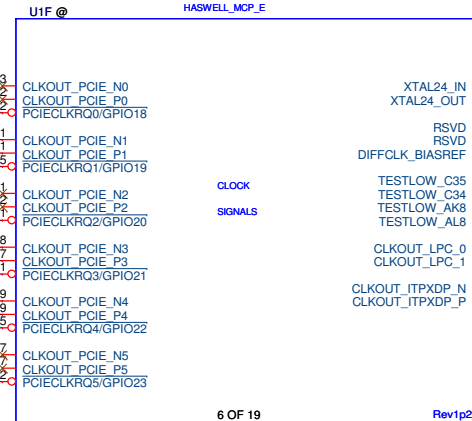
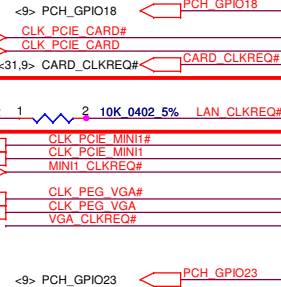


Card Reader

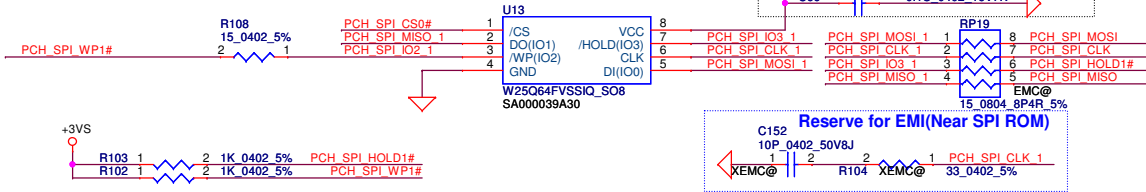
PCIE LAN

WLAN

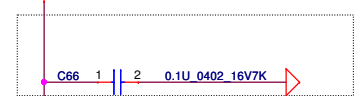
VGA



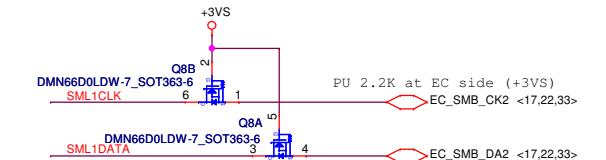
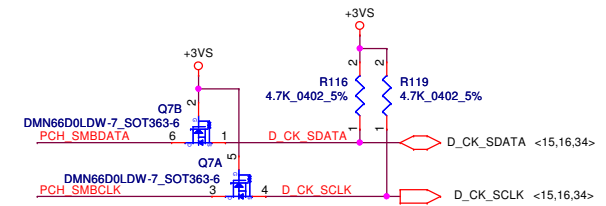
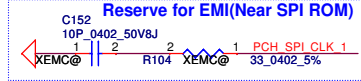
# SPI ROM (8MByte)



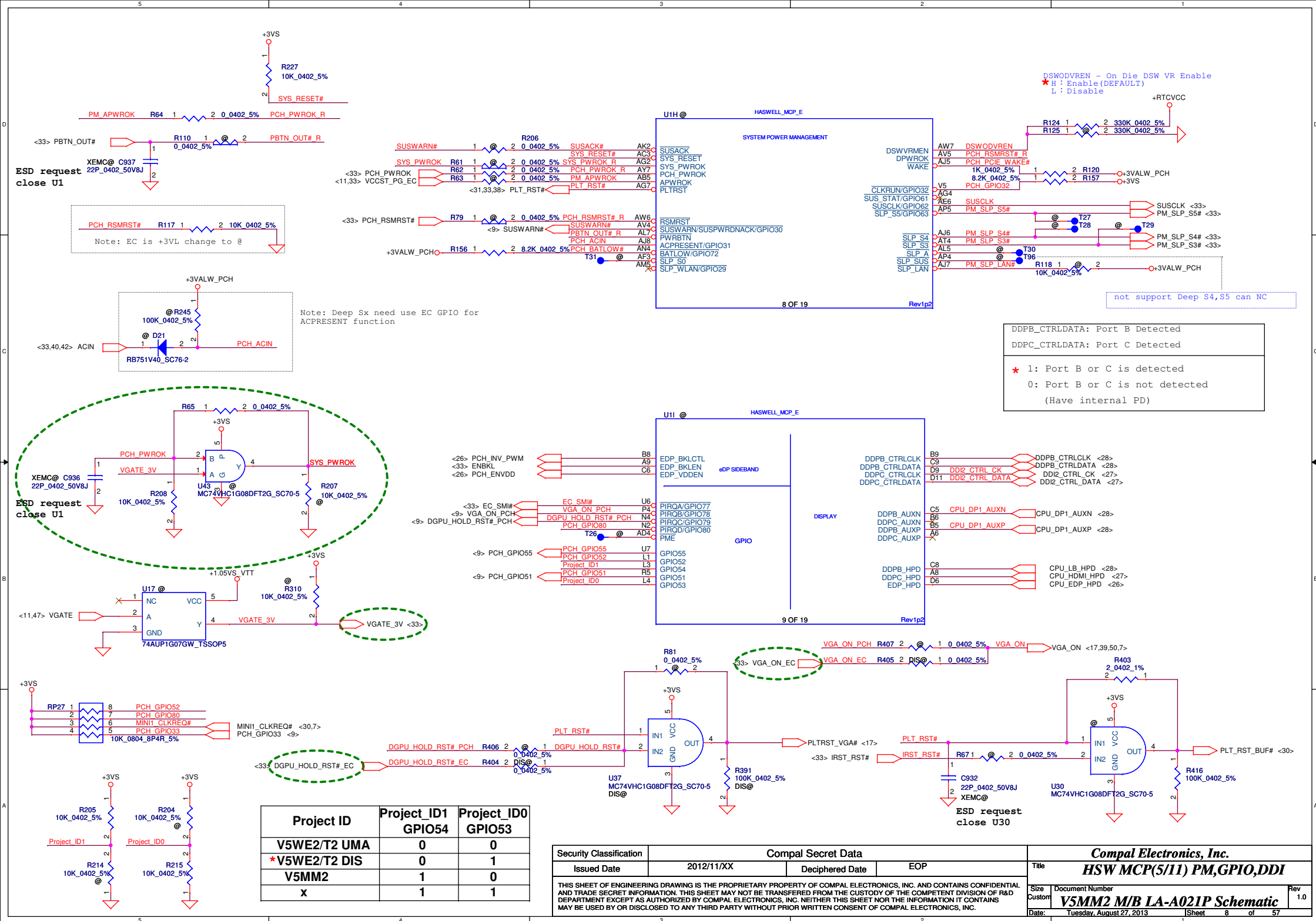
D29 design for Debug board flash SPI ROM (can be short after MP)

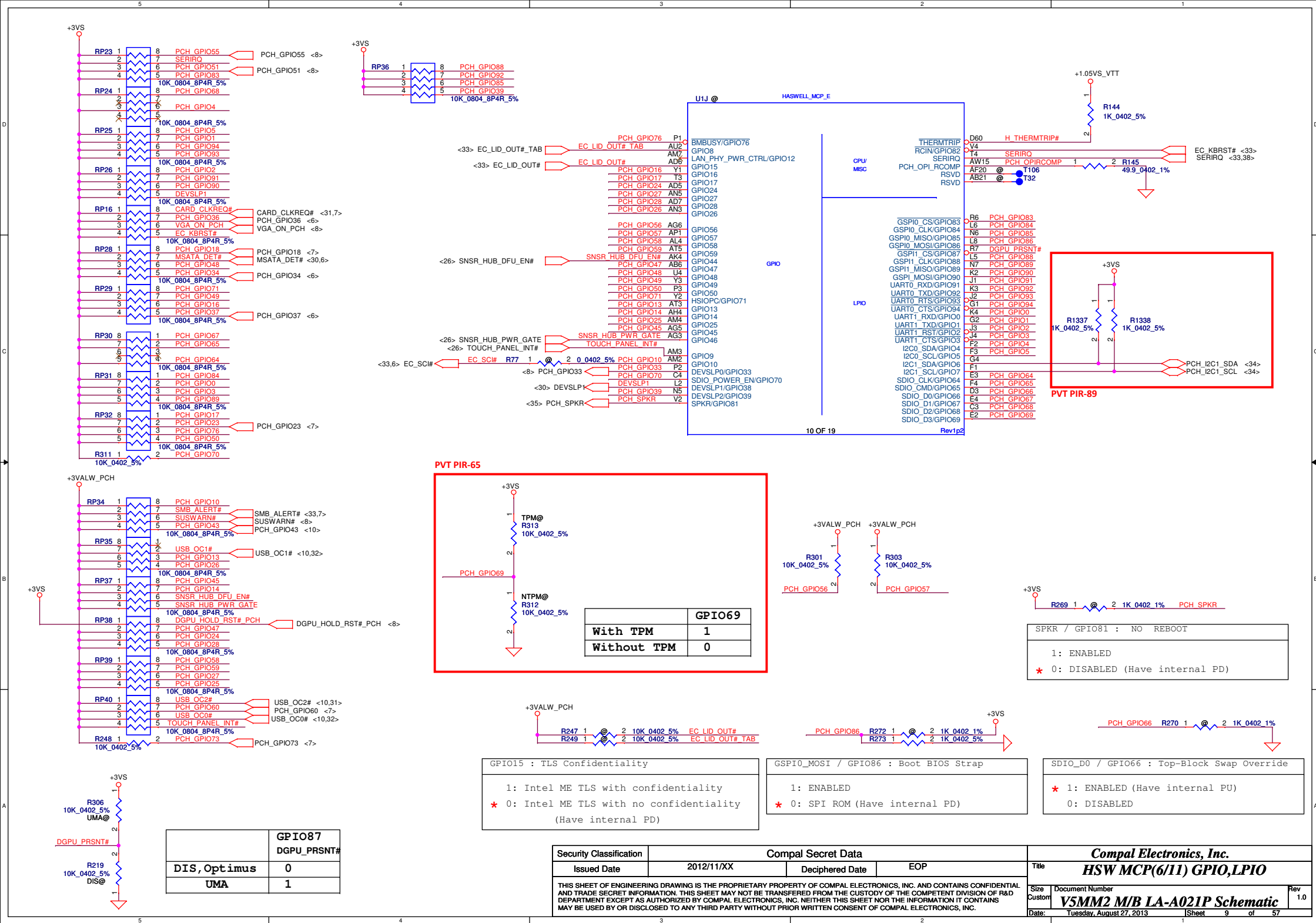


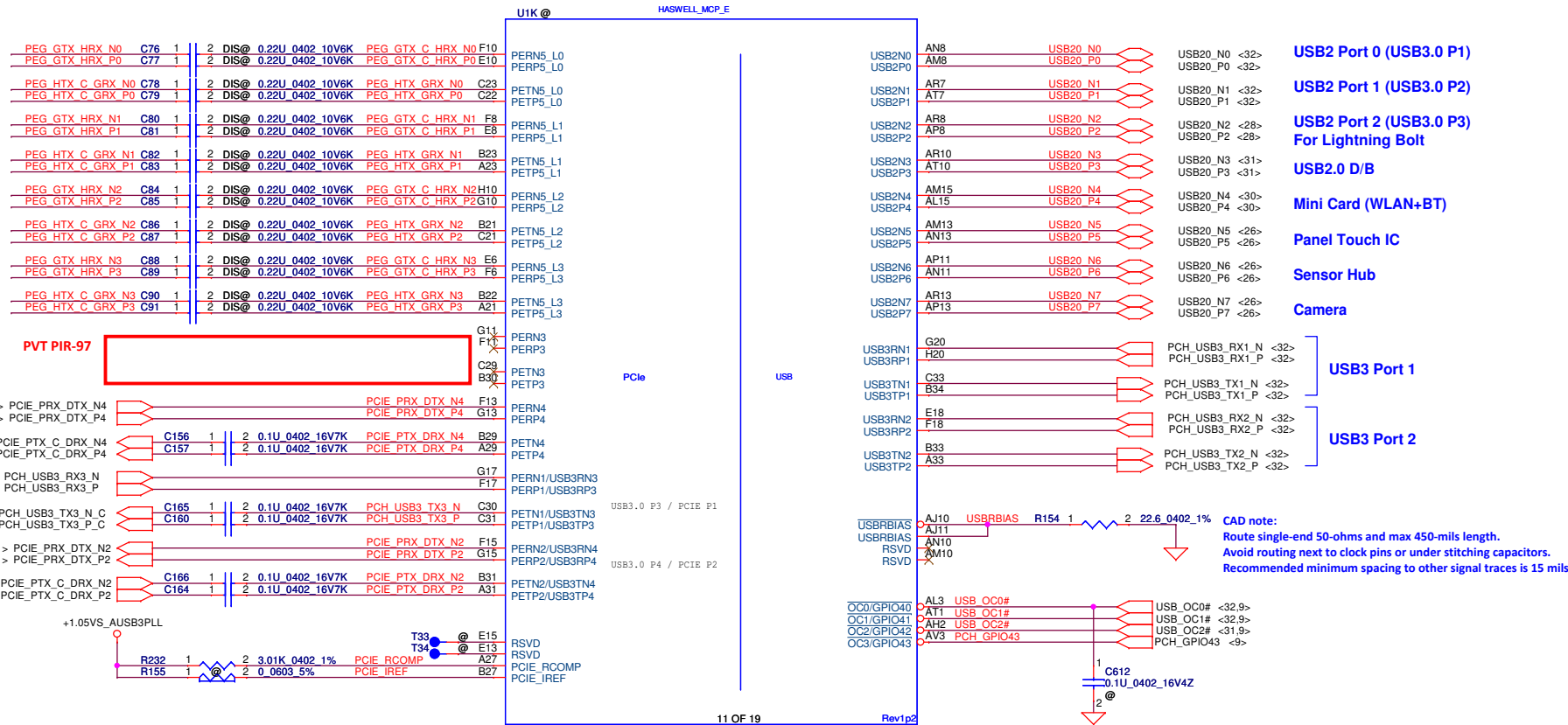
Reserve for EMI(Near SPI ROM)



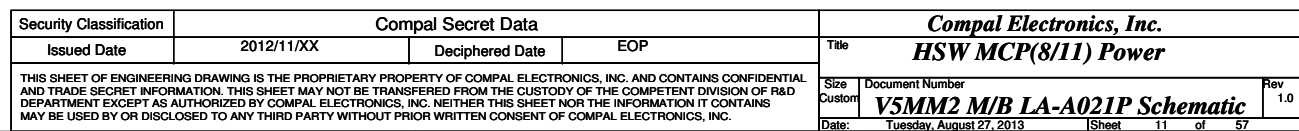
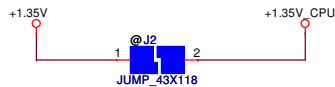
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number              | Date                     |     | Rev                         |  |
| Custom                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V5MM2 M/B LA-A021P Schematic | Tuesday, August 27, 2013 |     | 1.0                         |  |
| Sheet                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                              | 7                        |     | of                          |  |
| 57                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                              |                          |     |                             |  |





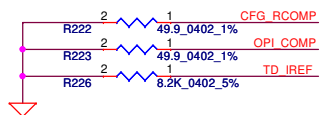
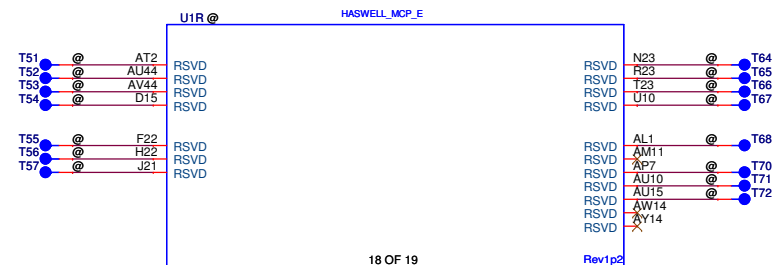


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |     |                                                                   |                                     |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|-----|-------------------------------------------------------------------|-------------------------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |     | <b>Compal Electronics, Inc.</b><br><b>HSW MCP(7/11) PCIE, USB</b> |                                     |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |     | Custom                                                            | <b>V5MM2 M/B LA-A021P Schematic</b> | 1.0            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |     | Date:                                                             | Tuesday, August 27, 2013            | Sheet 10 of 57 |







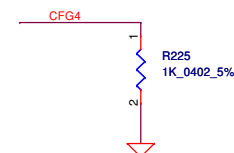


CFG3

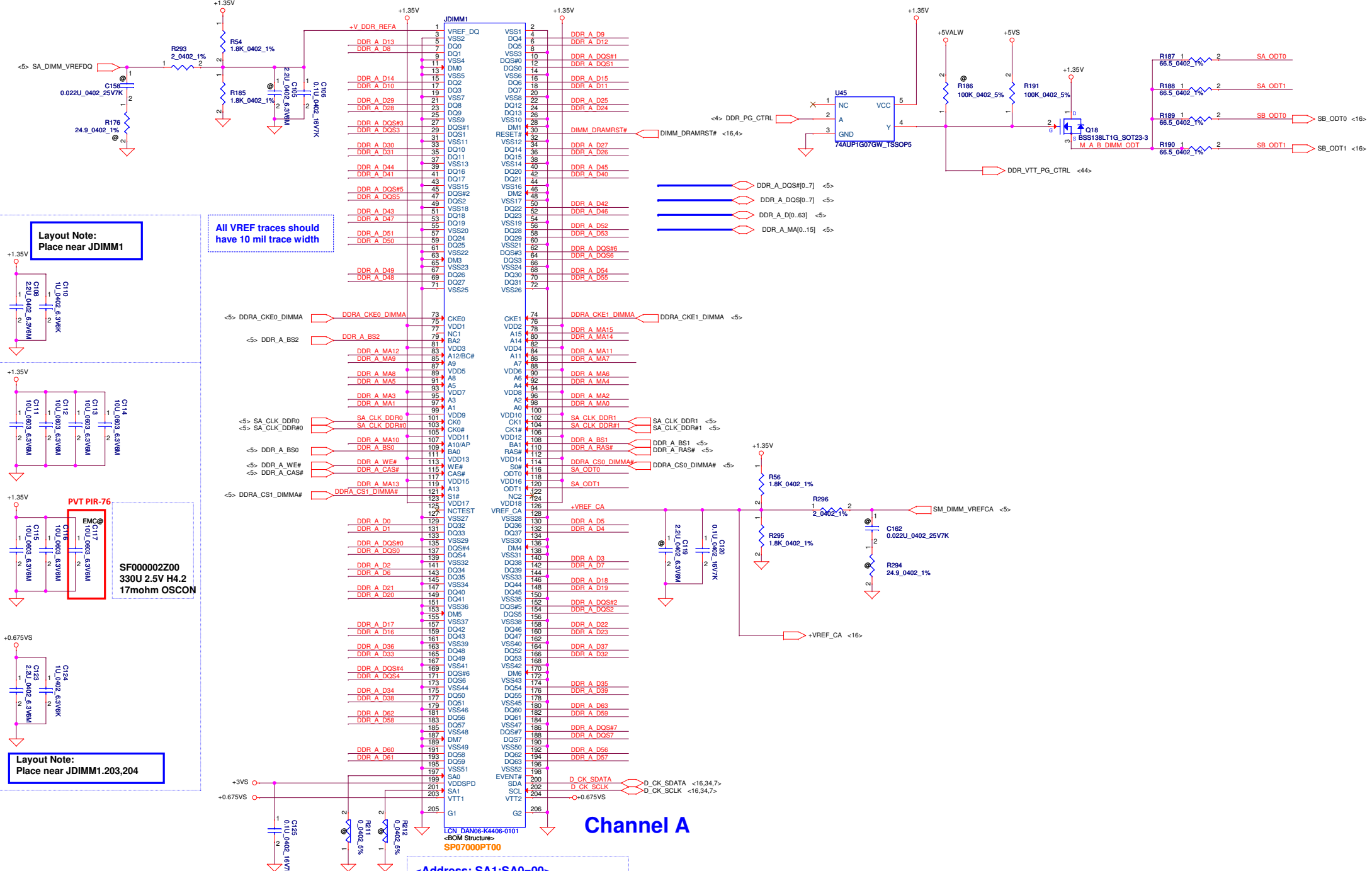
R224  
1K\_0402\_1%  
@

CU

| Physical Debug Enable (DFX Privacy) |                                                                          |
|-------------------------------------|--------------------------------------------------------------------------|
| CFG3                                | 1: DISABLED<br>0: ENABLED; SET DFX ENABLED BIT<br>IN DEBUG INTERFACE MSR |

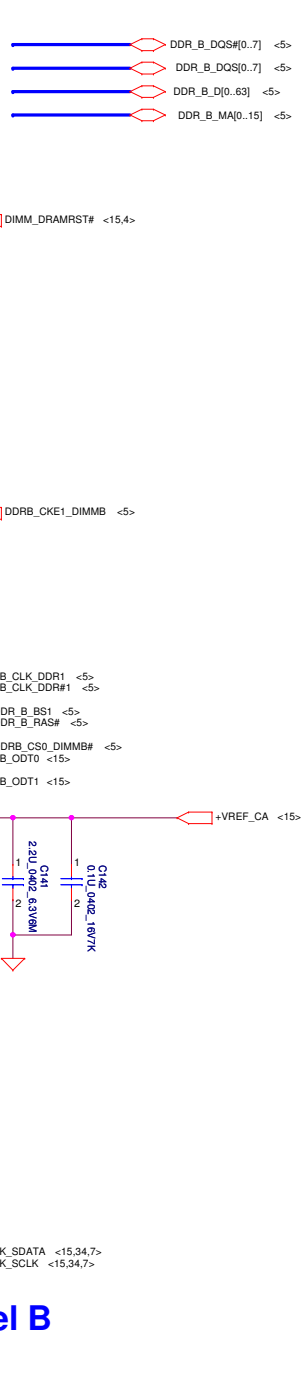
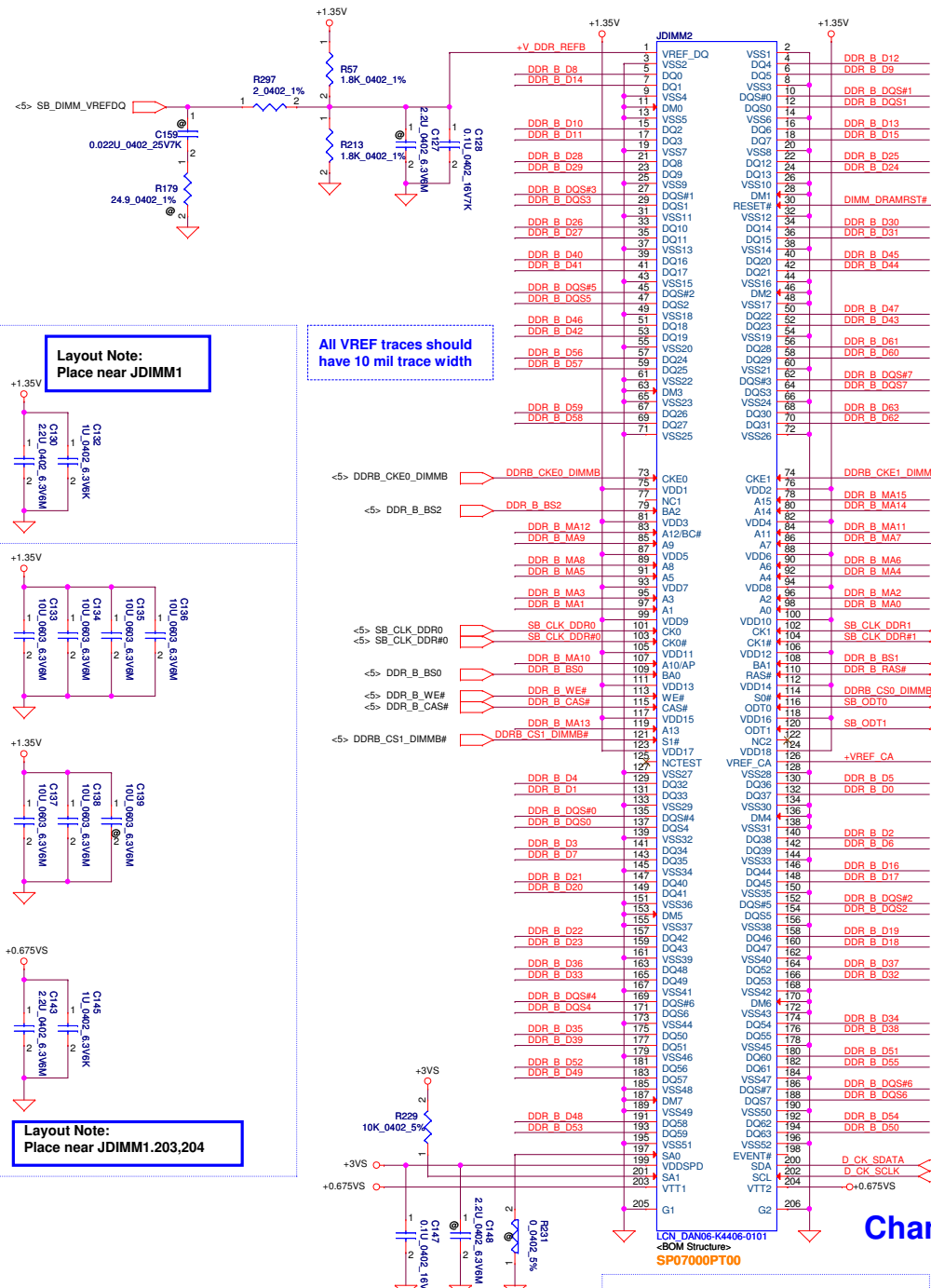


| Display Port Presence Strap |                                                                                                                                                                               |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------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



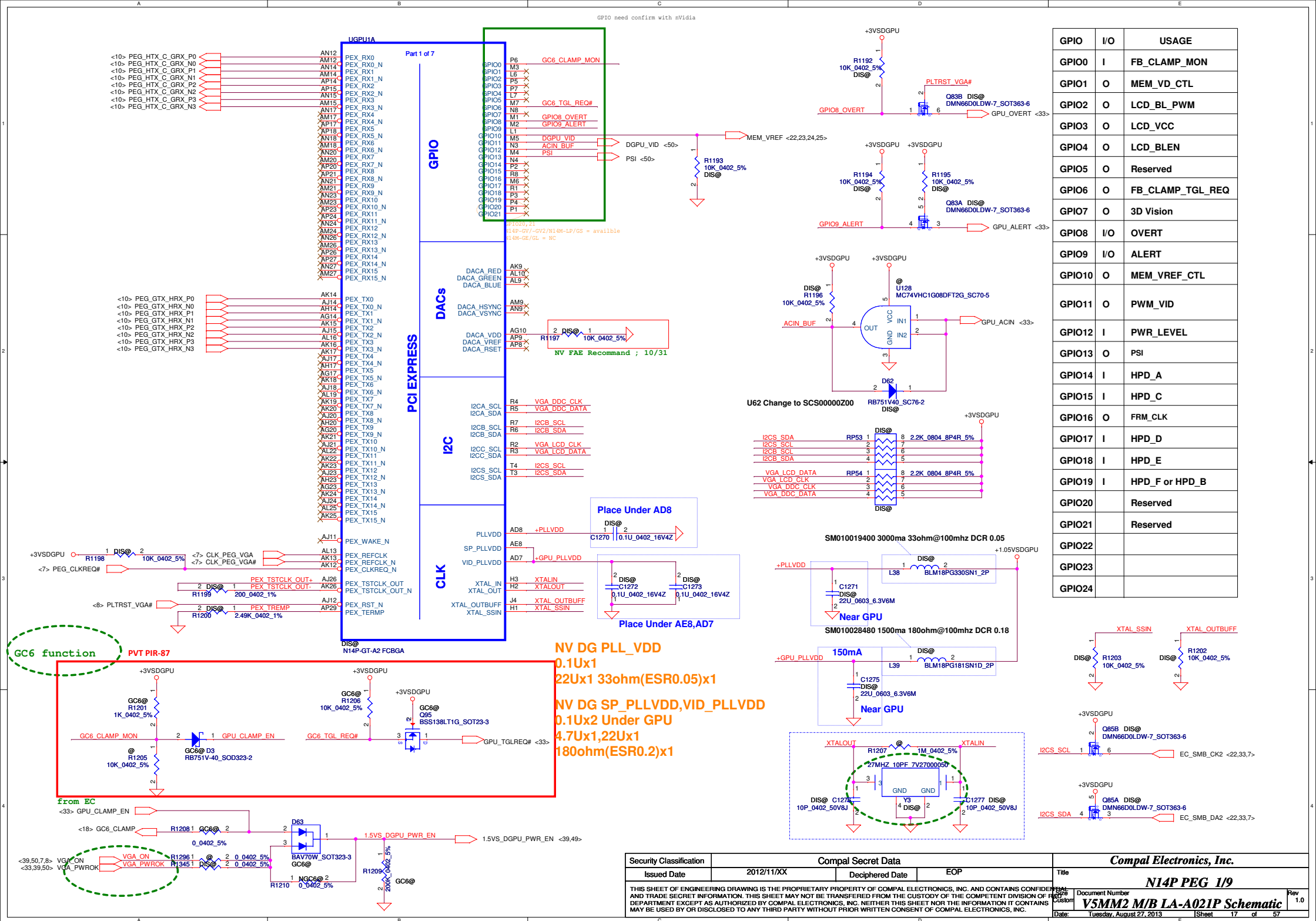
Channel A

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |     |             |                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-----|-------------|------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |     | Title       |                              |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2012/11/XX | Deciphered Date    | EOP | DDR3 DIMM1  |                              |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |     | Rev 1.0     | V5MM2 M/B LA-A021P Schematic |
| Date: Tuesday, August 27, 2013                                                                                                                                                                                                                                                                                                                                                                                                                                |            | Sheet 15 of 57     |     |             |                              |



Channel B

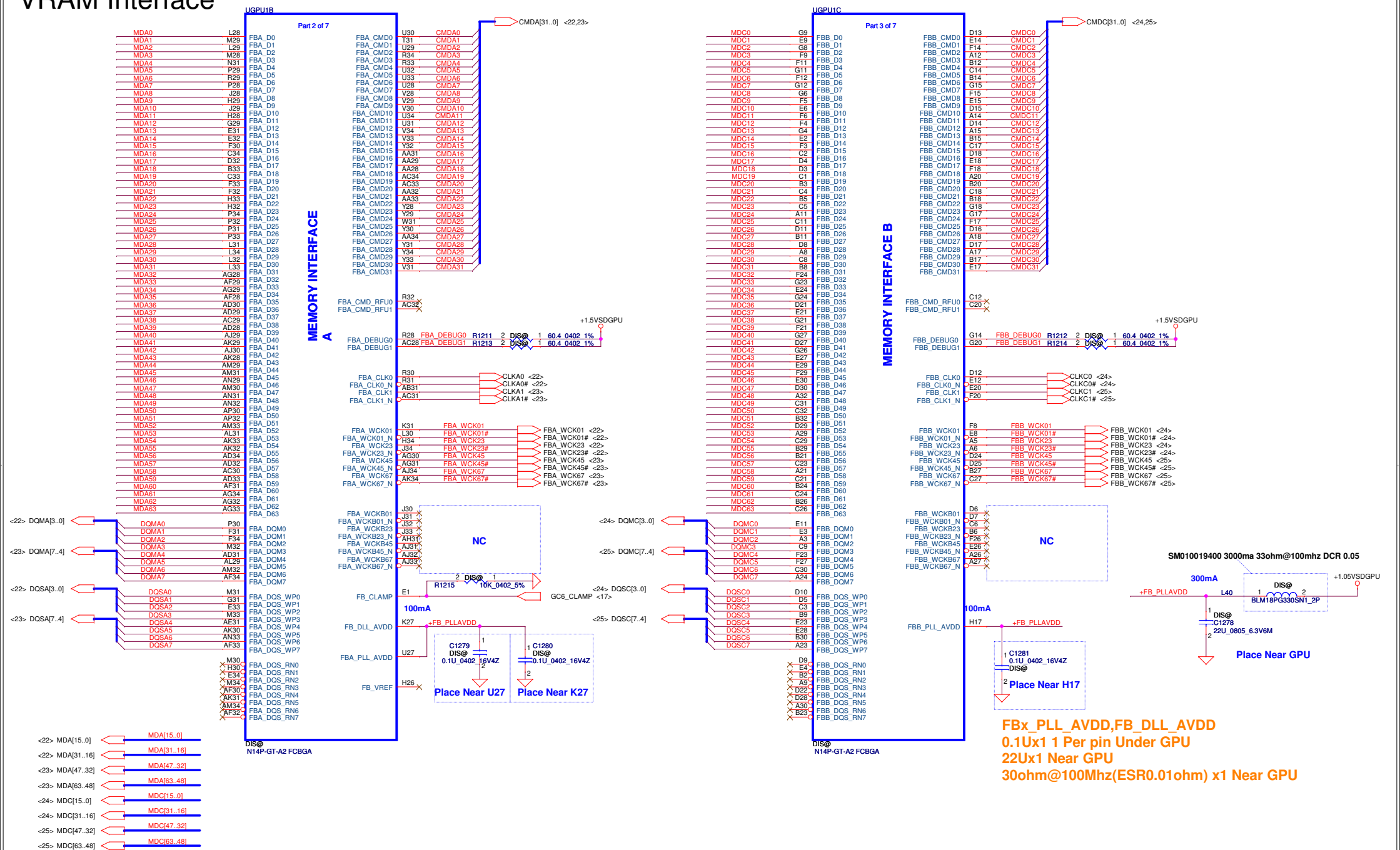
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DIMM\_2 STD H:4mm

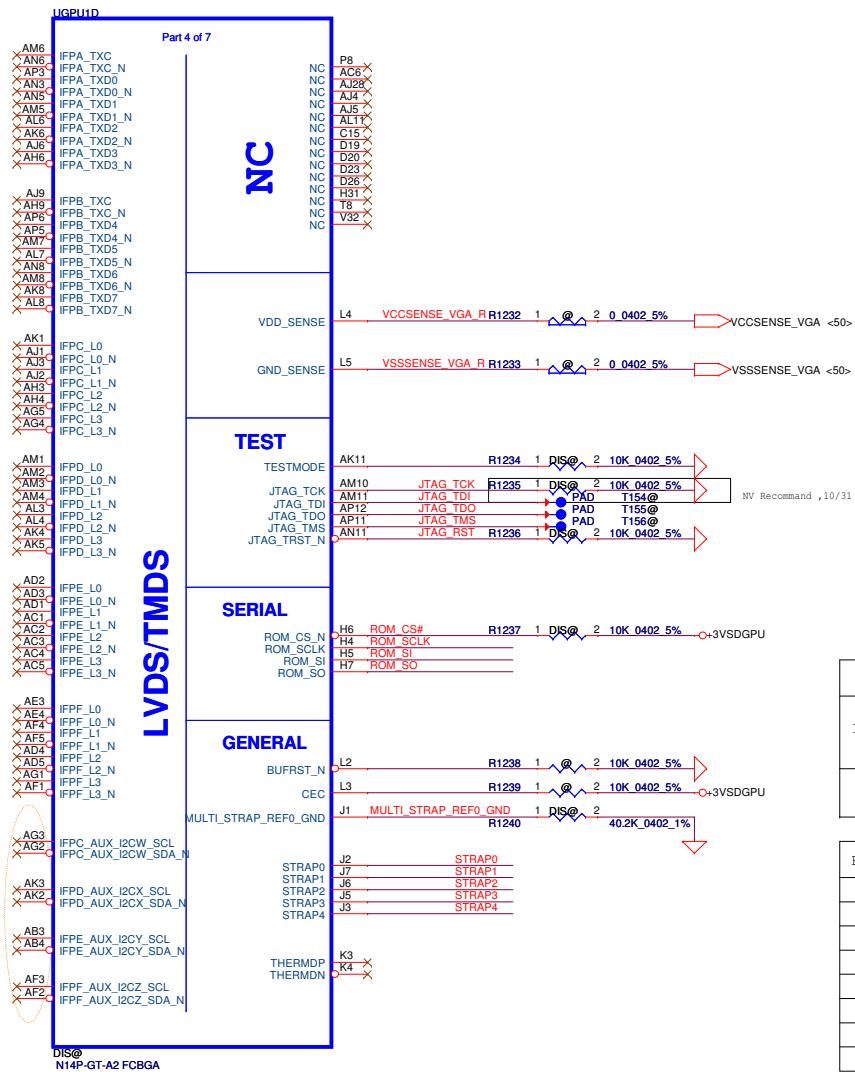


| GPIO   | I/O | USAGE            |
|--------|-----|------------------|
| GPIO0  | I   | FB_CLAMP_MON     |
| GPIO1  | O   | MEM_VD_CTL       |
| GPIO2  | O   | LCD_BL_PWM       |
| GPIO3  | O   | LCD_VCC          |
| GPIO4  | O   | LCD_BLEN         |
| GPIO5  | O   | Reserved         |
| GPIO6  | O   | FB_CLAMP_TGL_REQ |
| GPIO7  | O   | 3D Vision        |
| GPIO8  | I/O | OVERT            |
| GPIO9  | I/O | ALERT            |
| GPIO10 | O   | MEM_VREF_CTL     |
| GPIO11 | O   | PWM_VID          |
| GPIO12 | I   | PWR_LEVEL        |
| GPIO13 | O   | PSI              |
| GPIO14 | I   | HPD_A            |
| GPIO15 | I   | HPD_C            |
| GPIO16 | O   | FRM_CLK          |
| GPIO17 | I   | HPD_D            |
| GPIO18 | I   | HPD_E            |
| GPIO19 | I   | HPD_F or HPD_B   |
| GPIO20 |     | Reserved         |
| GPIO21 |     | Reserved         |
| GPIO22 |     |                  |
| GPIO23 |     |                  |
| GPIO24 |     |                  |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |                    |     |                                                                               |              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-----|-------------------------------------------------------------------------------|--------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                           |            | Compal Secret Data |     | Compal Electronics, Inc.                                                      |              |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2012/11/XX | Deciphered Date    | EOP | Title                                                                         | N14P PEG 1/9 |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |                    |     | V5MM2 M/B LA-A021P Schematic<br>Date: Tuesday, August 27, 2013 Sheet 17 of 57 |              |

# VRAM Interface





VRAM BOM Config

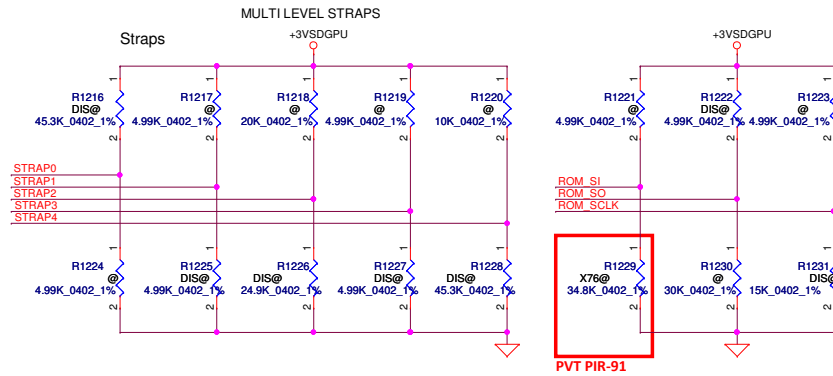
64Mx32x4

64Mx32x4

VRAM P/N

HYN 64\*32 2000M SA00004GD30 (S IC D5 64M32/2.5G H5GQ2H24MFR-T2C ABOI)

HYN 64\*32 2000M SA00004GD50(S IC D5 64M32/2.5G H5GQ2H24AFR-T2C ABOI)



For N14P-GT-A1 (ES2) A2 (QS) strap table Decive ID : 0x0FE4

| GDDR5     | Vendor   | Strap | ROM_SI |
|-----------|----------|-------|--------|
| 128M x 16 | Hynix(M) | Ox4   | 24.9K  |
|           | Samsung  | Ox5   | 30.1K  |
|           | Hynix(M) | Ox6   | 34.8K  |

| GPU     | Frenq.  | Memory Size | Memory Config | strap0   | strap1  | strap2   | strap3  | strap4   | ROM_SI   | ROM_SO  | ROM_SCLK |
|---------|---------|-------------|---------------|----------|---------|----------|---------|----------|----------|---------|----------|
| N14P-GT | 900 MHZ | 128M*16     | Hynix         | R PU 45K | R PD 5K | R PD 25K | R PD 5K | R PD 45K | R PD 25K | R PU 5K | R PD 15K |
|         |         |             | Samsung       |          |         |          |         |          | R PD 30K |         |          |

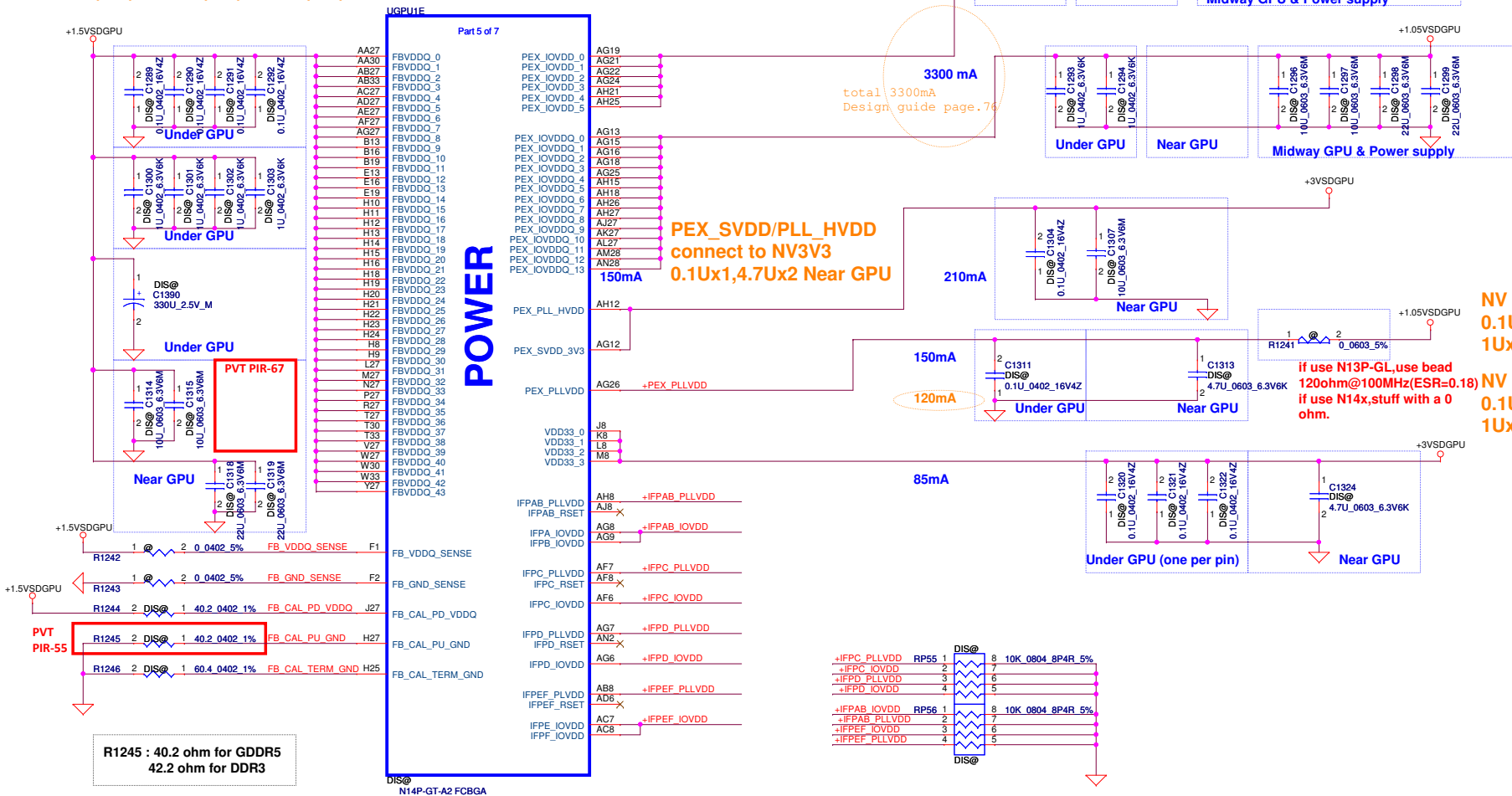
| Resistor Values | Pull-up to +3V | Pull-down to Gnd |
|-----------------|----------------|------------------|
| 4.99K           | 1000           | 0000             |
| 10K             | 1001           | 0001             |
| 15K             | 1010           | 0010             |
| 20K             | 1011           | 0011             |
| 24.9K           | 1100           | 0100             |
| 30.1K           | 1101           | 0101             |
| 34.8K           | 1110           | 0110             |
| 45.3K           | 1111           | 0111             |

|          |                                                      |
|----------|------------------------------------------------------|
| STRAP0   | USER[3:0]                                            |
| STRAP1   | 3GIO_PADCFG_LUT_ADR[3:0]                             |
| STRAP2   | PCI_DEVID[3:0]                                       |
| STRAP3   | SOR[3:0]                                             |
| STRAP4   | PEG_SPEED_CHANGE_GEN3,<br>PEX_MAX_SPEED,DP_PLLVDD33V |
| ROM_SCLK | PCI_DEV[4],SUB_VENDOR,<br>PCI_DEV[5],PEX_PLL_EN_TERM |
| ROM_SI   | RAM_CFG[3:0]                                         |
| ROM_SO   | FB_BAR_SIZE[1:0],SMB_<br>ALT_ADDR, VGA_DEVICE        |

| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                        | Compal Secret Data |                 |     | Compal Electronics, Inc. |                              |                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|-----|--------------------------|------------------------------|----------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2012/11/XX         | Deciphered Date | EOP | Title                    | N14P LVDS 3/9                |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                 |     | Date:                    | Tuesday, August 27, 2013     | Sheet 19 of 57 |

NV DG FBVDDQ(GDDR5)  
0.1Ux6(3@),1Ux6(3@),Under GPU  
4.7Ux6(3@) ,10Ux4(2@),22Ux4(2@) Near GPU

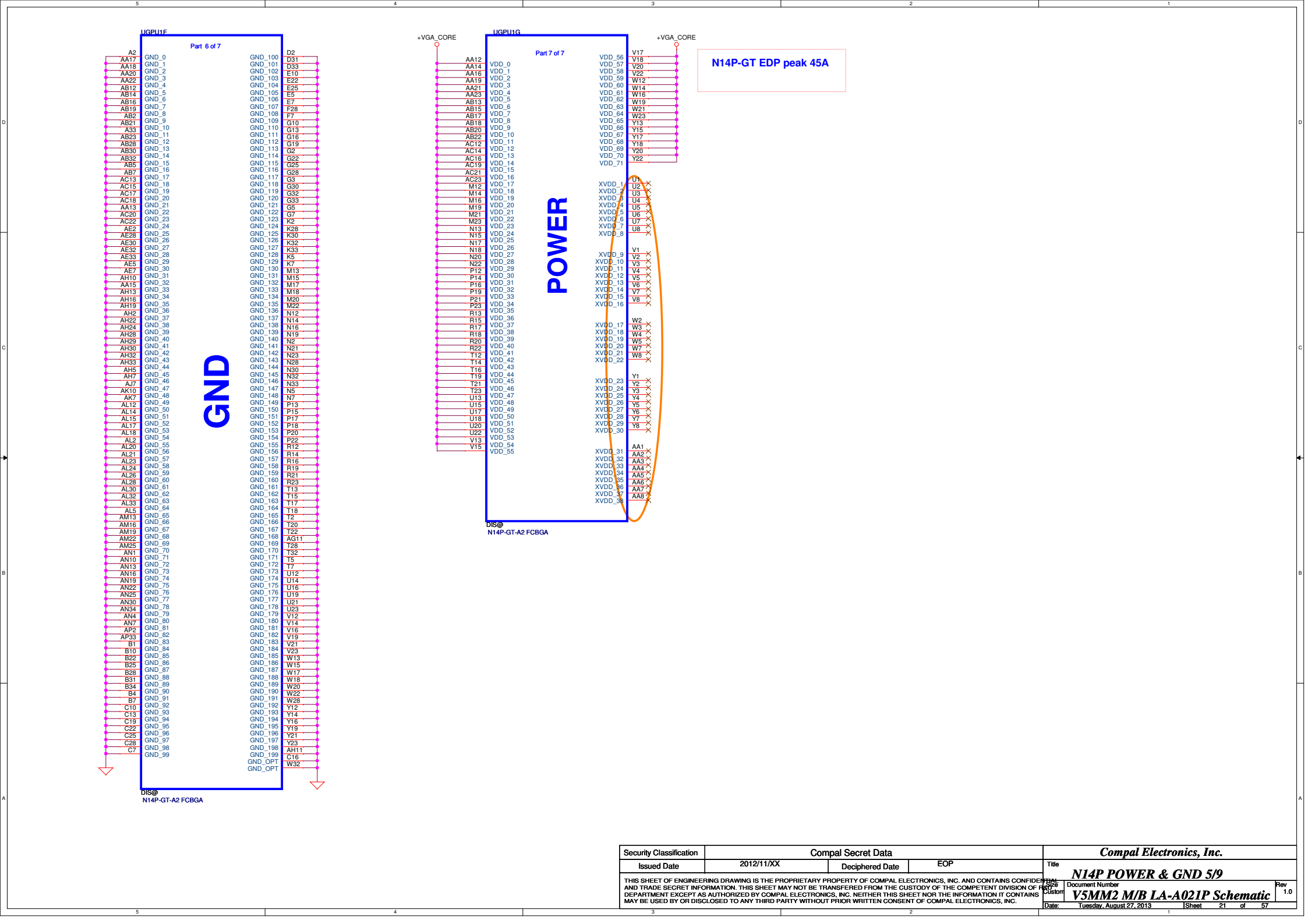
N13P-GS 10.44A  
N13P-GT 10.51A



**NV DG PEX\_PLLVDD**  
0.1Ux1 Under GPU  
1Ux1,4.7Ux1 Near GPU

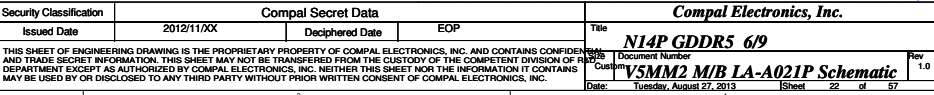
18) **NV DG VDD33/3VSMISC**  
0.1Ux3 Under GPU 1Per pin  
1Ux1,4.7Ux1 Near GPU

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                    |                 |                              |                          |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|-----------------|------------------------------|--------------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | Compal Secret Data |                 | Compal Electronics, Inc.     |                          |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                    |                 | N14P POWER & GND 4/9         |                          |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                    |                 | Document Number              |                          |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                    |                 | V5MM2 M/B LA-A021P Schematic |                          |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                    |                 | Date:                        | Tuesday, August 27, 2013 | Sheet 20 of 57 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                    |                 | Rev                          | 1.0                      |                |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |     |                                |                |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            | Compal Secret Data |     | Compal Electronics, Inc.       |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2012/11/XX | Deciphered Date    | EOP | Title                          | Rev            |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |     | Document Number                | 1.0            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |     | V5MM2 M/B LA-A021P Schematic   |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |     | Date: Tuesday, August 27, 2013 | Sheet 21 of 57 |

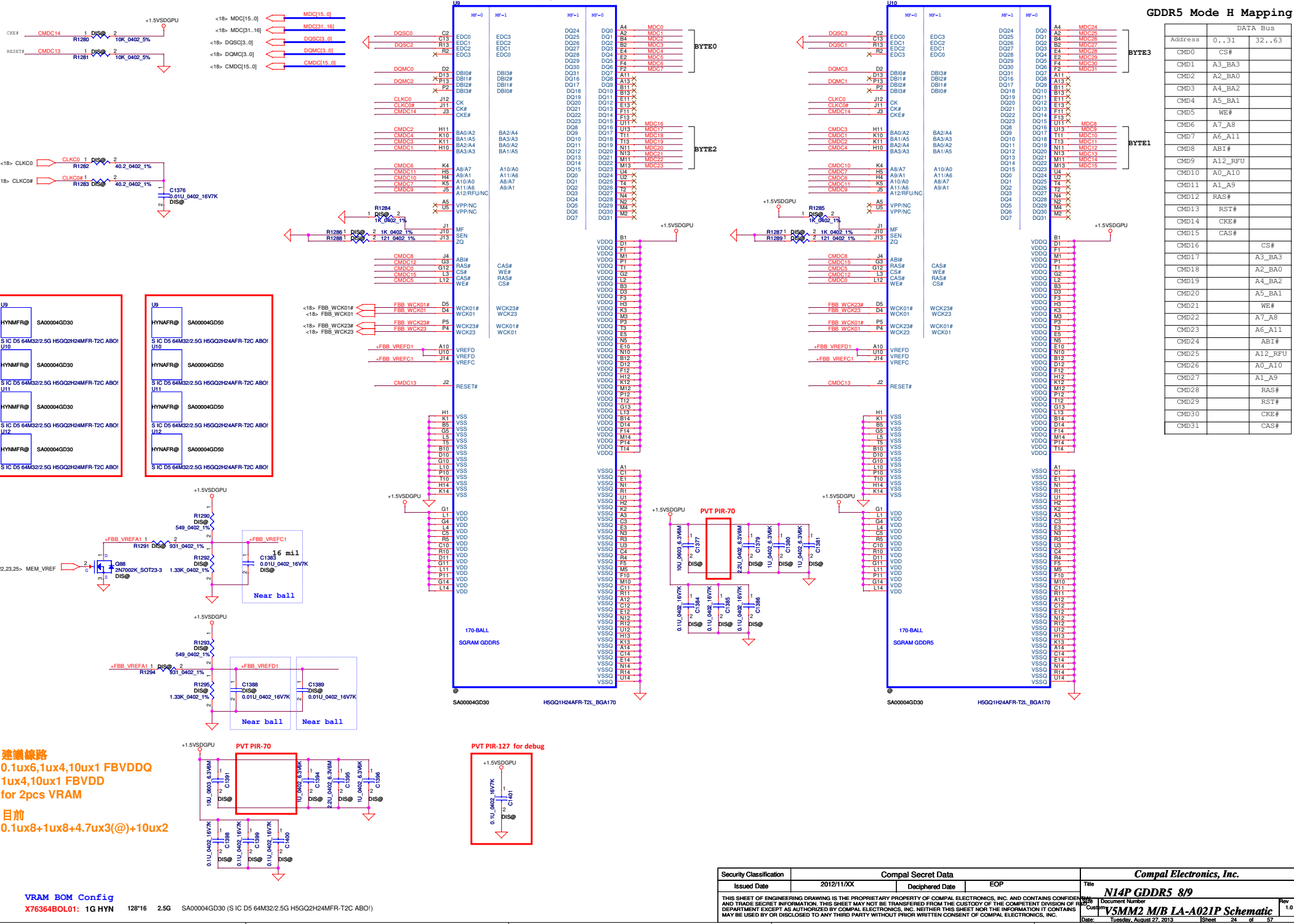
## BOT / M501



目前  
0.1ux8+1ux8+4.7ux3(@)+10ux2

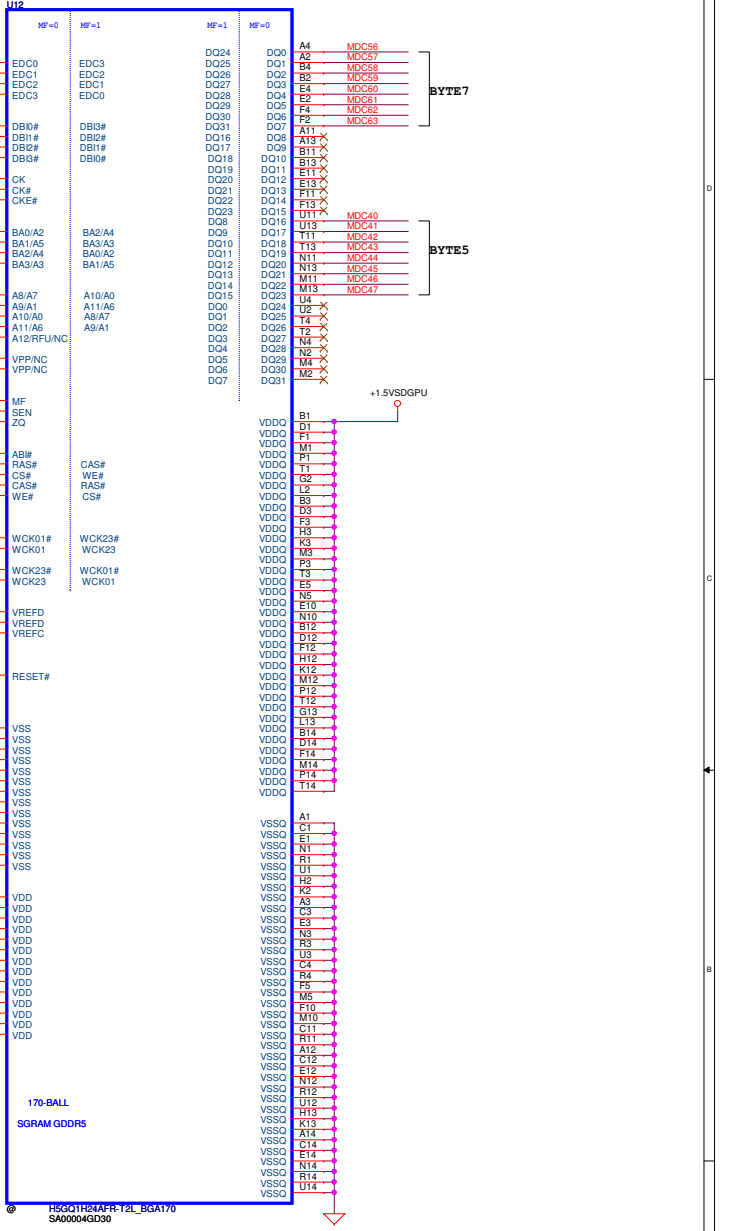
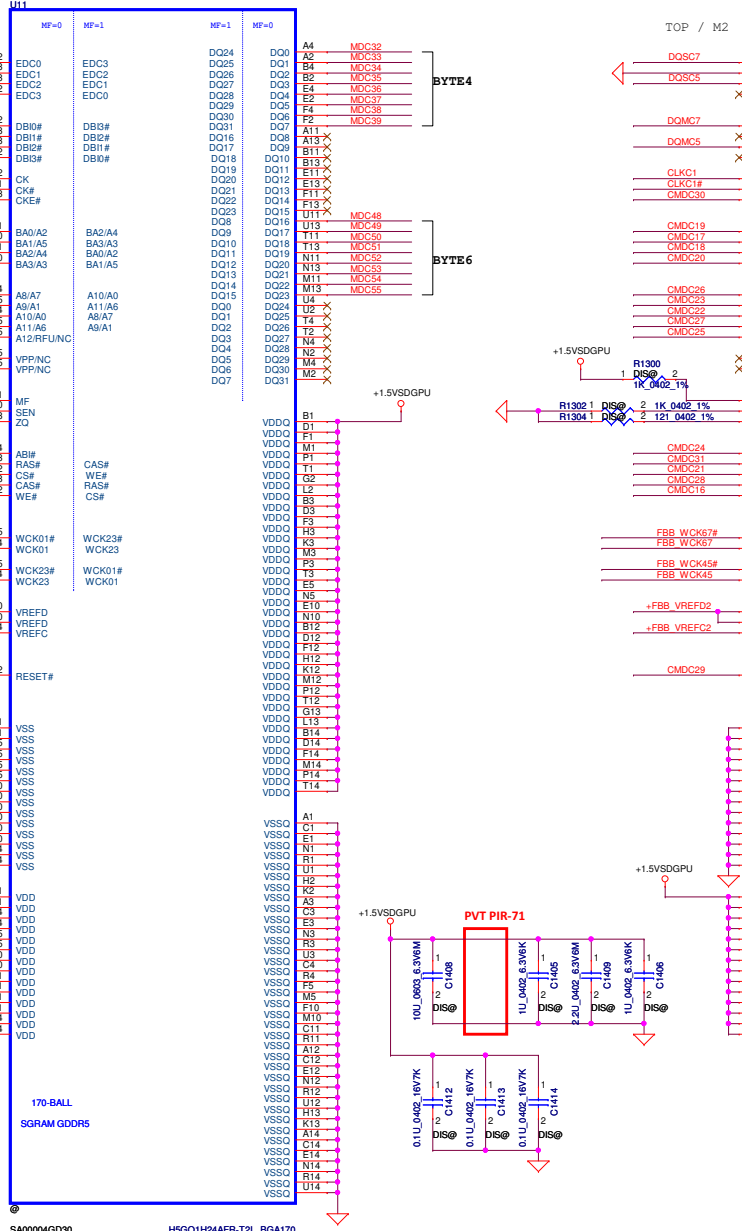
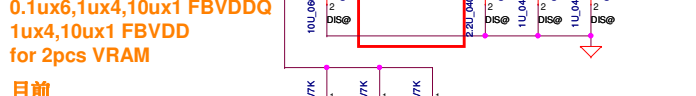
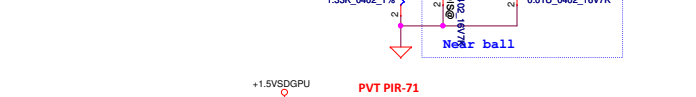
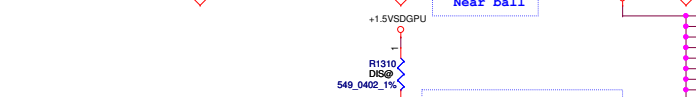
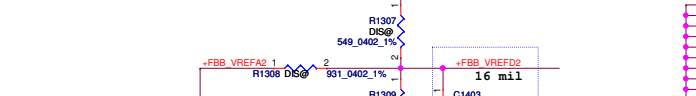
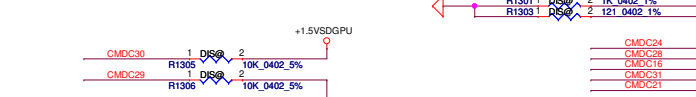
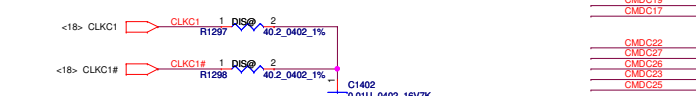
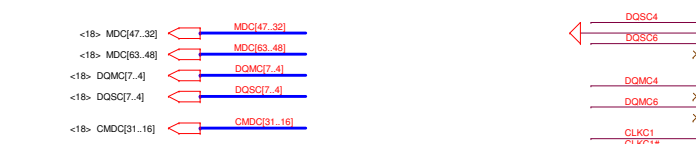
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                        |                 |     |                          |                              |     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------|-----|--------------------------|------------------------------|-----|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                          | Compal Secret Data     |                 |     | Compal Electronics, Inc. |                              |     |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                        |                 |     |                          | V5MM2 M/B LA-A021P Schematic | 1.0 |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Tuesday August 27 2013 | Sheet           | 23  | of                       | 57                           |     |

Memory Partition C Lower 32 bit



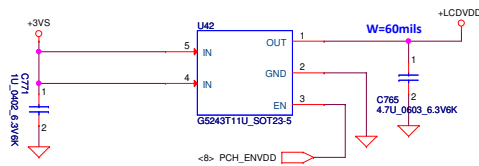
# Memory Partition C Upper 32 bit

BOT / M503

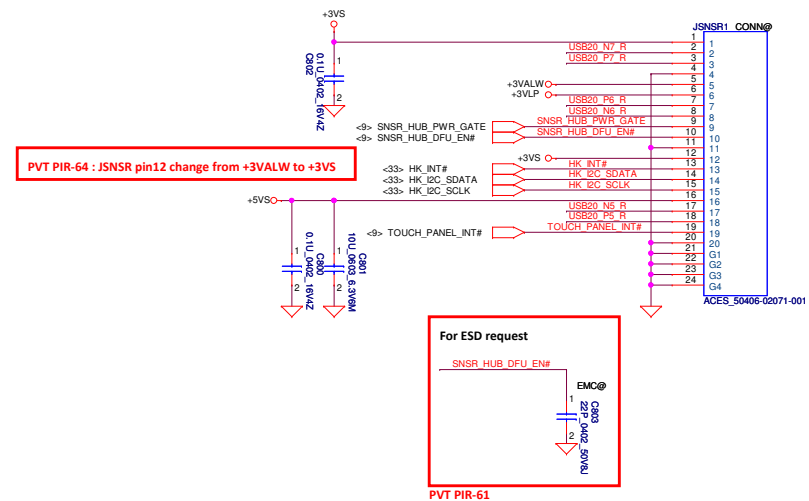
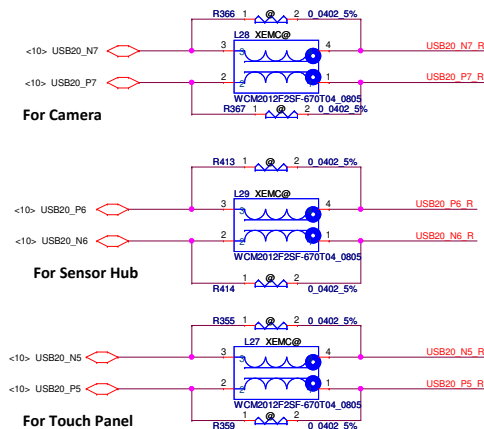
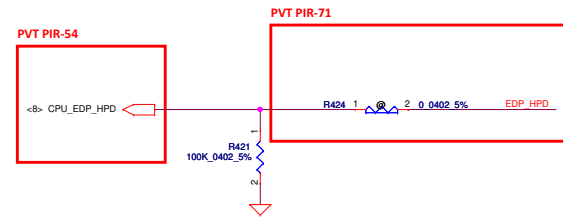
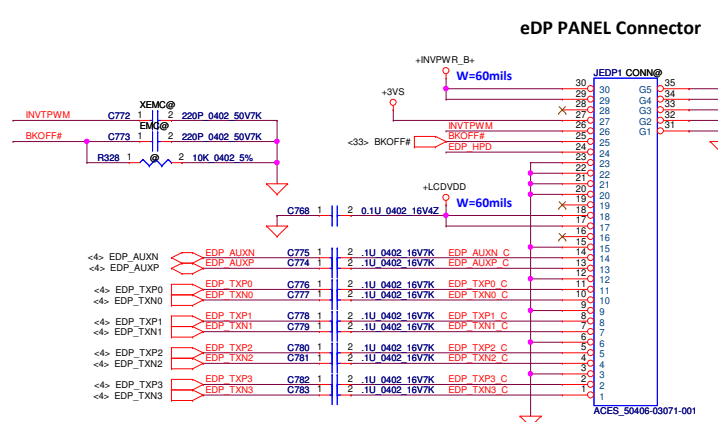
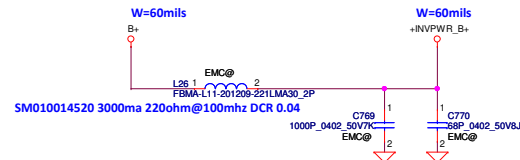
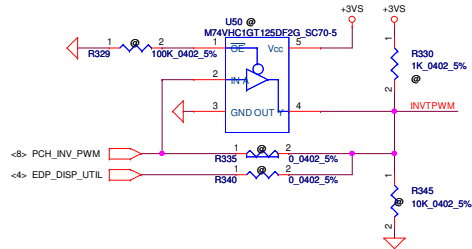


建議線路  
0.1ux6,1ux4,10ux1 FBVDDQ  
1ux4,10ux1 FBVDD  
for 2pcs VRAM  
目前  
0.1ux8+1ux8+4.7ux3(@)+10ux2

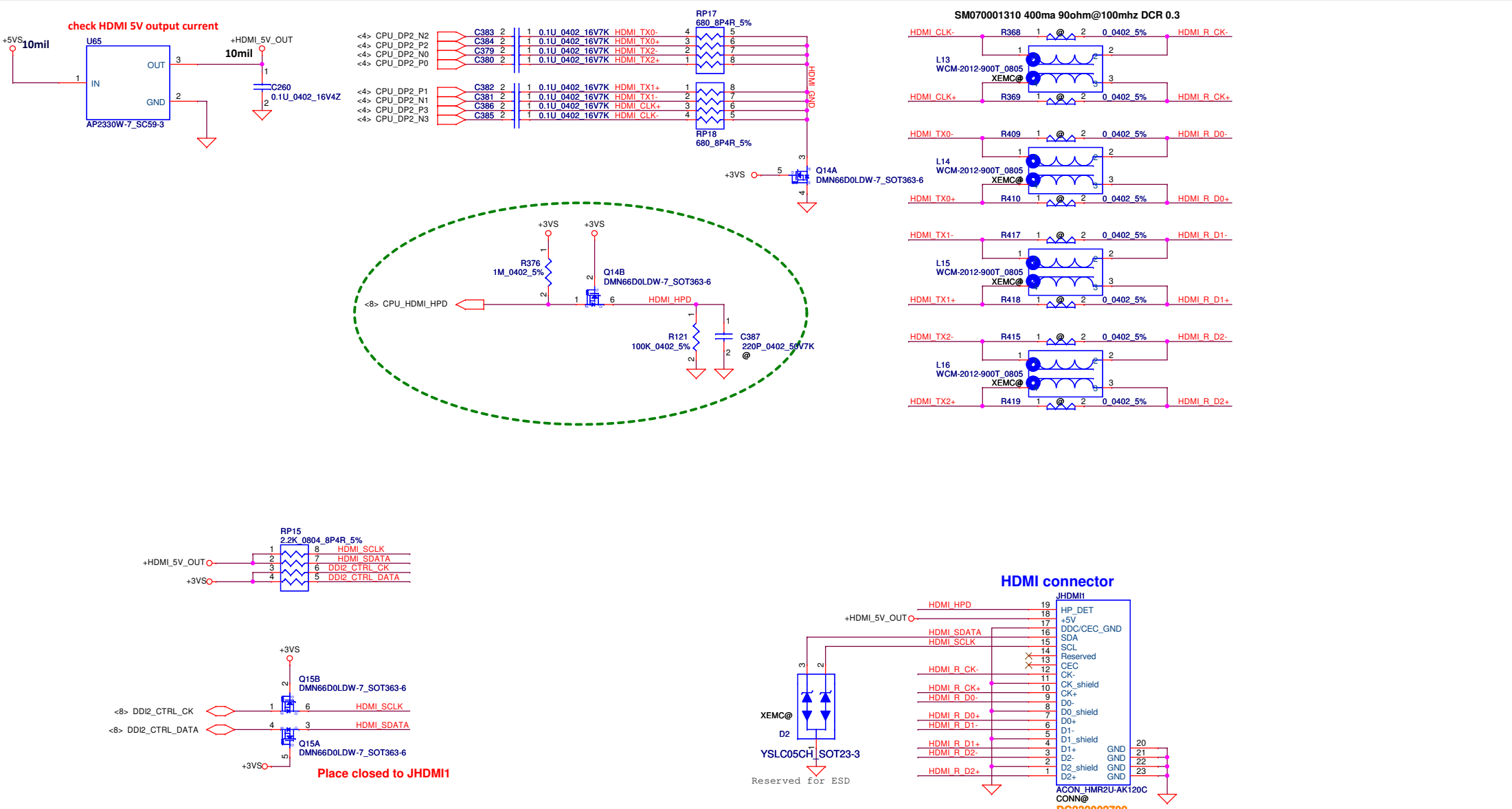
### eDP Panel Power Circuit



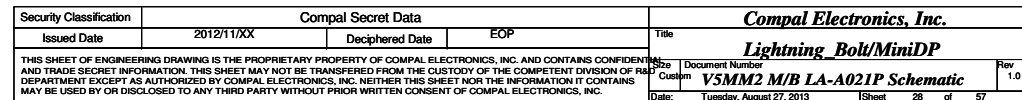
**Need to check eDP panel sequence in the future.**



|                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |                    |     |                          |                              |                |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-----|--------------------------|------------------------------|----------------|--|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                      |            | Compal Secret Data |     | Compal Electronics, Inc. |                              |                |  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2012/11/XX | Deciphered Date    | EOP | Title                    | eDP Connector                |                |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |                    |     | Custom                   | V5MM2 M/B LA-A021P Schematic | 1.0            |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |                    |     | Date:                    | Tuesday August 27 2013       | Sheet 26 of 57 |  |

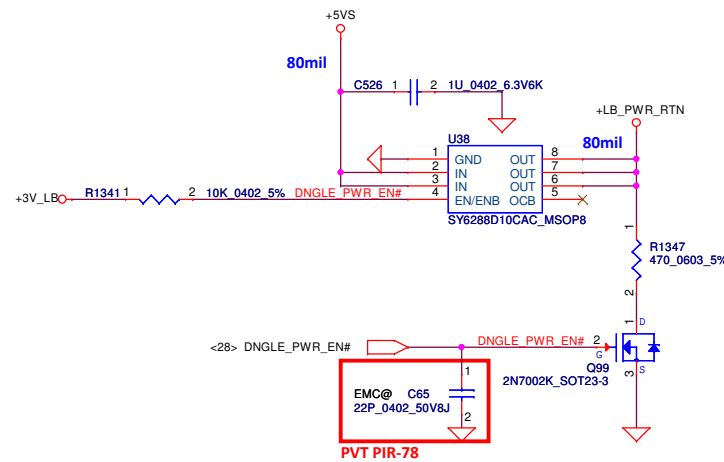


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |                 |                          |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------|-----------------|--------------------------|-----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Compal Secret Data           |                 | Compal Electronics, Inc. |                 |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | V5MM2 M/B LA-A021P Schematic |                 | Custom                   | Rev 1.0         |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Tuesday, August 27, 2013     |                 | Sheet                    | 27 of 57        |



PVT PIR-63

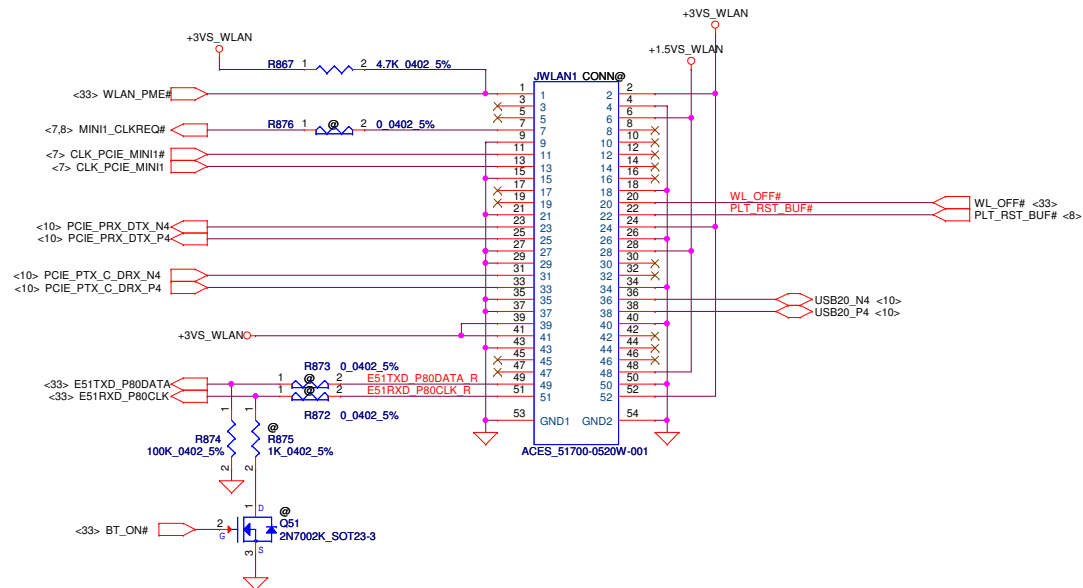
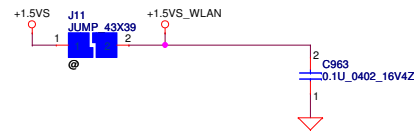
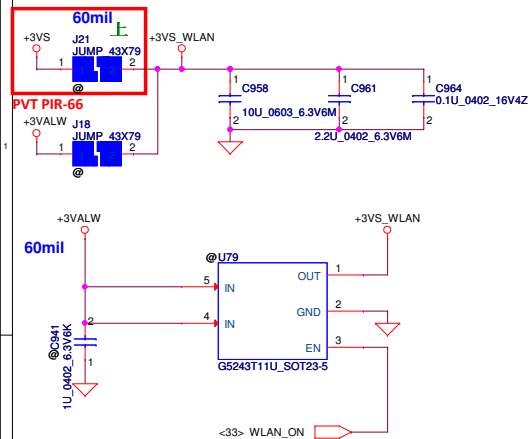
### mDP Power Control Circuit for 5V Power Supply



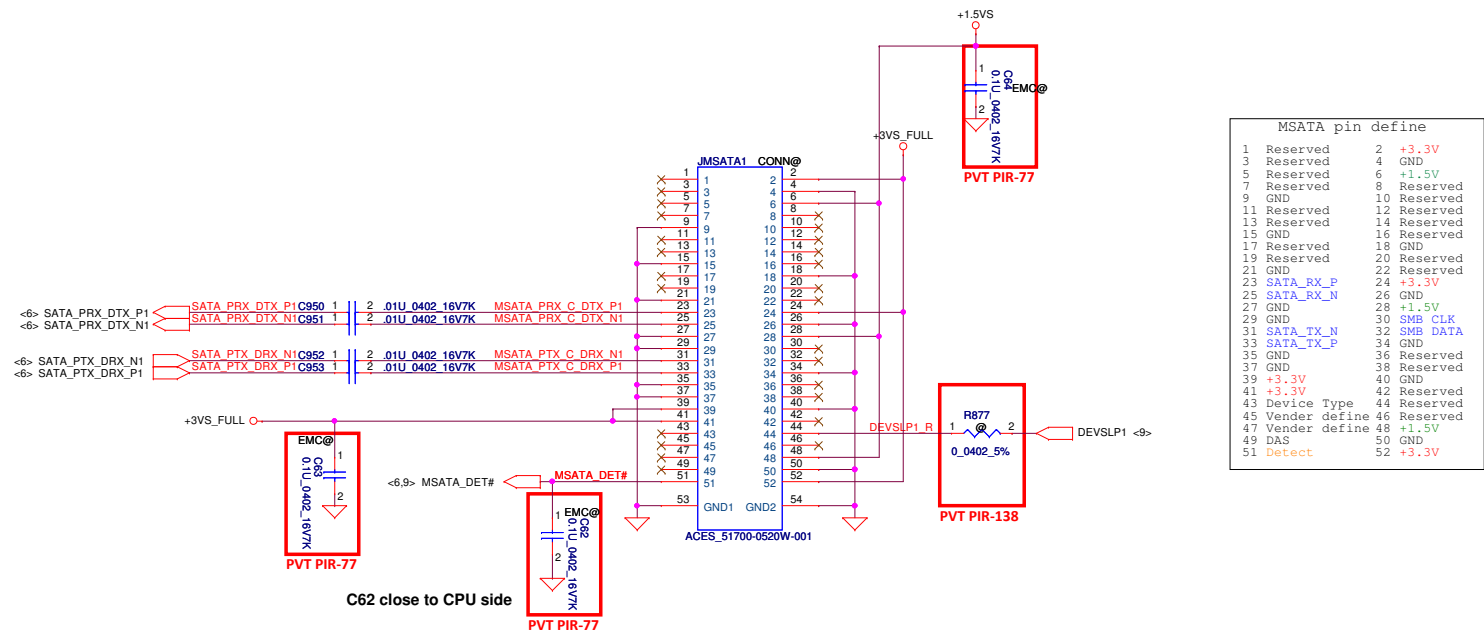
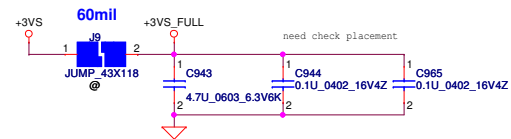
| Preliminary Power Output for mDP |            |            |
|----------------------------------|------------|------------|
| DNGLE_PWR_EN#                    | LB_PWR_RTN | LB_PWR_CNN |
| 1                                | GND        | 3.3V       |
| 0                                | 5V         | 3.3V       |
|                                  |            |            |

| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |     | Compal Electronics, Inc.       |                                                        |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |     | Date: Tuesday, August 27, 2013 | Sheet 29 of 57                                         |

## Wireless LAN

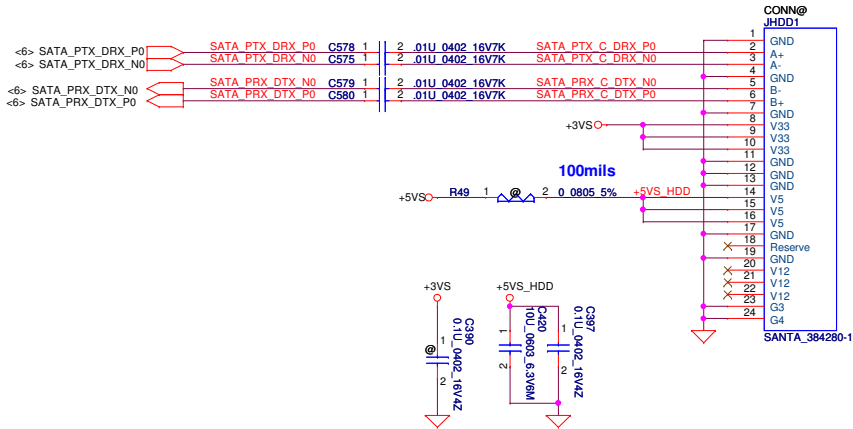


## mSATA

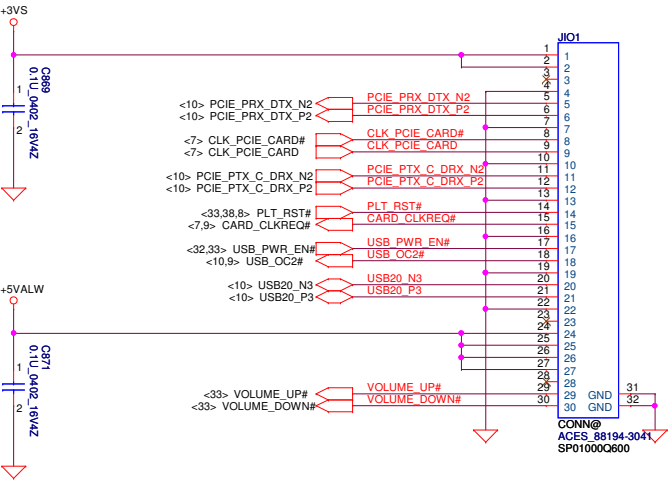


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                    |     |                          |                              |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          | Compal Secret Data |     | Compal Electronics, Inc. |                              |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                    |     | Customer                 | V5MM2 M/B LA-A021P Schematic |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Tuesday, August 27, 2013 | Sheet              | 30  | of                       | 57                           |

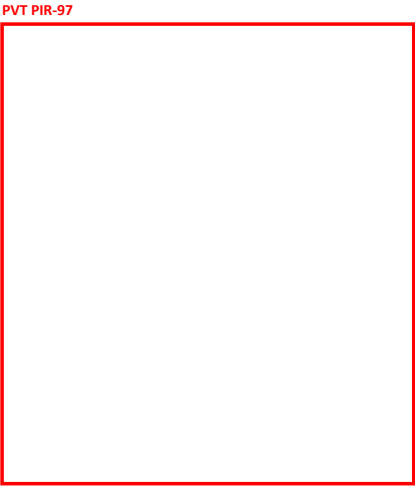
SATA HDD Connector(DIP Type)



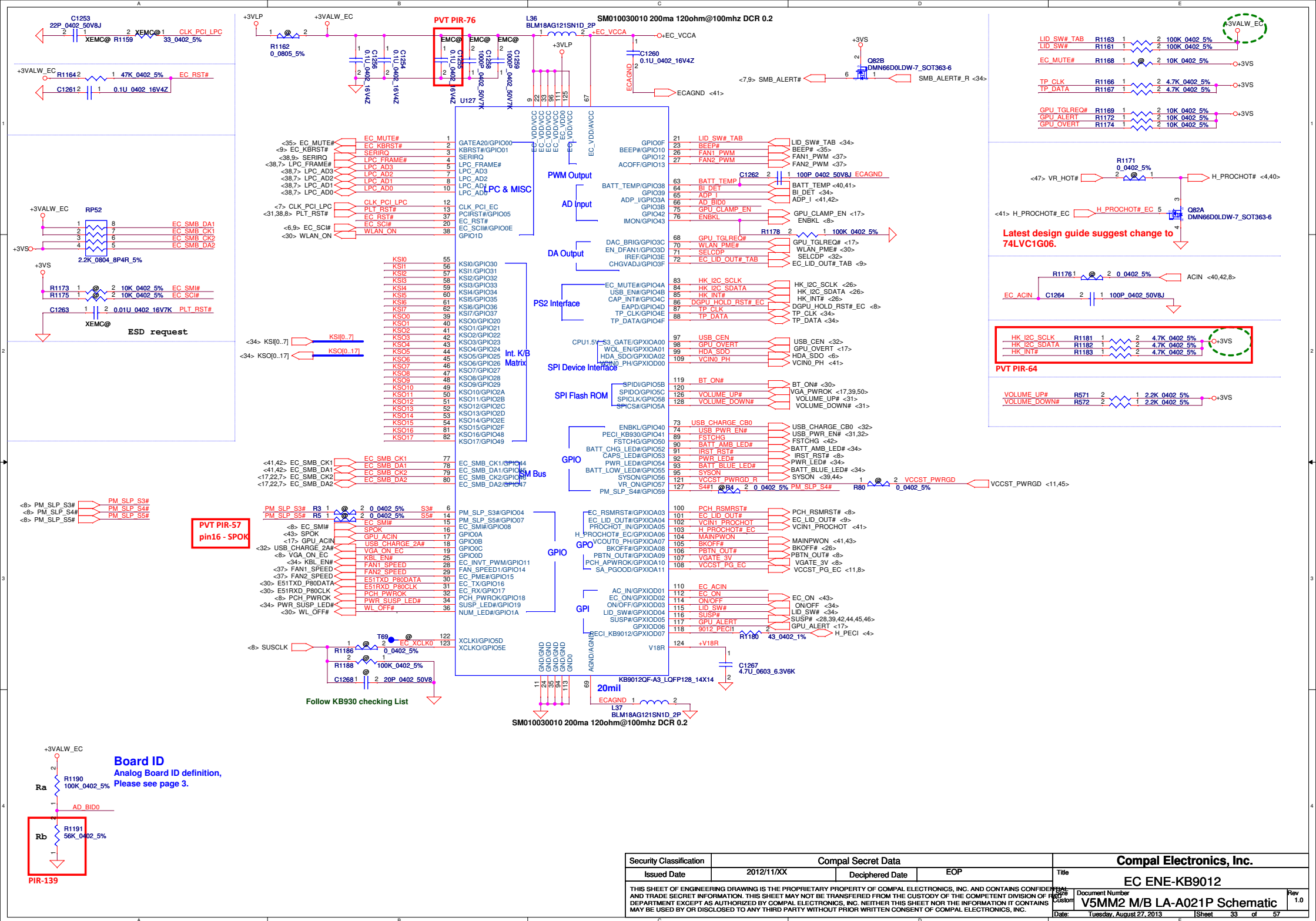
IO/B Connector



LAN/B Connector  
(Place near JPWR1)





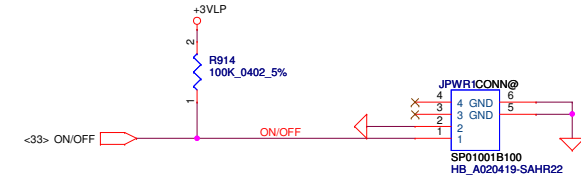
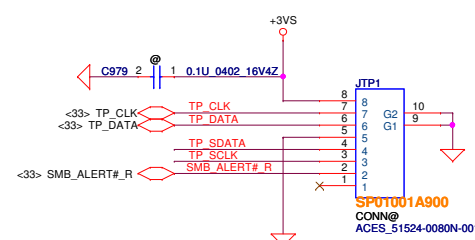
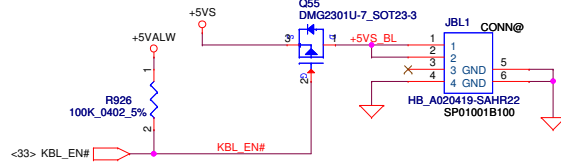
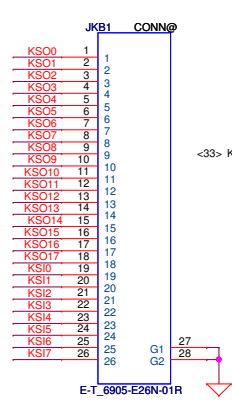
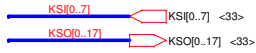


## KB Conn.

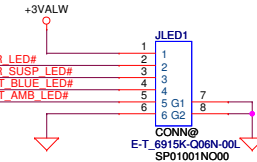
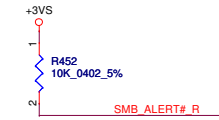
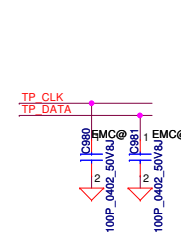
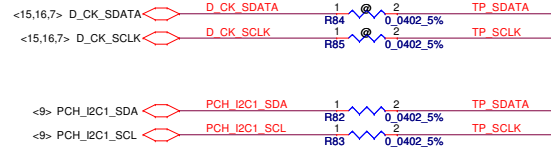
## KB backlight Conn.

## TP Conn.

## ON/OFF BTN

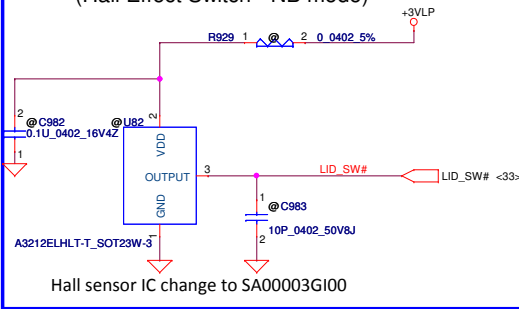
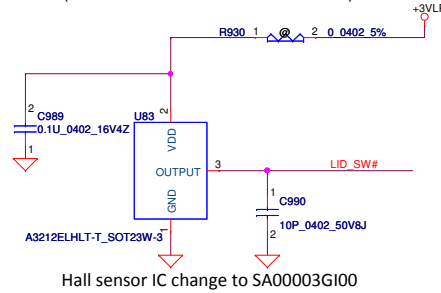


## PVT PIR-89

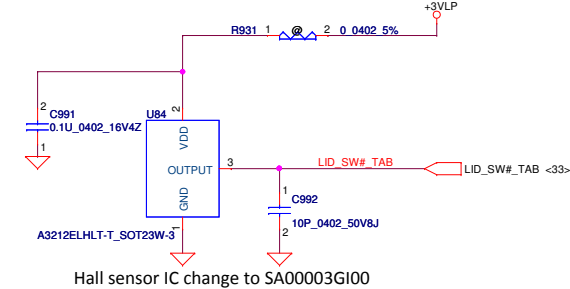


| Lid Switch solution |                 |
|---------------------|-----------------|
| Solution-1          | EVT, DVT, PVT-1 |
| Solution-2          | PVT-2           |

Lid switch power source need same as EC power

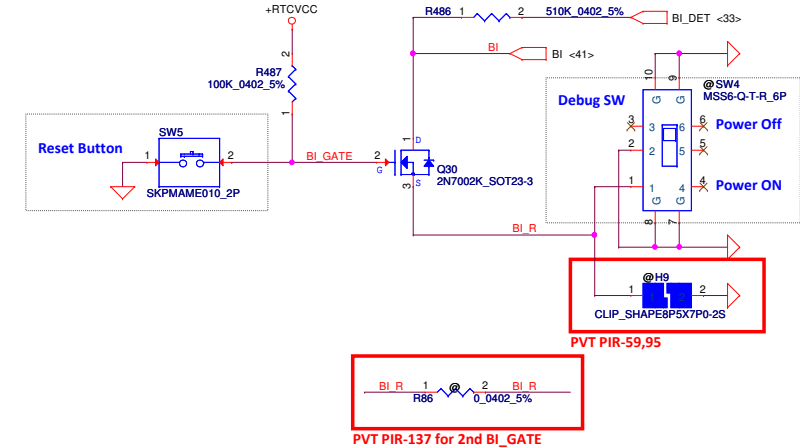
Lid Switch Solution-1  
(Hall Effect Switch - NB mode)Lid Switch Solution-2  
(Hall Effect Switch - NB mode)

## (Hall Effect Switch - Tablet mode)



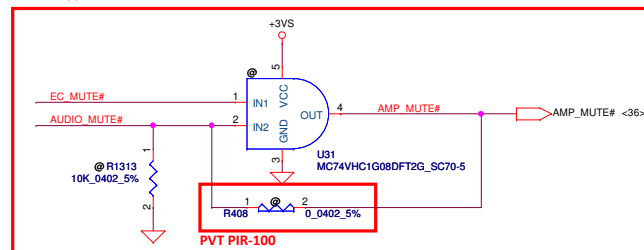
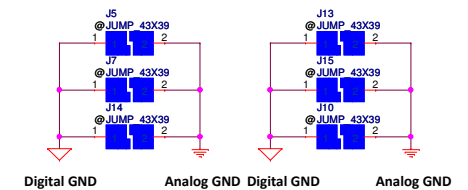
## Reset Button and Debug Switch for Polymer Battery

Debug switch will be removed after MP.

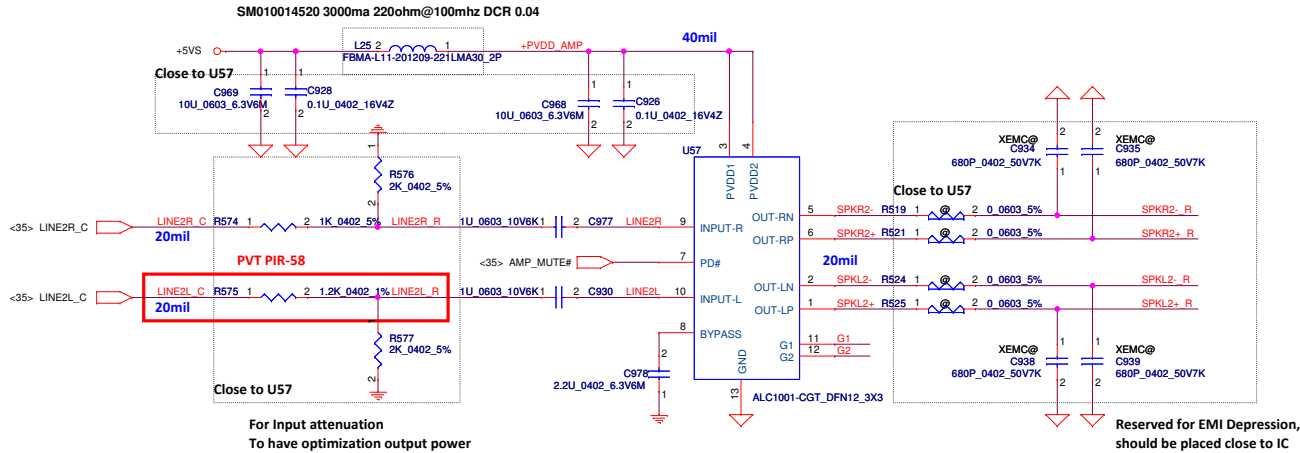


| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            | Compal Secret Data |     | Compal Electronics, Inc.       |                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-----|--------------------------------|----------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2012/11/XX | Deciphered Date    | EOP | User Interface                 |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |                    |     | V5MM2 M/B LA-A021P Schematic   | 1.0            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |                    |     | Date: Tuesday, August 27, 2013 | Sheet 34 of 57 |

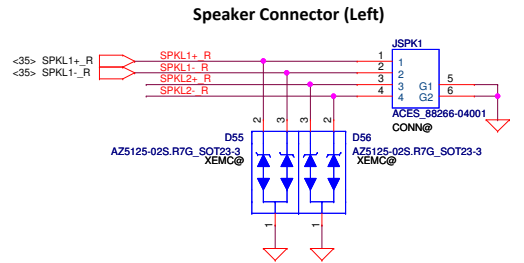
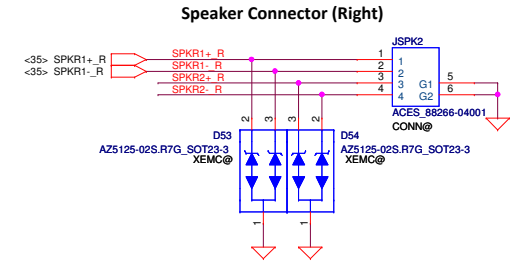
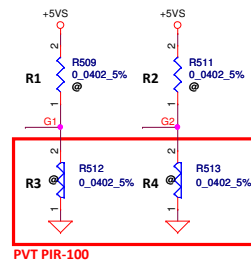
**PVT PIR-88**



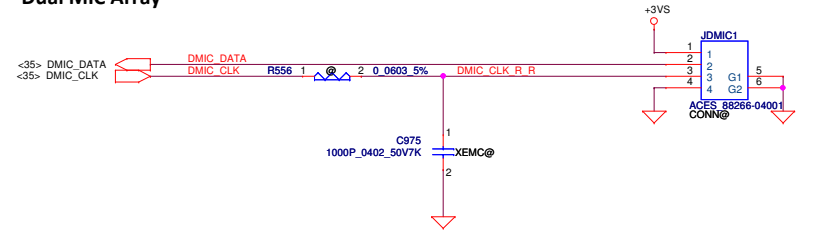
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |     |                          |                                   |       |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-----|--------------------------|-----------------------------------|-------|----------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |     | Compal Electronics, Inc. |                                   |       |          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2012/11/XX | Deciphered Date    | EOP | Title                    | HD Audio Codec ALC3225X + ALC1001 |       |          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |     | Customer                 | V5MM2 M/B LA-A021P Schematic      |       | 1.0      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |     | Date:                    | Tuesday, August 27, 2013          | Sheet | 35 of 57 |



| R1 | R2 | R3 | R4 | Gain (Differential) |
|----|----|----|----|---------------------|
| NC | NC | 0  | 0  | 11dB                |
| 0  | NC | NC | 0  | 14dB                |
| NC | 0  | 0  | NC | 19dB                |
| 0  | 0  | NC | NC | 25dB                |

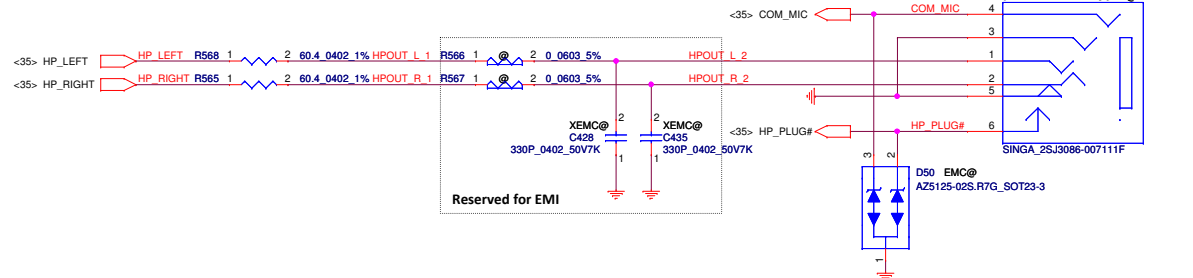


## Dual MIC Array

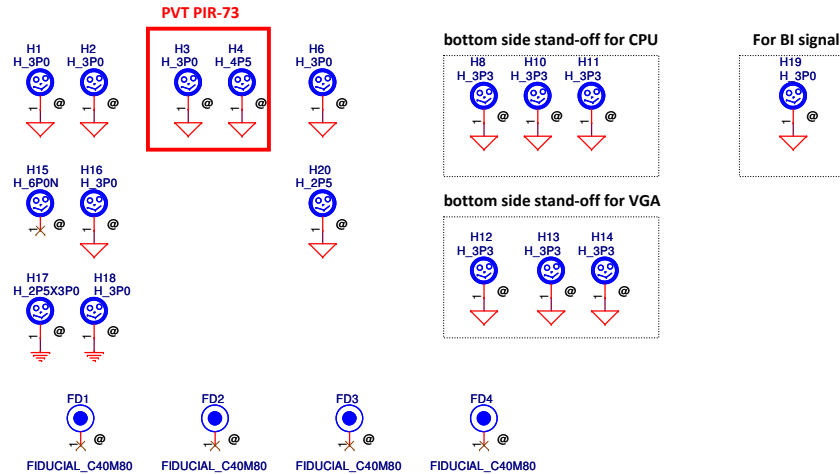
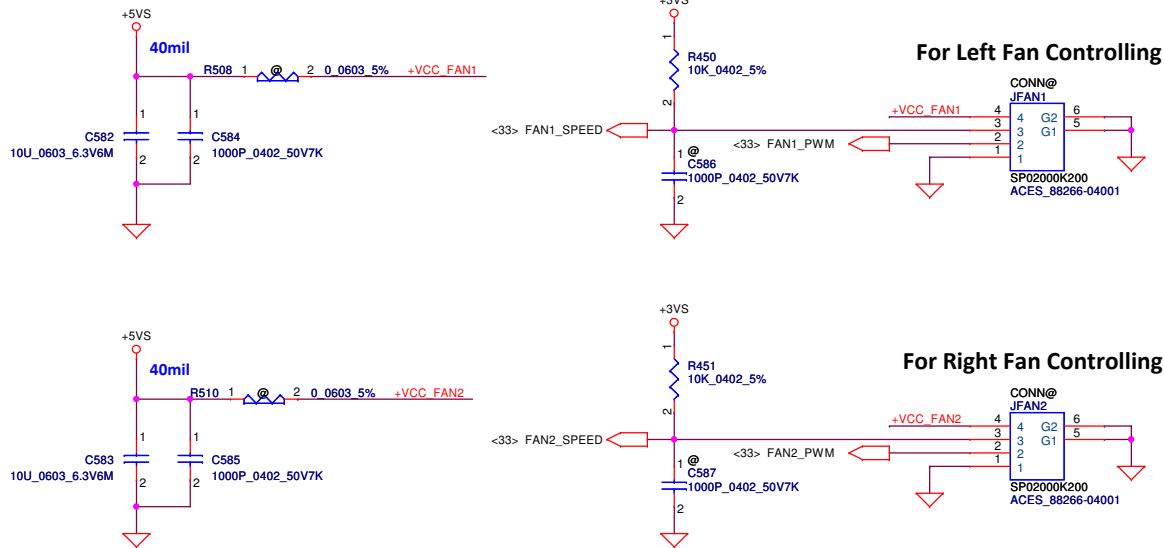


## Headphone Out/Mic Combo

JACK TYPE is the same as MA51

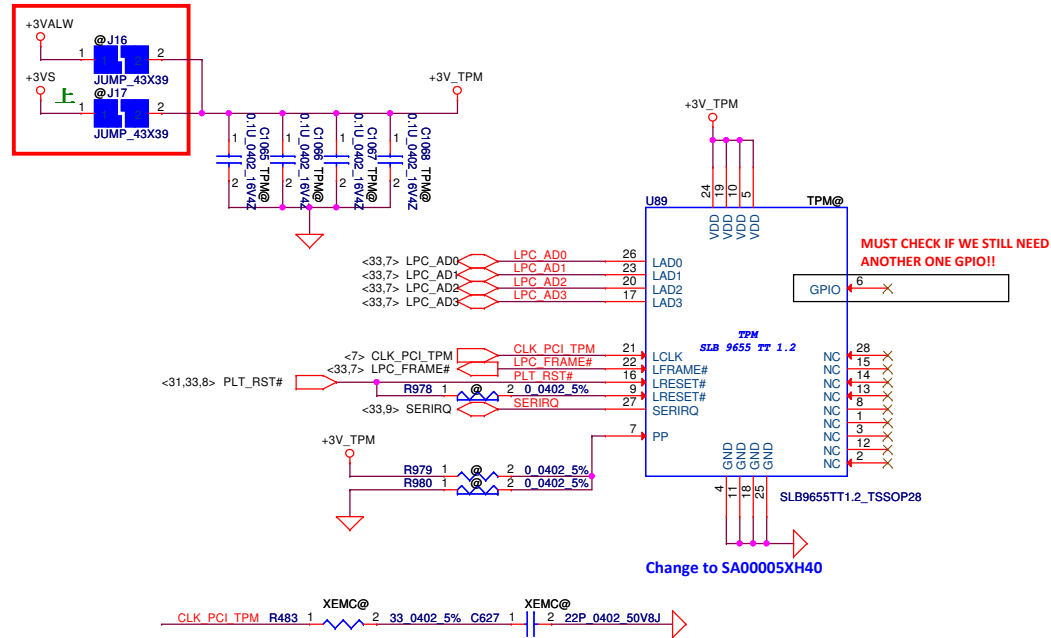


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |     |                          |                              |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|-----|--------------------------|------------------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |     | Compal Electronics, Inc. |                              |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2012/11/XX         | Deciphered Date | EOP | Title                    | Amplifier & I/O Ports        |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |     | Custom                   | V5MM2 M/B LA-A021P Schematic | 1.0            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |     | Date:                    | Tuesday, August 27, 2013     | Sheet 36 of 57 |



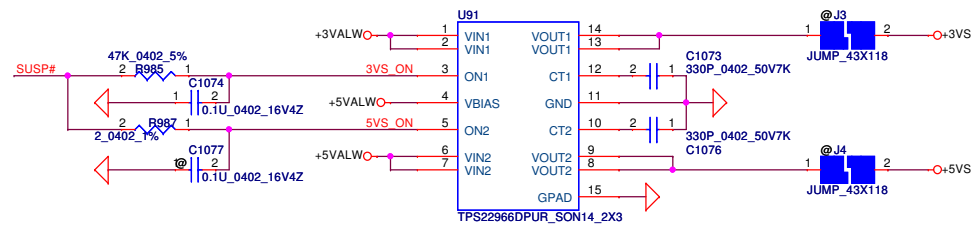
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |     |                          |                              |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|-----|--------------------------|------------------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |     | Compal Electronics, Inc. |                              |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2012/11/XX         | Deciphered Date | EOP | FAN & Screw Hole         |                              |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |     | Custom                   | V5MM2 M/B LA-A021P Schematic | 1.0            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |     | Date:                    | Tuesday, August 27, 2013     | Sheet 37 of 57 |

PVT PIR-93

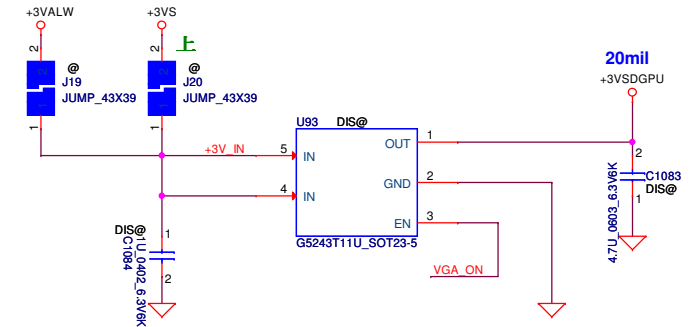


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                    |                              |                           |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|------------------------------|---------------------------|-----|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          | Compal Secret Data |                              | Compal Electronics, Inc.  |     |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2012/11/XX               | Deciphered Date    | EOP                          | Title                     |     |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number          | Custom             | V5MM2 M/B LA-A021P Schematic | Rev                       | 1.0 |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Tuesday, August 27, 2013 | Sheet              | 38                           | of                        | 57  |

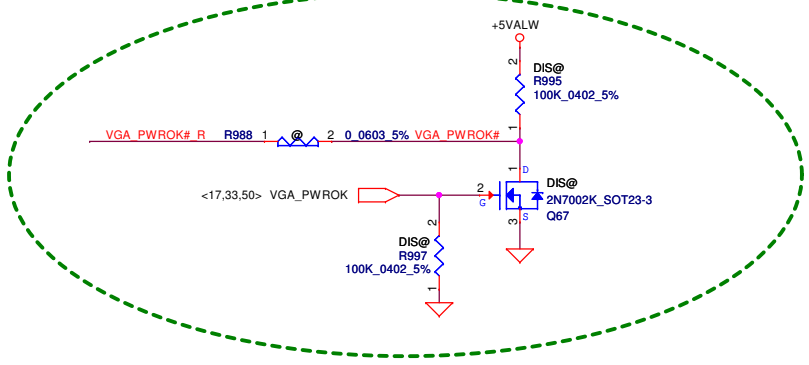
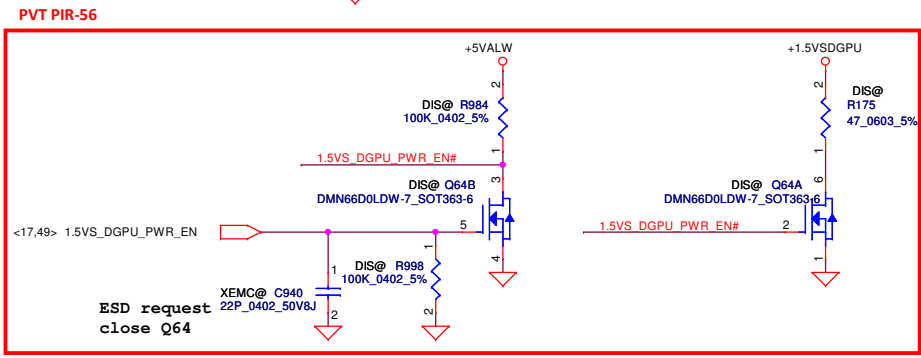
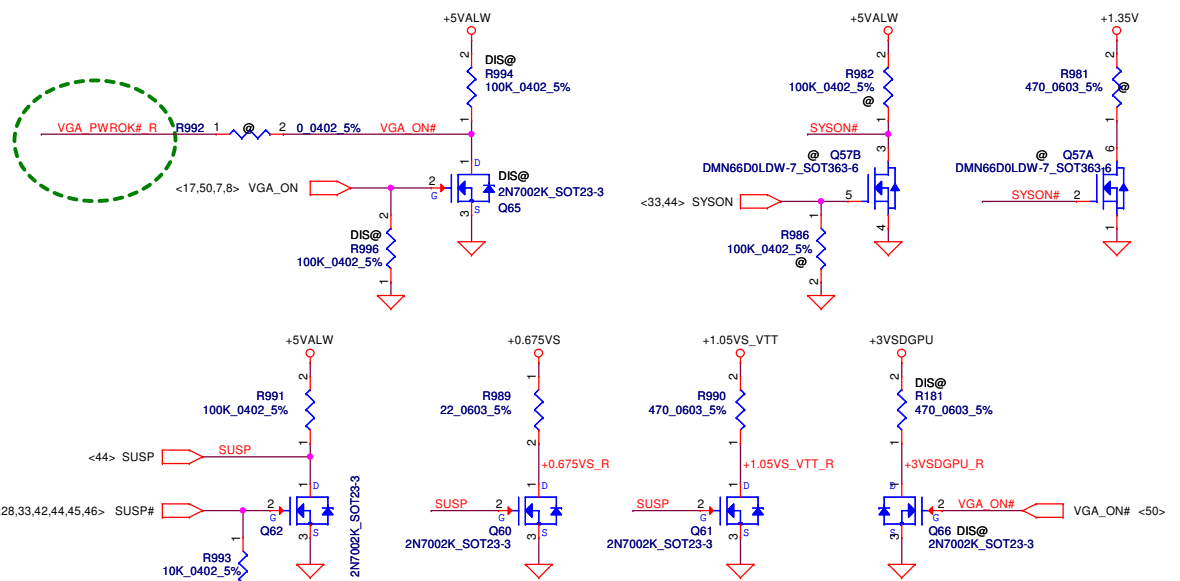
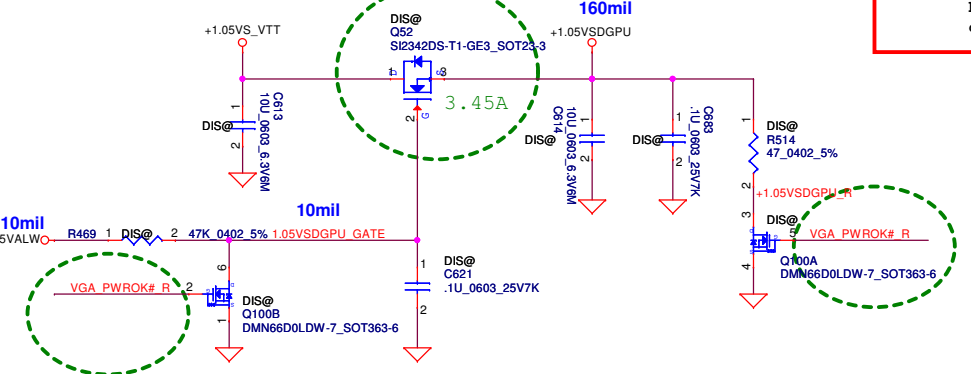
Use Dual Load Switch for +3VS/+5VS Power Supply

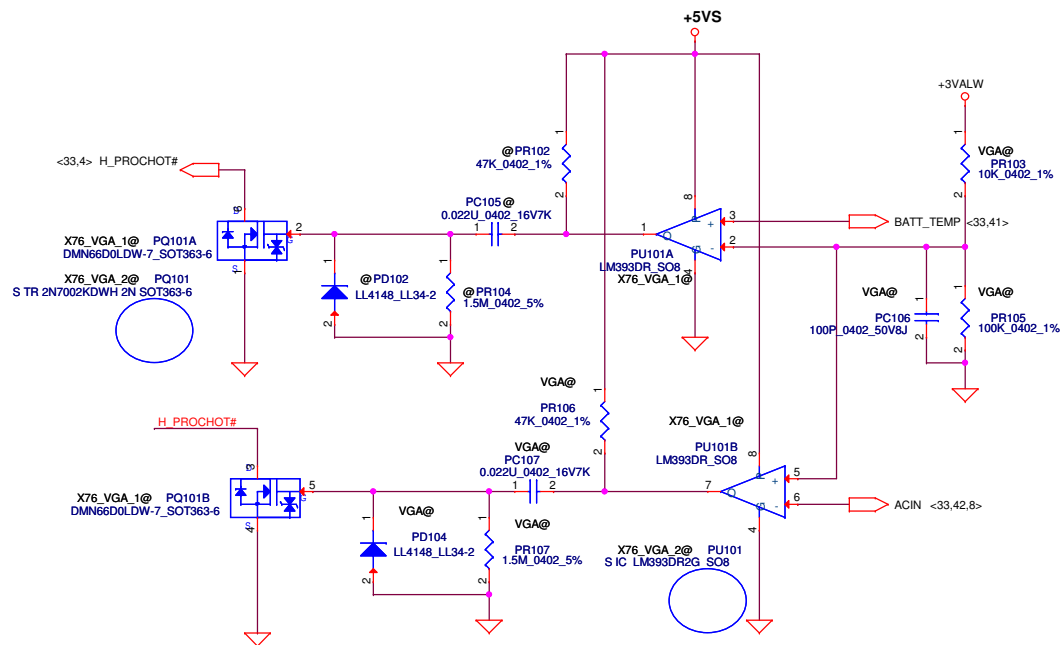
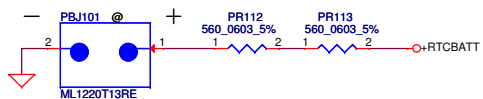
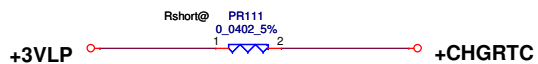
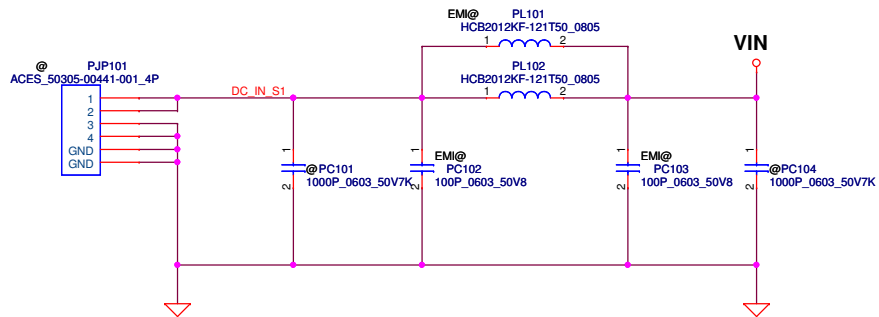


+3V source to +3VSDGPU for GPU



+1.05VS\_VTT to +1.05VSDGPU

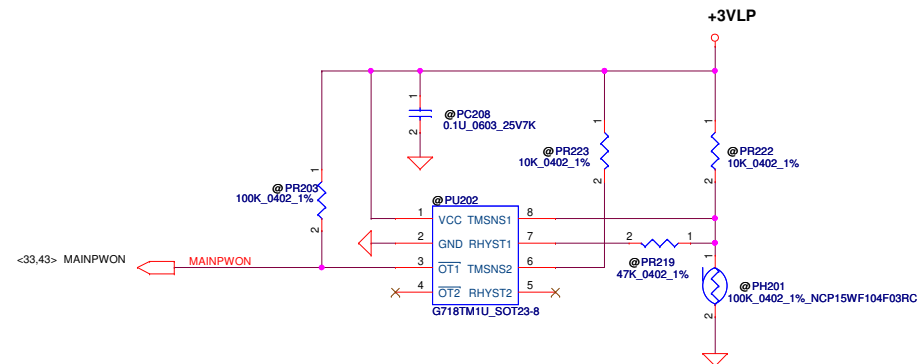
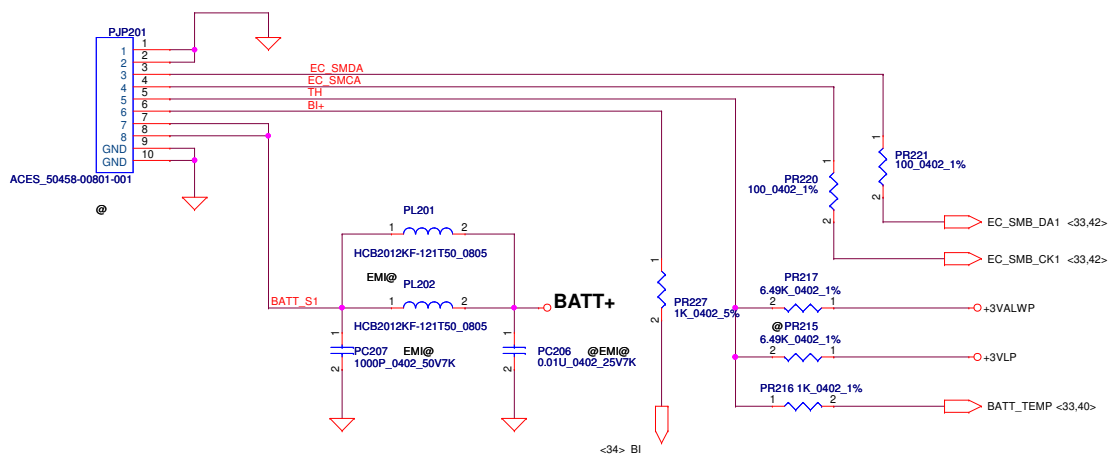




UMA Only :ZZZ1

DIS: ZZZ2

|                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                 |            |                          |                          |                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|--------------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                | Compal Secret Data |                 |            | Compal Electronics, Inc. |                          |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                            | 2012/07/10         | Deciphered Date | 2013/07/10 | Title                    | DCIN                     |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                 |            | Custom                   | V5MM2_SB                 | 1.0            |
|                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                 |            | Date:                    | Tuesday, August 27, 2013 | Sheet 40 of 57 |

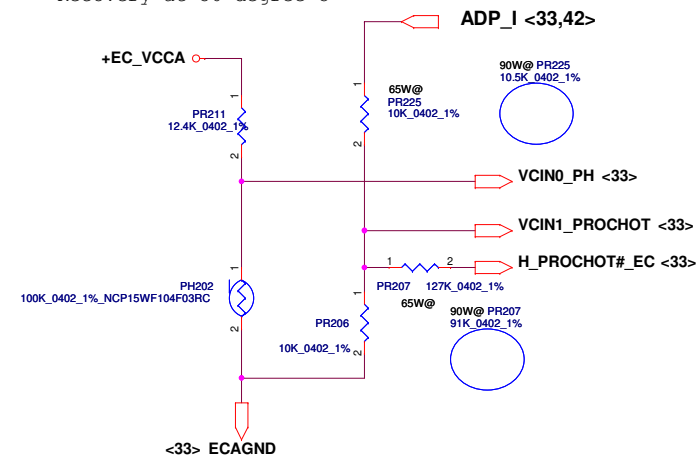


VCIN1 Recovery 85% chang to 100% \_2013/06/27

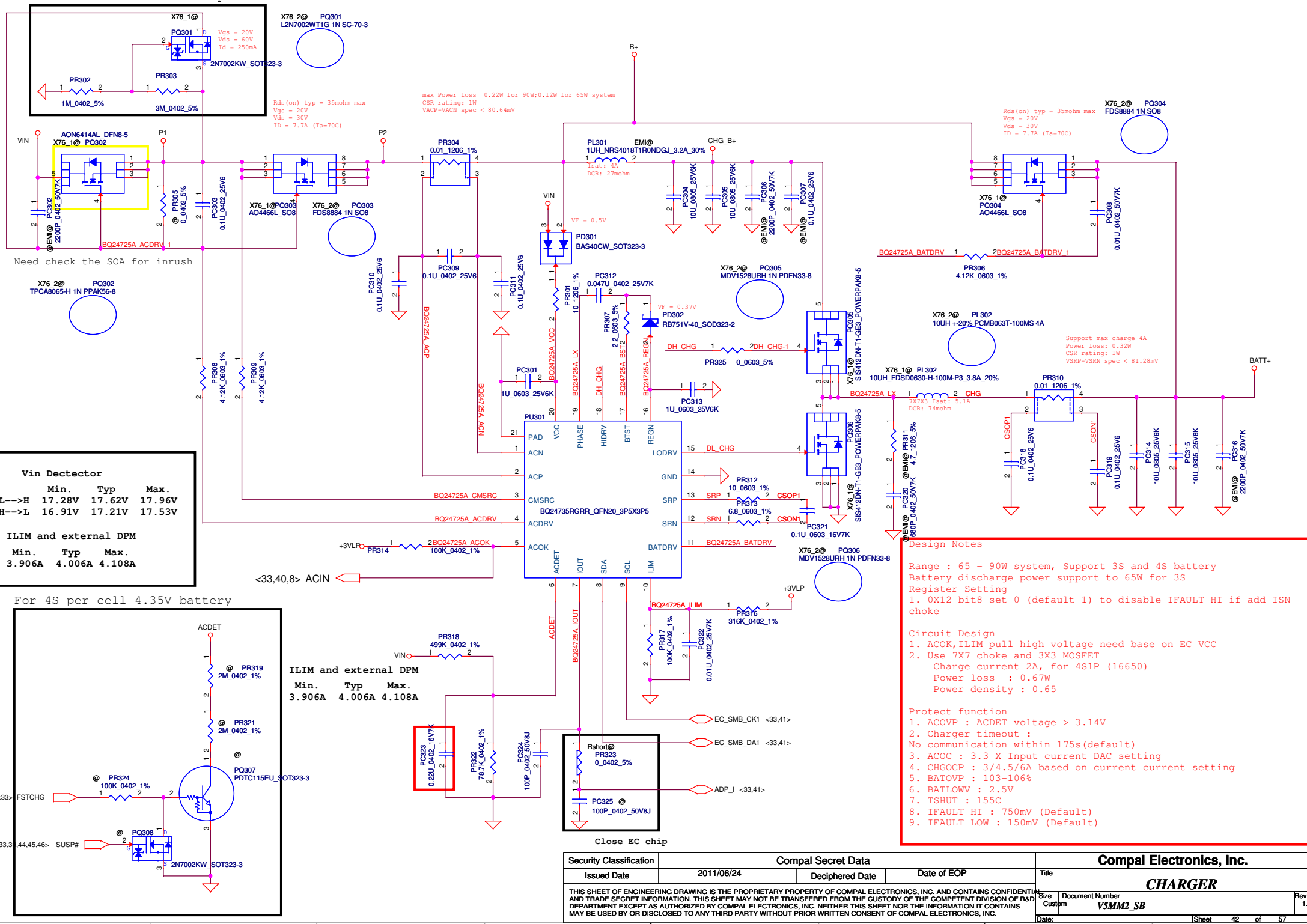
|       |                  |
|-------|------------------|
| VCIN0 | For KB9012 OTP   |
| 92°C  | 1.2V, Active     |
| 56°C  | 2.255V, Recovery |

| VCIN1<br>For KB9012<br>sense 10mΩ | Active      | Recovery   |
|-----------------------------------|-------------|------------|
| 65W                               | 85W, 0.42V  | 65W, 0.42V |
| 90W                               | 117W, 0.56V | 90W, 0.56V |
| 120W                              |             |            |

PH202 under CPU bottom side :  
CPU thermal protection at 92 degree C ( shutdown )  
Recovery at 56 degree C

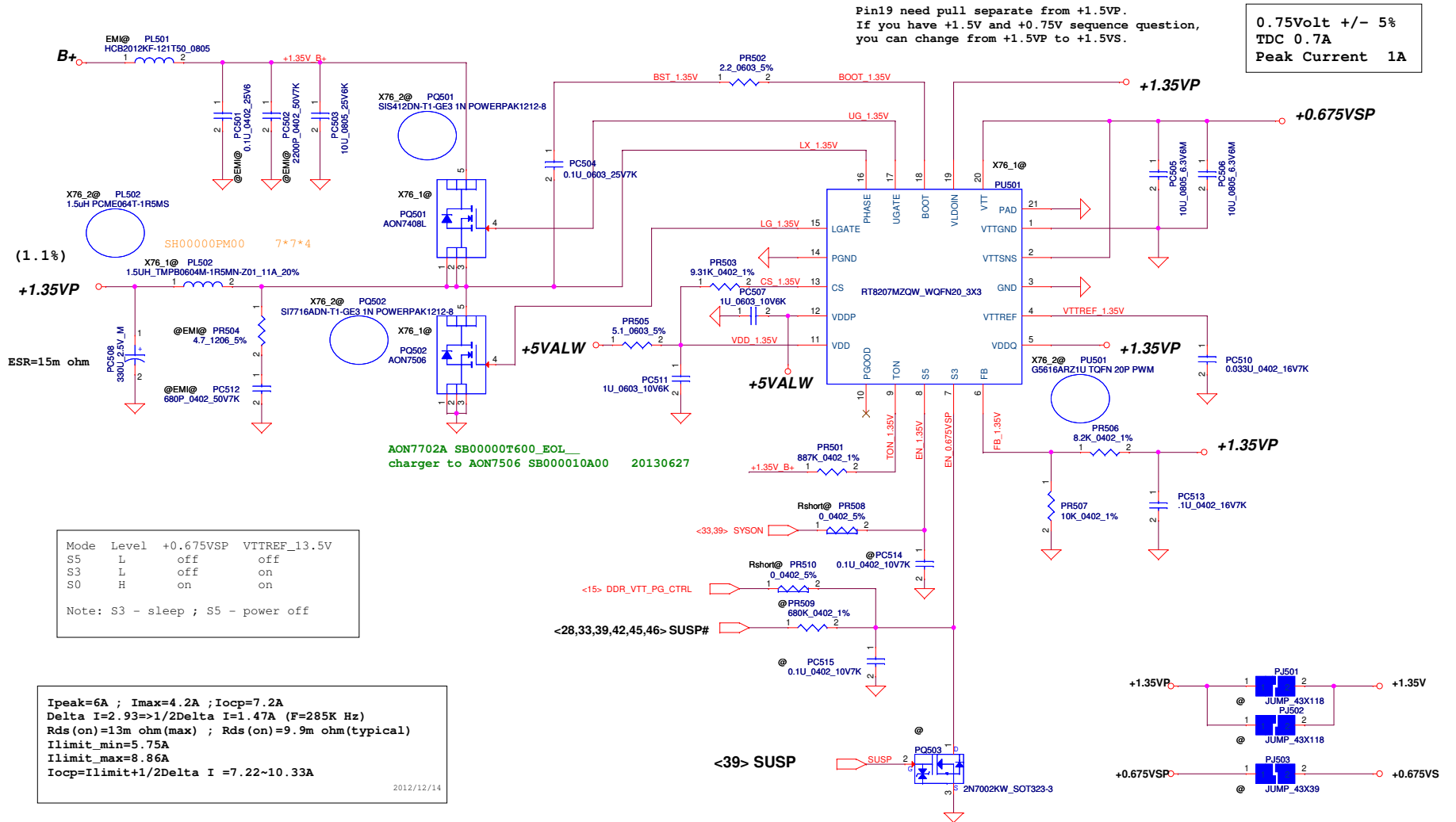


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |                          |  |                 |  |     |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|--|-----------------|--|--------------------------|--|--------------------------|--|-----------------|--|-----|--|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Compal Secret Data |  |                 |  | Compal Electronics, Inc. |  |                          |  |                 |  |     |  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | 2012/07/10         |  | Deciphered Date |  | 2013/07/10               |  | Title                    |  |                 |  |     |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  | Size                     |  | Document Number |  | Rev |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  | Custom                   |  | V5MM2_SB        |  | 1.  |  |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                    |  |                 |  |                          |  | Tuesday, August 27, 2013 |  | Sheet 41 of 57  |  |     |  |



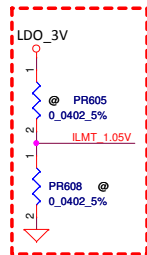


Vout=1.364V

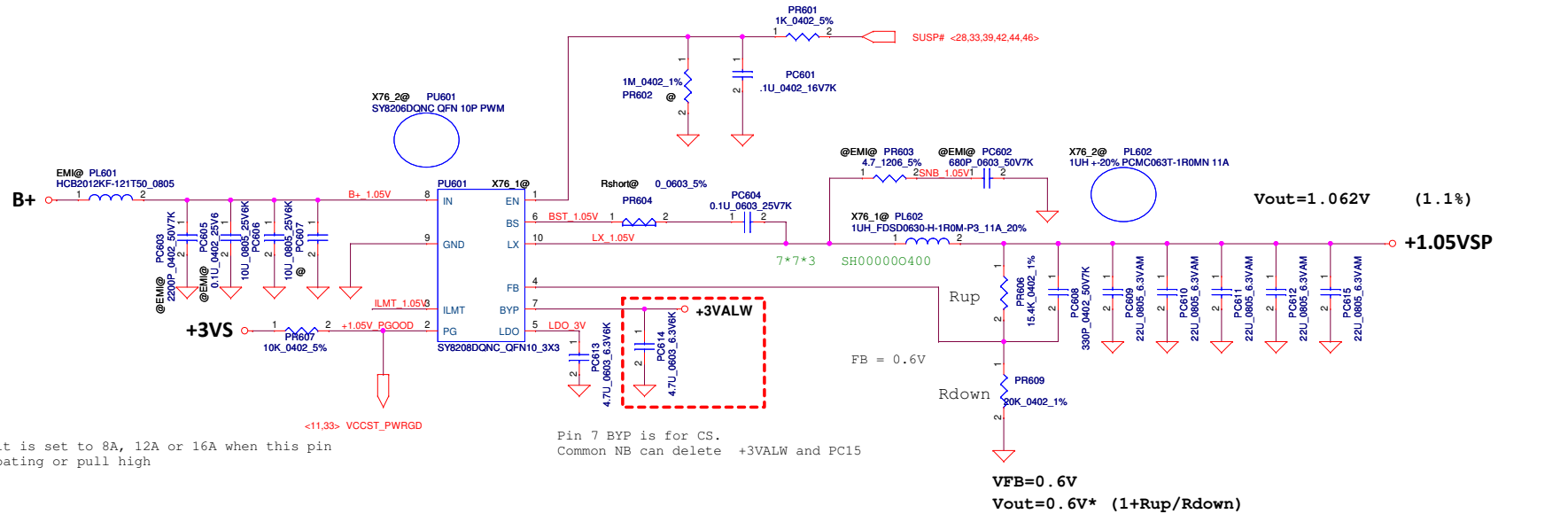


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |             |                          |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-------------|--------------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |             | Title                    |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/24 | Deciphered Date    | Date of EOP | Compal Electronics, Inc. |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |             | V5MM2_SB                 | 1.0            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |             | Date:                    | Sheet 44 of 57 |

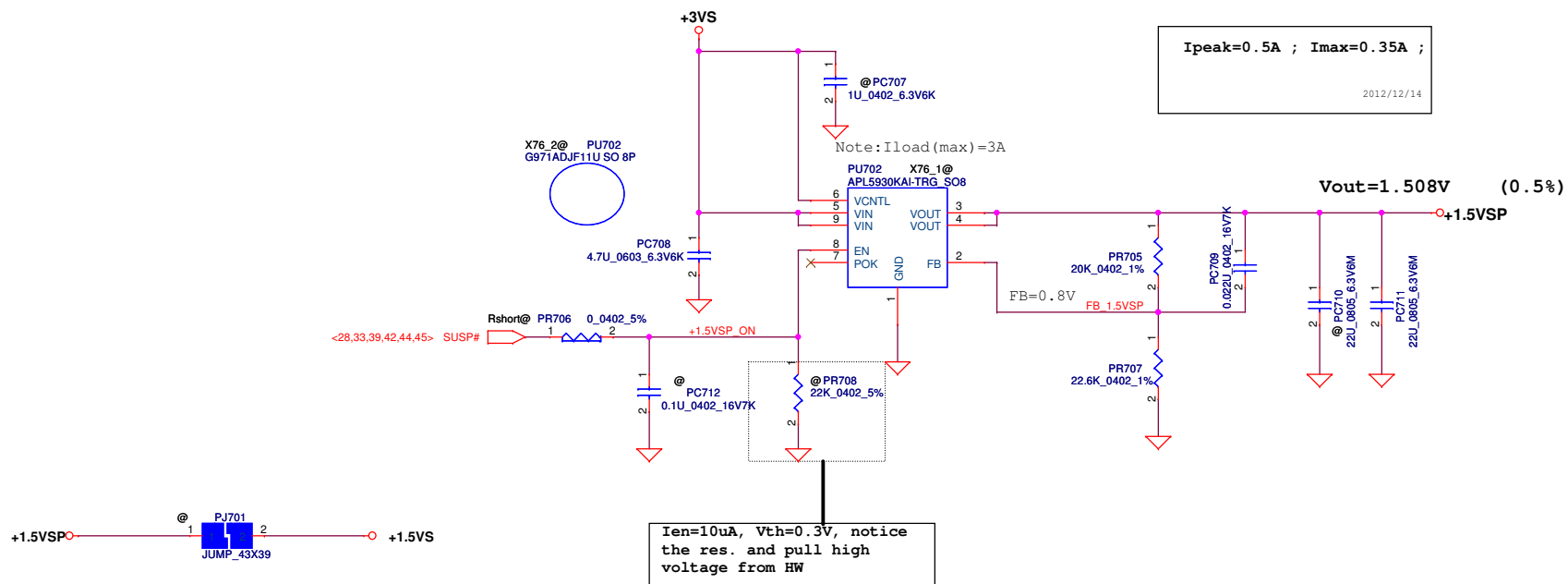
+1.05VSP I<sub>peak</sub>=8A ; I<sub>max</sub>=5.6A ; OCP=12A  
 ,F= 750K Hz (typ) (ILMT\_1.05V floating)  
 2012/12/14



The current limit is set to 8A, 12A or 16A when this pin is pull low, floating or pull high

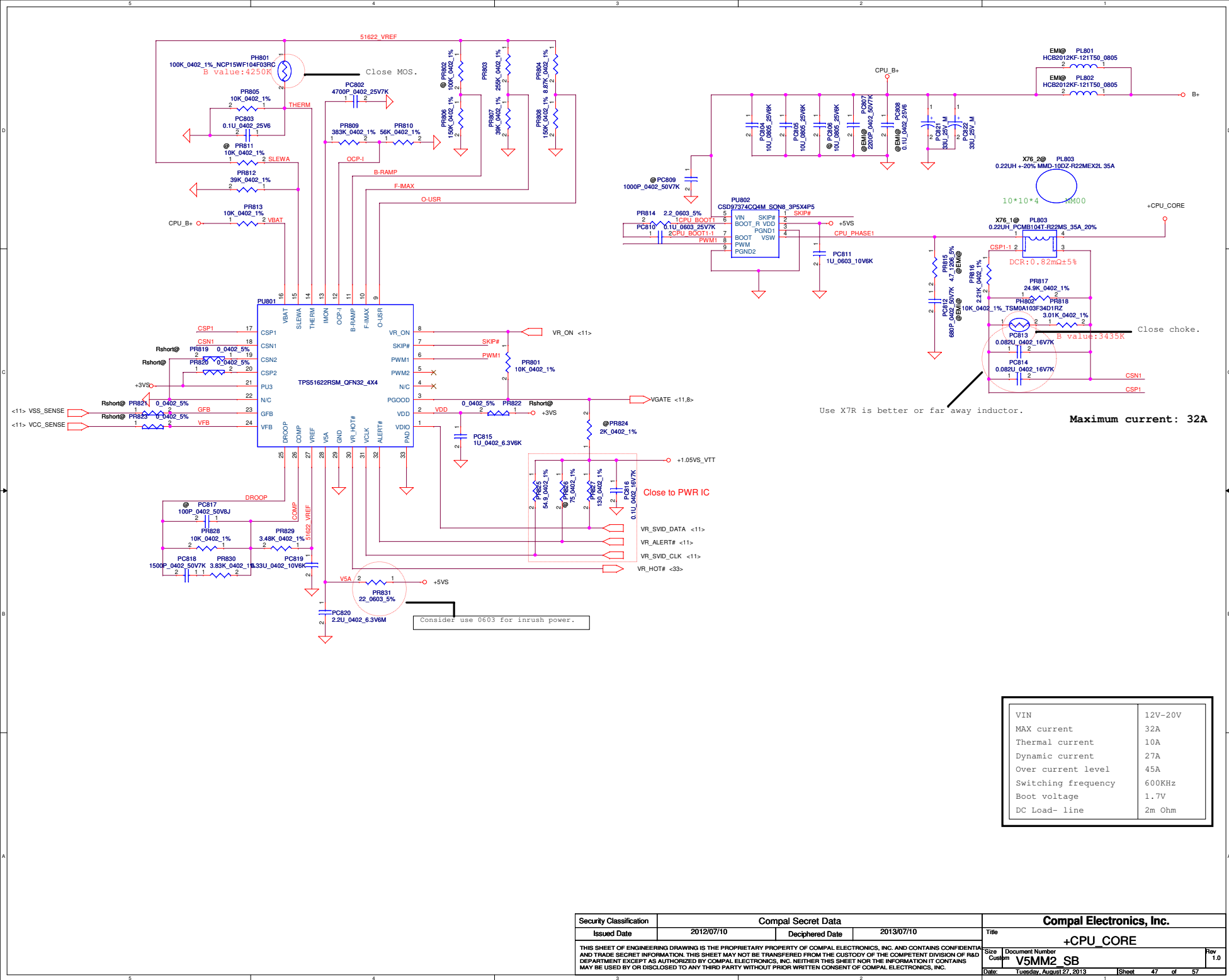


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                                |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|--------------------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 | Compal Electronics, Inc.       |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2012/07/10         | Deciphered Date | 2013/07/10                     | Title          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 | V5MM2_SB                       | 1.0            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 | Date: Tuesday, August 27, 2013 | Sheet 45 of 57 |



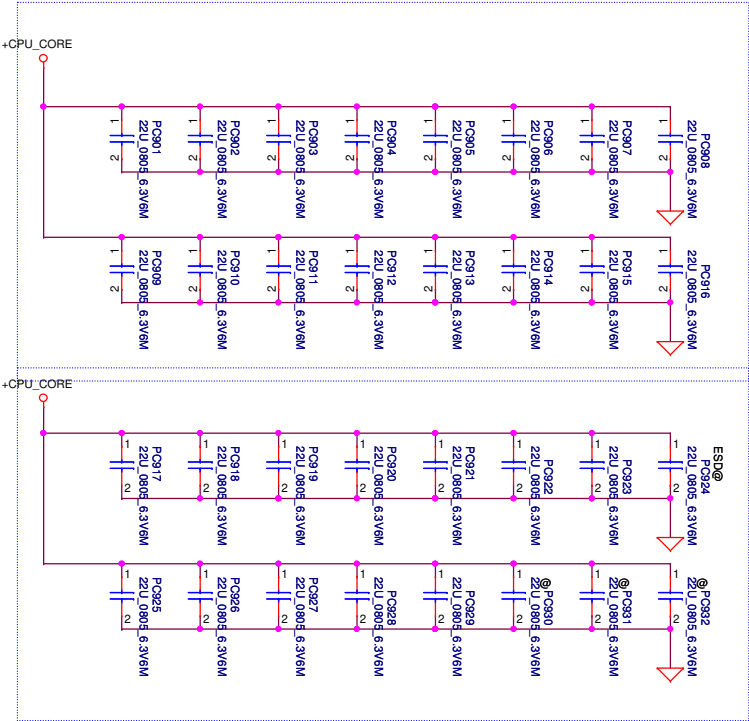
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |         |                          |       |    |    |    |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Compal Secret Data |  |                 |  | Compal Electronics, Inc. |  |         |                          |       |    |    |    |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | 2012/07/10         |  | Deciphered Date |  | 2013/07/10               |  | Title   |                          |       |    |    |    |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  | Size    | Document Number          | Rev   |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  | Custom  |                          | 1.0   |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  | Date:   | Tuesday, August 27, 2013 | Sheet | 46 | of | 57 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |         |                          |       |    |    |    |

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PWR Rule  
CPU DCLL=1.5m ohm dedign 330uF/9m \*0, 22uF \*30

22u \*28, @\*4

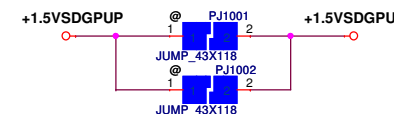
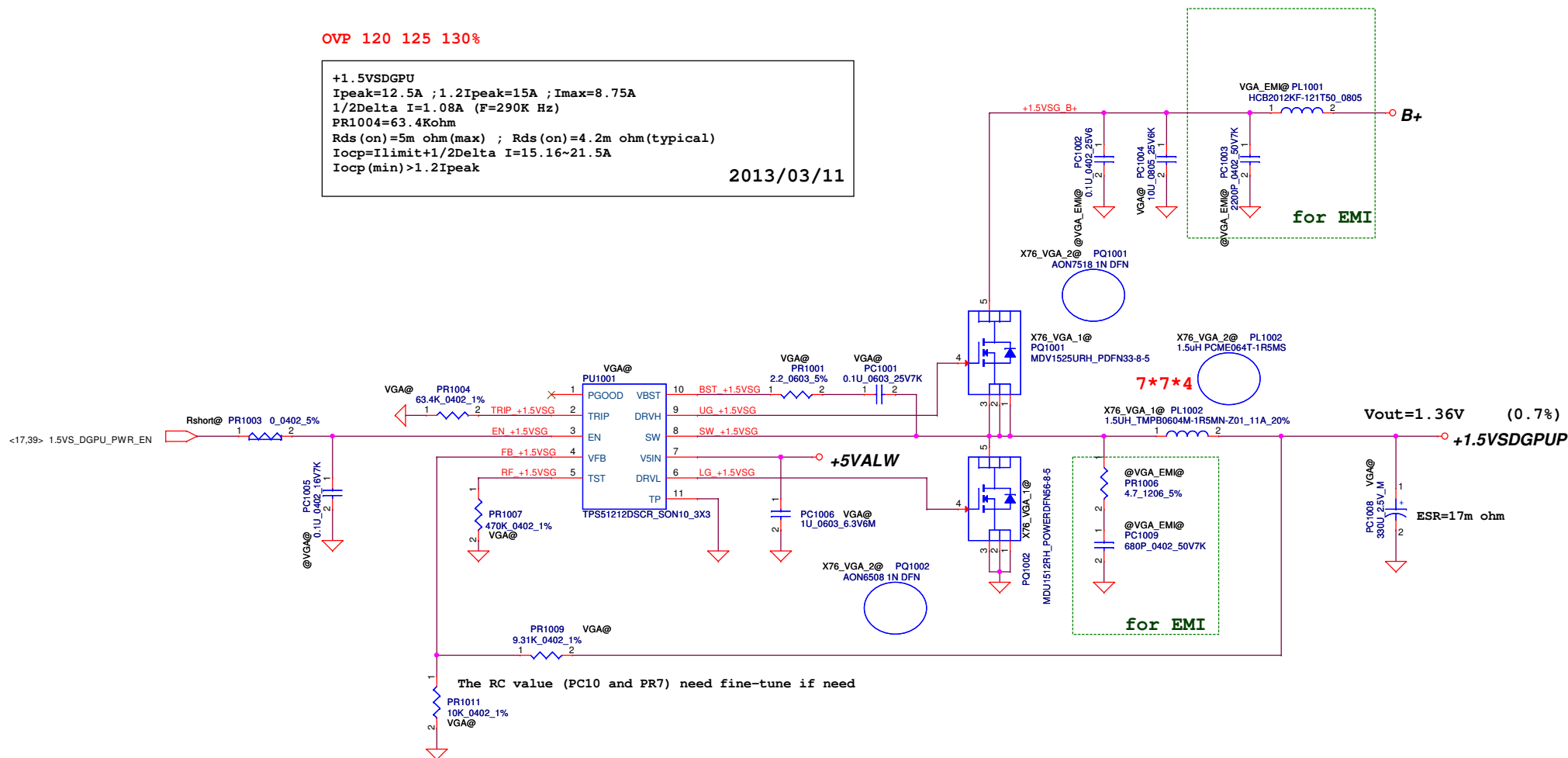


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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|--|-----------------|--|--------------------------|--|--------------|--------------------------|--|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Compal Secret Data |  |                 |  | Compal Electronics, Inc. |  |              |                          |  |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | 2012/07/10         |  | Deciphered Date |  | 2013/07/10               |  | Title        |                          |  |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  | Size         | Document Number          |  | Rev            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  | Custom       | V5MM2_SB                 |  | 1.0            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  | Date         | Tuesday, August 27, 2013 |  | Sheet 48 of 57 |

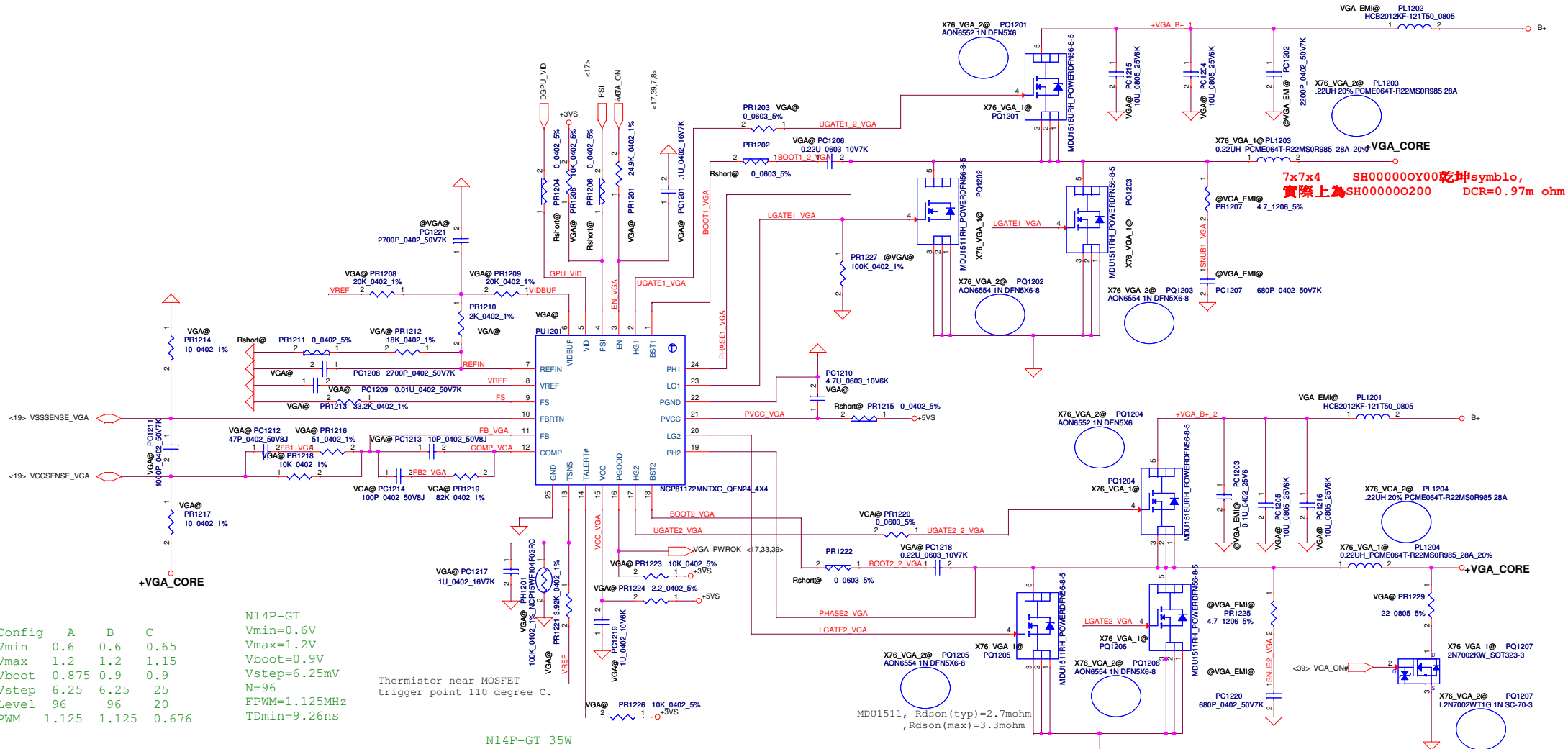
OVP 120 125 130%

+1.5VSDGPU  
 $I_{peak}=12.5A$  ;  $1.2I_{peak}=15A$  ;  $I_{max}=8.75A$   
 $1/2\Delta I=1.08A$  (F=290K Hz)  
 $PR1004=63.4K\Omega$   
 $R_{ds(on)}=5m\Omega$  (max) ;  $R_{ds(on)}=4.2m\Omega$  (typical)  
 $I_{ocp}=I_{limit}+1/2\Delta I=15.16\sim 21.5A$   
 $I_{ocp(min)}>1.2I_{peak}$

2013/03/11



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |                          |  |                |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|--|-----------------|--|--------------------------|--|--------------------------|--|----------------|--|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Compal Secret Data |  |                 |  | Compal Electronics, Inc. |  |                          |  |                |  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | 2012/04/22         |  | Deciphered Date |  | Date of EOP              |  | Title                    |  |                |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  | Size                     |  | Document Number          |  | Rev            |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  | Custom                   |  |                          |  | 1.0            |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  | Date:                    |  | Tuesday, August 27, 2013 |  | Sheet 49 of 57 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |                          |  |                |  |



|        |       |       |       |
|--------|-------|-------|-------|
| Config | A     | B     | C     |
| Vmin   | 0.6   | 0.6   | 0.65  |
| Vmax   | 1.2   | 1.2   | 1.15  |
| Vboot  | 0.875 | 0.9   | 0.9   |
| Vstep  | 6.25  | 6.25  | 25    |
| Level  | 96    | 96    | 20    |
| PWM    | 1.125 | 1.125 | 0.676 |

N14P-GT  
Vmin=0.6V  
Vmax=1.2V  
Vboot=0.9V  
Vstep=6.25mV  
N=96  
FPWM=1.125MHz  
TDmin=9.26ns

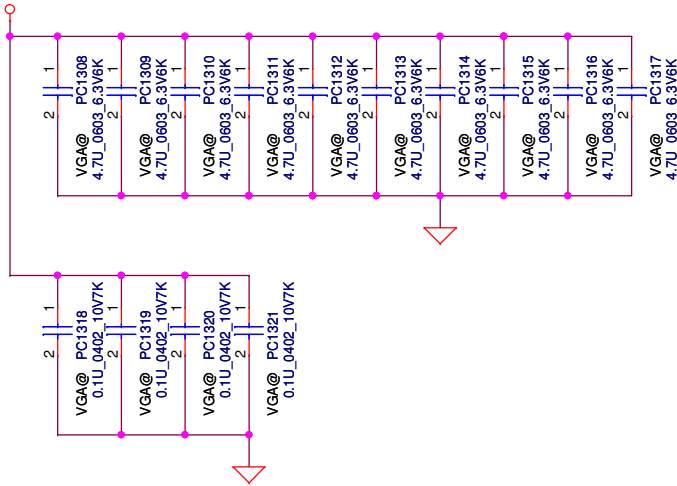
PR1209=20K  
PR1208=20K  
PR1210=2K  
PR1212=18K  
PR1211=0K  
PC1208=2.7nF

N14P-GT 35W  
Ipeak=45A  
Imax=31.5A  
Iocp=80A  
Fsw=450KHz  
bulk cap 330uF 9m \*3  
560uF\*1

Thermistor near MOSFET  
trigger point 110 degree C.

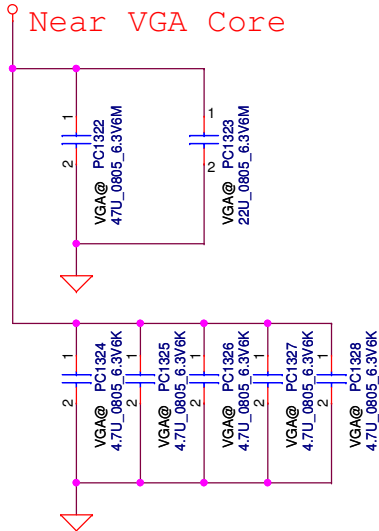
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |                          |  |                |  |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Compal Secret Data |  |                 |  | Compal Electronics, Inc. |  |                          |  |                |  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | 2011/12/05         |  | Deciphered Date |  | Date of EOP              |  | Title                    |  |                |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  | Size                     |  | Document Number          |  | Rev            |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |                          |  | 1.0            |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  | Date:                    |  | Tuesday, August 27, 2013 |  | Sheet 50 of 57 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |                          |  |                |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |                          |  |                |  |

+VGA\_CORE Under VGA Core

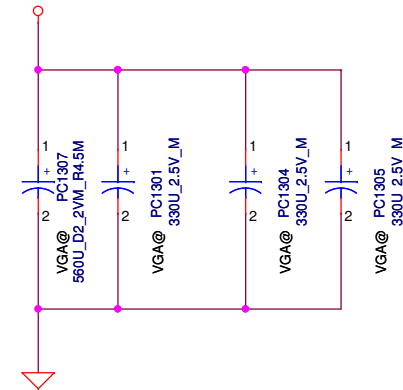


GB4-128  
Under  
4.7uF\_0603\_10pcs  
0.1uF\_0402\_4pcs  
Near  
47uF\_0805\_1pcs  
22uF\_0805\_1pcs  
4.7uF\_0805\_5pcs

+VGA\_CORE Near VGA Core



+VGA\_CORE



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |             |                          |                 |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|-------------|--------------------------|-----------------|------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |             | Compal Electronics, Inc. |                 |            |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/06/24         | Deciphered Date | Date of EOP | Title<br>VGA_CORE CAP    |                 |            |
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| Date: Tuesday, August 27, 2013                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                 |             | Sheet                    | 51 of 57        |            |

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

Page 1 of 2  
for PWR

| Item | Fixed Issue             | Reason for change                                                                                                                | Rev. | PG#      | Modify List                                                                                                                                                                                                                                                                                           | Date  | Phase |
|------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------|------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|
| 1    | Acoustic noise          | 3V 5V light load efficiency improvement                                                                                          |      | 3V/5V    | 1.Add 2pcs 1K_0402_5% (PR412 PR413)<br>1pcs 4700P_0402_25V7K (PC425)<br>1pcs 0.047U_0402_25V7K (PC426)<br>2.Add 4.7u_0402_6.3V6M (PC401)                                                                                                                                                              | 01/15 | EVT   |
| 2    | Silergy update revision | 3V 5V enable control for Rev0.3.<br>But un-pop.                                                                                  |      | 3V/5V    | 1.Add un-pop 2pcs 0402 resistors (PR415 PR414)<br>2.remove (PR207)                                                                                                                                                                                                                                    | 01/15 | EVT   |
| 3    |                         | Reduce part count                                                                                                                |      | VGA/CPU  | Change to R-short<br>(PR1211 PR1204 PR1206 PR1215 PR822 )                                                                                                                                                                                                                                             | 01/15 | EVT   |
| 4    |                         | modify charger current to meet<br>battery charge time.                                                                           |      | Charger  | 0.02_1206_1%_SD00000S110 charger to<br>0.01_1206_1%_SD00000K820 (PR310)                                                                                                                                                                                                                               | 01/15 | EVT   |
| 5    |                         | The modify values for<br>CPU transition test                                                                                     |      | CPU      | 1.PR803 270K_0402_1%_SD00000G280<br>change to 255K_0402_1%_SD034255380<br>2.PR809 392K_0402_1%_SD034392380<br>change to 383K_0402_1%_SD034383380<br>3.PR831 10_0603_5%_SD013100A80<br>change to 22_0603_5%_SD000001R80<br>4.PC820 1U_0603_10V6K_SE080105K80<br>change to 2.2U_0402_6.3V6M_SE000008880 | 01/15 | EVT   |
| 6    |                         | BI_GATE remove                                                                                                                   |      | 3V/5V    | PQ401 2N7002KW_SOT323-3_SB000009Q80 remove.                                                                                                                                                                                                                                                           | 01/16 | EVT   |
| 7    |                         | HW VGA_sequence test                                                                                                             |      | VGA      | 1.PC1201un-pop charger to<br>0.1U_0402_16V7K_SE076104K80<br>2.PR1201un-pop charger to<br>24.9K_0402_1%_SD034249280<br>3.PR12280_0402_5% charger to un-pop                                                                                                                                             | 01/21 | EVT   |
| 8    |                         | When pwm IC shutdown on S0,<br>EC could detect SLP_S5#,<br>but cannot detect PCH was no power.                                   |      | 3V/5V    | PR416 add 100K_0402_5%_SD028100380                                                                                                                                                                                                                                                                    | 3/11  | DVT   |
| 9    |                         | The 5VALW will fast than 3VALW<br>and the rising time will under 2mS.                                                            |      | 3V/5V    | PC426 4700P_0402_25V7K_SE075472K80<br>change to 0.01U_0402_25V7K_SE075103K80<br>PC425 0.047U_0402_25V7K_SE00000MJ00<br>change to 6800P_0402_25V7K_SE075682K80                                                                                                                                         | 3/11  | DVT   |
| 10   |                         | VRAM efficiency improvement                                                                                                      |      | 1.5VDGPU | 1.PQ1002 AON7702A_SB00000T600 change to<br>MDU1512RH_POWERDFN56-8-5_SB00000SY00<br>2.PQ1001 AON7408L 1N DFN_SB00000H800 change to<br>MDV1525URH 1N PDFN33-8_SB00000S600<br>3. PL1002 2.2uH_7*7*3_SH00000MR00<br>charger to 1.5uH_7*7*4_SH00000PM00                                                    | 3/11  | DVT   |
| 11   |                         | The discharge time may cause<br>GC6 entry/exit quickly fail,<br>worry about the off time too<br>long problem cause the GC6 fail. |      | VGA      | PR1229 add un-pop 22_0805_5%_SD002220A80<br>PQ1207 add un-pop<br>2N7002KW_SOT323-3_SB000009Q80                                                                                                                                                                                                        | 3/11  | DVT   |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |                    |            |                          |           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|-----------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                         |            | Compal Secret Data |            | Compal Electronics, Inc. |           |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2011/06/24 | Deciphered Date    | 2012/07/12 | Title                    | PIR (PWR) |
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| Date: Tuesday, August 27, 2013                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |                    |            | Sheet                    | 52 of 57  |

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

Page 1 of 2  
for PWR

| Item | Fixed Issue | Reason for change                                                                                                       | Rev. | PG#                        | Modify List                                                                                                                                                                                                                                                                                                                                                                               | Date | Phase |
|------|-------------|-------------------------------------------------------------------------------------------------------------------------|------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------|
| 1    |             | remove VGA enable for +3VSDGPU                                                                                          |      | VGA_COREP                  | remove PR1228_0_0402_5%                                                                                                                                                                                                                                                                                                                                                                   | 3/11 | DVT   |
| 2    |             | VRAM voltage change to 1.35V.                                                                                           |      | +1.5VSDGPUP                | PR1009 11.5K_0402_1%_SD034115280 change to 9.31K_0402_1%_SD034931180<br>PR1004 137K_0402_1%_SD034137380 change to 63.4K_0402_1%_SD03463K280                                                                                                                                                                                                                                               |      | DVT   |
| 3    |             | ESD request                                                                                                             |      | CPU capacitor              | Add PC924 22U_0805_6.3V6M_SE000000I10                                                                                                                                                                                                                                                                                                                                                     | 3/11 | DVT   |
| 4    |             | VCIN1 function                                                                                                          |      | BATTERY CONN/OTP           | PR225 5.1K_0402_1%_SD034510180 change to 9.76K_0402_1%_SD034976180_90W@<br>1.02K_0402_1%_SD034102180 change to 9.76K_0402_1%_SD034976180_65W@<br>PR207 UN-pop-0K_0402_1%_SD034100280 change to 47.5K_0402_1%_SD034475280_90W@<br>UN-pop-0K_0402_1%_SD034100280 change to 71.5K_0402_1%_SD034715280_65W@                                                                                   |      |       |
| 5    |             |                                                                                                                         |      | CHARGER                    | PR318 499K_0402_0.1%_SD00000U380<br>change to 499K_0402_1%_SD034499380                                                                                                                                                                                                                                                                                                                    | 3/11 | DVT   |
| 6    |             | Material change                                                                                                         |      | CPU_CORE<br>1.05V          | PH801 SL200000U00 change to SL200000V00<br>PL602 SH00000PJ00 change to SH00000O400                                                                                                                                                                                                                                                                                                        | 4/16 | PVT-1 |
| 7    |             | The discharge time may cause GC6 entry/exit quickly fail, worry about the off time too long problem cause the GC6 fail. |      | VGA                        | Add PR1229 22_0805_5%_SD002220A80<br>Add PQ1207 2N7002KW_SOT323-3_SB000009Q80                                                                                                                                                                                                                                                                                                             | 5/14 | PVT-1 |
| 8    |             | Reduce part count                                                                                                       |      | 1.35V/1.5VSP<br>/1.5VSDGPU | SD028000080 Change to 0402_R-short<br>(PR510 PR706 PR1003)                                                                                                                                                                                                                                                                                                                                | 5/14 | PVT-1 |
| 9    |             | Reduce part count                                                                                                       |      | 3V/5V/<br>1.05V/VGA        | SD013000080 Change to 0603 R-short<br>(PR405 PR408 PR604 PR1202 PR1222)                                                                                                                                                                                                                                                                                                                   | 5/14 | PVT-1 |
| 10   |             | follow ON solution for VGA                                                                                              |      | VGA                        | 1. PC1221_SE074272K00_2700P charger to un-pop.<br>2. PC1208_SE071101J80_100P charger to SE074272K00_2700P                                                                                                                                                                                                                                                                                 |      | PVT-1 |
| 11   |             | Adjust the FB voltage for 1.35V                                                                                         |      | 1.35V                      | PR506_8.2K_0402_1%_SD000004100 charger to 8.06K_SD034806180.                                                                                                                                                                                                                                                                                                                              |      | PVT-1 |
| 12   |             | Material EOL                                                                                                            |      | 1.35V                      | PQ502 AON7702A SB00000T600 change to AON7506 SB000010A00                                                                                                                                                                                                                                                                                                                                  |      | PVT-2 |
| 13   |             | VCIN1 Recovery<br>85% chang to 100%                                                                                     |      | 3V/5V<br>BATTERY CONN /OTP | PR411 316K_0402_1%_SD034316380 change to 953K_0402_1%_SD00000X100<br>PR403 402K_0402_1%_SD034402380 change to 160K_0402_1%_SD034160380<br>PR225 9.76K_0402_1%_SD034976180 change to 10K_0402_1%_SD034100280 (65W@)<br>change to 10.5K_0402_1%_SD034105280 (90W@)<br>PR207 71.5K_0402_1%_SD034715280 change to 127K_0402_1%_SD034127380 (65W@)<br>change to 91K_0402_1%_SD034910280 (90W@) |      | PVT-2 |
| 14   |             | Adjust the FB voltage for 1.35V                                                                                         |      | 1.35V                      | PR506_8.06K_SD034806180 charger to 8.2K_0402_1%_SD000004100.                                                                                                                                                                                                                                                                                                                              |      | PVT-2 |
| 15   |             | Fixed system can't power on.<br>(HW suggest delay the 3V power on sequency.)                                            |      | 3V/5V                      | PC426 0.01U_25V_K_X7R_0402_SE075103K80<br>change to 0.022U_16V_K_X7R_0402_SE076223K80                                                                                                                                                                                                                                                                                                     | 8/7  | PVT-3 |
| 16   |             | ACER must not GC6 function.                                                                                             |      | VGA                        | 1.PR1229 22_0805_5%_SD002220A80 =>un-pop<br>2.PQ1207 2N7002KW_SOT323-3_SB000009Q80 =>un-pop                                                                                                                                                                                                                                                                                               | 8/7  | PVT-3 |
| 17   |             | Cancel ->ACER must not GC6 function.                                                                                    |      | VGA                        | 1.PR1229 un-pop =>22_0805_5%_SD002220A80<br>2.PQ1207 un-pop =>2N7002KW_SOT323-3_SB000009Q80                                                                                                                                                                                                                                                                                               | 8/12 | PVT-3 |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |                    |            |                          |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|----------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            | Compal Secret Data |            | Compal Electronics, Inc. |          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/07/10 | Deciphered Date    | 2013/07/10 | Title                    |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |                    |            | PIR (PWR)                |          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |                    |            | 1                        | 1.0      |
| Date: Tuesday, August 27, 2013                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                    |            | Sheet                    | 53 of 57 |

| Item | Page # | Date      | Issue Description                                                                             | Solution Description                                                                                                                                                     | Stage |
|------|--------|-----------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 1    | 28     | 2013/1/8  | Add DP++ Schematic                                                                            | Add Q101,Q102,Q46,R336 , reserve R499,R502                                                                                                                               | DVT   |
| 2    | 28     | 2013/1/8  | Add DP++ config                                                                               | Add DM@ , NDM@                                                                                                                                                           | DVT   |
| 3    | 28     | 2013/1/8  | Change mDP HPD Schematic from Before-IC to After-IC                                           |                                                                                                                                                                          | DVT   |
| 4    | 28     | 2013/1/8  | for LB_RST no use                                                                             | pop R1327 for LB_RST no use                                                                                                                                              | DVT   |
| 5    | 28     | 2013/1/8  | LB HPD issue                                                                                  | Change R1344 from 100K to 10K                                                                                                                                            | DVT   |
| 6    | 28     | 2013/1/8  | for not support LB wake function                                                              | Add R503 and unpop it                                                                                                                                                    | DVT   |
| 7    | 28     | 2013/1/8  | for not support LB wake function                                                              | Add J24                                                                                                                                                                  | DVT   |
| 8    | 31,34  | 2013/1/8  | Remove LAN/B from Acer request                                                                | Remove JLAN1 , Add JPWR1 (same as JBL1)                                                                                                                                  | DVT   |
| 9    | 31,33  | 2013/1/8  | Remove LAN/B from Acer request                                                                | 1. LAN_CLKREQ# pull-high to +3VS (R131,後面remove)<br>2. Remove C530,R312,R1170<br>3. reserve R234,R236,R237 for differential pair route space                             | DVT   |
| 10   | 31     | 2013/1/8  | EC Board ID for Rev0.2                                                                        | Change R1191 to 8.2K<br>pop R1190,R1191                                                                                                                                  | DVT   |
| 11   | 7      | 2013/1/8  | Change SPI ROM from 4M+2M to 8M                                                               | Remove U14,RP20,R109,R402,C67,C453                                                                                                                                       | DVT   |
| 12   | 26     | 2013/1/8  | 1.abnormal display via re-driver board<br>2. to solve the problem without any gauge increased | 1. Connect JEDP1_pin27 to +3VS, this solution is only for cable which need to pass via re-driver board<br>2. Add R522,C140 , unpop R421,R424<br>3. Change Q43 to 2N7002K | DVT   |
| 13   | 8      | 2013/1/8  | incorrect gpio define                                                                         | unpop R214 ,pop R205                                                                                                                                                     | DVT   |
| 14   | 28     | 2013/1/8  | For LightningBolt debug , will unpop in PVT                                                   | pop SW7 (後面remove)                                                                                                                                                       | DVT   |
| 15   | 38     | 2013/1/8  | Change TPM IC P/N                                                                             | Change U89 from SA00005XH00 to SA00005XH40                                                                                                                               | DVT   |
| 16   | 26,32  | 2013/1/8  | For EMI request , change EMI part P/N                                                         | Change L26 to SM01000EJ00<br>Change L17,L18,L20,L21,L22 to SM070001R00                                                                                                   | DVT   |
| 17   | 30     | 2013/1/9  | some risk for OPs on factory side                                                             | Change JMINI1 and JMINI2 to JWLAN1 and JMSATA1                                                                                                                           | DVT   |
| 18   | 34     | 2013/1/9  | Pull-high 10K to +3VS for SMB_ALERT#_R                                                        | Add R452                                                                                                                                                                 | DVT   |
| 19   | 34     | 2013/1/9  | Update KB backlight schematic                                                                 | Remove Q56,R928                                                                                                                                                          | DVT   |
| 20   | 34     | 2013/1/9  | Battery can't detect issue (BI_GATE)                                                          | Add R530 , unpop Q30                                                                                                                                                     | DVT   |
| 21   | 33     | 2013/1/9  | GC6 schematic update                                                                          | connect VGA_PWROK to EC_pin120                                                                                                                                           | DVT   |
| 22   | 7      | 2013/1/9  | Change SPI serial resistor value                                                              | Change RP19,R108 from 22ohm to 15ohm                                                                                                                                     | DVT   |
| 23   | 37     | 2013/1/9  | For BI signal screw hole                                                                      | Add H19                                                                                                                                                                  | DVT   |
| 24   | 7      | 2013/1/9  | Change SPI ROM from dual to single                                                            | Remove U14,RP20,R109,R402,C67,C453 (多寫)                                                                                                                                  | DVT   |
| 25   | 7      | 2013/1/14 | LAN_CLKREQ# already pull-up on CPU side                                                       | Remove R313 (已有R52 pull-up)                                                                                                                                              | DVT   |
| 26   | 8      | 2013/1/15 | For Cost/Part count                                                                           | Remove R66<br>unpop R67,U30<br>Change R403 from 0ohm to 2ohm                                                                                                             | DVT   |
| 27   | 28     | 2013/1/15 | For Cost/Part count                                                                           | Remove SW7,C1443<br>unpop D64,D65,D66                                                                                                                                    | DVT   |
| 28   | 33     | 2013/1/15 | For Cost/Part count                                                                           | Remove R1160                                                                                                                                                             | DVT   |
| 29   | 34     | 2013/1/15 | For Cost/Part count                                                                           | Remove R930,SW1                                                                                                                                                          | DVT   |
| 30   | 34     | 2013/1/15 | Update BI_GATE schematic                                                                      | Remove D43,Q34,R489,R530,C888,C890<br>Q30 change from P-MOS to N-MOS<br>R486,R487 change to 100K ohm                                                                     | DVT   |
| 31   | 39     | 2013/1/15 | For Cost/Part count                                                                           | Change R987 to 2ohm                                                                                                                                                      | DVT   |
| 32   | 7      | 2013/1/15 | For Cost/Part count                                                                           | Change R111 to R-short 0402                                                                                                                                              | DVT   |
| 33   | 27     | 2013/1/15 | For Cost/Part count                                                                           | Change R368,R369,R409,R410,R417,R418,R415,R419 to R-short 0402                                                                                                           | DVT   |
| 34   | 30     | 2013/1/15 | For Cost/Part count                                                                           | Change R876,R877 to R-short 0402                                                                                                                                         | DVT   |
| 35   | 31     | 2013/1/15 | For Cost/Part count                                                                           | Change R49 to R-short 0805                                                                                                                                               | DVT   |

Security Classification

2011/06/24

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Date of EOP

Title

PIR-HW

Document Number

V5MM2 M/B LA-A021P Schematic

Rev

1.0

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| Item | Page # | Date      | Issue Description                        | Solution Description                                                                                                                                                                         | Stage |
|------|--------|-----------|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 36   | 33     | 2013/1/15 | For Cost/Part count                      | Change R1162 to R-short 0805                                                                                                                                                                 | DVT   |
| 37   | 34     | 2013/1/15 | For Cost/Part count                      | Change R929 to R-short 0402                                                                                                                                                                  | DVT   |
| 38   | 35     | 2013/1/15 | For Cost/Part count                      | Change R495,R496,R497 to R-short 0603                                                                                                                                                        | DVT   |
| 39   | 37     | 2013/1/15 | For Cost/Part count                      | Change R508,R510 to R-short 0603                                                                                                                                                             | DVT   |
| 40   | 39     | 2013/1/15 | For Cost/Part count                      | Change R988 to R-short 0402                                                                                                                                                                  | DVT   |
| 41   | 26     | 2013/1/16 | For ESD request                          | Add C803                                                                                                                                                                                     | DVT   |
| 42   | 34     | 2013/1/16 | Update BI_GATE schematic                 | Change R486 to 510K , BI_GATE power change to +RTCVCC                                                                                                                                        | DVT   |
| 43   | 8      | 2013/1/17 | For ESD request                          | Add C932,C936,C937                                                                                                                                                                           | DVT   |
| 44   | 11     | 2013/1/17 | For ESD request                          | Add C920,C925                                                                                                                                                                                | DVT   |
| 43   | 39     | 2013/1/17 | For ESD request                          | Add C940                                                                                                                                                                                     | DVT   |
| 44   | 6      | 2013/1/21 | Change main source on DVT only           | Y1 change to SJ100004Z00                                                                                                                                                                     | DVT   |
| 45   | 32     | 2013/1/21 | Change main source on DVT only           | U76,U78 change to SA00003TV00                                                                                                                                                                | DVT   |
| 46   | 29     | 2013/1/21 | Change main source for AP-code           | Q95,Q96 change to SB966750010                                                                                                                                                                | DVT   |
| 47   | 8,39   | 2013/1/21 | Update GC6 schematic                     | Pop R404,R405<br>unpop R406,R407<br>R469 change from 330k to 47k                                                                                                                             | DVT   |
| 48   | 29     | 2013/1/21 | Update LB schematic                      | R1347 change from 100k to 100 ohm                                                                                                                                                            | DVT   |
| 49   | 34     | 2013/1/21 | unpop debug switch                       | unpop SW4                                                                                                                                                                                    | DVT   |
| 50   | 40-53  | 2013/1/22 | update Power schematic 0121A             |                                                                                                                                                                                              | DVT   |
| 51   | 34     | 2013/1/22 | For X1 code                              | Change U82 from SA00001TC00 to SA000057Z00                                                                                                                                                   | DVT   |
| 52   | 26     | 2013/1/22 | For SMT 統一料                              | Change L26 back to SM010014520                                                                                                                                                               | DVT   |
| 53   | 26     | 2013/1/23 | eDP HPD issue                            | Pop R421,R424 ; unpop R522 , C140                                                                                                                                                            | DVT   |
| 54   | 26     | 2013/2/7  | eDP HPD issue                            | Remove Q43                                                                                                                                                                                   | PVT   |
| 55   | 20     | 2013/2/7  | VGA schematic mistake                    | Change R1245 from 42.2ohm to 40.2ohm                                                                                                                                                         | PVT   |
| 56   | 39     | 2013/2/19 | Change EN pin for +1.5VSDGPU off-current | Q64 change to Dual-N and gate pin change to 1.5VS_DGPU_PWR_EN , add R984,R998                                                                                                                | PVT   |
| 57   | 33     | 2013/2/19 | Add SPOK to turn on/off +3,5VALW         | Add EC pin_16 named SPOK                                                                                                                                                                     | PVT   |
| 58   | 36     | 2013/2/19 | Audio SPK sound not balance issue        | Change R575 from 1k ohm to 1.2k ohm                                                                                                                                                          | PVT   |
| 59   | 34     | 2013/2/19 | BI_GATE issue                            | Change H9 symbol                                                                                                                                                                             | PVT   |
| 60   | 32     | 2013/2/19 | Add RF frame                             | Add CLIP1                                                                                                                                                                                    | PVT   |
| 61   | 26     | 2013/2/19 | ESD issue                                | C803 change from 0.1u to 22p                                                                                                                                                                 | PVT   |
| 62   | 33     | 2013/2/19 | Board ID for Rev 0.3 PCB                 | R1191 change from 8.2k to 18k                                                                                                                                                                | PVT   |
| 63   | 29     | 2013/2/19 | Change LBT 5V switch schematic           | Add U38(USB power switch),C526<br>Remove Q95,Q96,Q97,U156,R1337,R1338,R1343,R1339.R1340<br>Change R1347 from 100_0402 to 470_0603 for discharge<br>Change R1341 from 100k to 10k (follow CR) | PVT   |
| 64   | 26,33  | 2013/2/19 | No need support wake by Home-Key         | Change power to home key from +3VALW to +3VS (JSNSR1.pin12)<br>Change Pull-up domain from +3VALW to +3VS (R1181,R1182,R1183)                                                                 | PVT   |
| 65   | 9      | 2013/2/19 | Add GPIO pin for TPM/no-TPM sku          | Add R312,R313 and unpop R312                                                                                                                                                                 | PVT   |
| 66   | 30     | 2013/2/27 | AOAC on/AOAC off co-lay                  | Add J21 from +3VS<br>unpop U79,C941                                                                                                                                                          |       |
| 67   | 20     | 2013/2/27 | VGA part count and unpop reduce          | Remove C1316,C1317                                                                                                                                                                           |       |
| 68   | 22     | 2013/2/27 | VGA part count and unpop reduce          | Remove C1341,C1342,C1327<br>unpop C1345,C1346,C1348,C1350,C1329,C1331,C1334,C1336                                                                                                            |       |
| 69   | 23     | 2013/2/27 | VGA part count and unpop reduce          | Remove C1366,C1367,C1355<br>unpop C1369,C1371,C1372,C1374,C1357,C1358,C1362,C1363                                                                                                            |       |
| 70   | 24     | 2013/2/27 | VGA part count and unpop reduce          | Remove C1392,C1393,C1378<br>unpop C1394,C1397,C1399,C1401,C1380,C1382,C1385,C1387                                                                                                            |       |
| 71   | 25     | 2013/2/27 | VGA part count and unpop reduce          | Remove C1417,C1418,C1404<br>unpop C1421,C1422,C1423,C1426,C1405,C1407,C1413,C1415                                                                                                            |       |
| 72   | 26     | 2013/2/27 | For Cost/Part count                      | R424 change to R-short 0402<br>Remove R522,C140                                                                                                                                              |       |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |             |                                                                 |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-------------|-----------------------------------------------------------------|----------------|
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |             | Date:                                                           | Sheet 55 of 57 |

| Item | Page #   | Date      | Issue Description                          | Solution Description                                                                 | Stage |
|------|----------|-----------|--------------------------------------------|--------------------------------------------------------------------------------------|-------|
| 73   | 37       | 2013/3/4  | ME screw change                            | H4 change from 3P0 to 4P5 , H3 from 2P5 to 3P0                                       | PVT   |
| 74   | 32       | 2013/3/5  | USB charger schematic update               | R853 pull-up power rail change from +3VALW to +3VALW_EC                              |       |
| 75   | 31       | 2013/3/5  | Remove JHDD2                               | Remove JHDD2                                                                         |       |
| 76   | 11,15,33 | 2013/3/5  | For ESD request                            | pop C6,C117,C1255 (Page11,Page15,Page33)                                             |       |
| 77   | 30       | 2013/3/5  | For ESD request                            | Add C62,C63,C64                                                                      |       |
| 78   | 29       | 2013/3/5  | For ESD request                            | Add C65                                                                              |       |
| 79   | 11       | 2013/3/6  | For Cost/Part count                        | Change R167,R168 to R-short 0402                                                     |       |
| 80   | 26       | 2013/3/6  | For Cost/Part count                        | Change R355,R359,R366,R367,R413,R414,R335 to R-short 0402                            |       |
| 81   | 32       | 2013/3/6  | For Cost/Part count                        | Change R852,R855,R865,R866 to R-short 0402                                           |       |
| 82   | 33       | 2013/3/6  | For Cost/Part count                        | Change R80 to R-short 0402                                                           |       |
| 83   | 38       | 2013/3/6  | For Cost/Part count                        | Change R978,R980 to R-short 0402                                                     |       |
| 84   | 20       | 2013/3/6  | For Cost/Part count                        | Change R1241 to R-short 0603                                                         |       |
| 85   | 35       | 2013/3/6  | For Cost/Part count                        | Change R518,R520,R527,R529 to R-short 0603                                           |       |
| 86   | 36       | 2013/3/6  | For Cost/Part count                        | Change R519,R521,R524,R525,R556,R566,R567 to R-short 0603                            |       |
| 87   | 17       | 2013/3/6  | Update GC6 schematic                       | Add D3,Q95<br>Remove Q84,,Q90,R1204<br>Change R1201 from 10k to 1k<br>Reserve R1205  |       |
| 88   | 35,36    | 2013/3/6  | Audio PoPo issue                           | Add U31,R1313 and un-pop<br>Add R408<br>Amp PD pin change from EC_MUSE# to AMP_MUTE# |       |
| 89   | 9,34     | 2013/3/6  | Add I2C for touchpad                       | Add R84,R85 and unpop<br>Add R82,R83,R1337,R1338                                     | PVT2  |
| 90   | 28       | 2013/3/8  | Update LBT schematic (TI request)          | Swap Q101A pin3 and pin4                                                             |       |
| 91   | 19       | 2013/3/8  | Change VRAM power from 1.5V to 1.35V       | Change R1229 from 24.9k to 34.8k                                                     |       |
| 92   | ALL      | 2013/3/11 | Combine power schematic 0311A              | Combine power schematic 0311A                                                        |       |
| 93   | 38       | 2013/3/13 | Change TPM power from +3VALW to +3VS       | pop J17 , unpop J16                                                                  |       |
| 94   | 28       | 2013/4/1  | Add F1 for LBT fuse                        | Add F1                                                                               |       |
| 95   | 34       | 2013/4/1  | Update H9 symbol                           | Update H9 footprint                                                                  |       |
| 96   | ALL      | 2013/4/1  | Update All RC*NEW footprint                |                                                                                      |       |
| 97   | 7,10,31  | 2013/5/9  | Remove LAN                                 | Remove C168,C169,R234,R,236,R237                                                     |       |
| 98   | 34       | 2013/5/9  | Reserve one/two Lid-switch funtion         | Add U83,U84,R930.R931,C989,C990,C991,C992                                            |       |
| 99   | 6,11     | 2013/5/9  | For Cost/Part count                        | Change R76,R180 to R-short 0402                                                      |       |
| 100  | 35,36    | 2013/5/9  | For Cost/Part count                        | Change R408,R512,R513 to R-short 0402                                                |       |
| 101  | 6,10     | 2013/5/9  | For Cost/Part count                        | Change R75,R155 to R-short 0603                                                      |       |
| 102  | 28       | 2013/5/9  | For Cost/Part count                        | Change R373,R381 to R-short 0402                                                     |       |
| 103  | 9        | 2013/5/10 | Add net for 2nd hall sensor Lid-out        | Change PCH GPIO14 for EC LID_OUT TAB (LID_OUT need place between GPIO1 to GPIO15)    |       |
| 104  | 7,9      | 2013/5/10 | Change Card-Reader CLK from Port5 to Port1 | modify net name :<br>GPIO19 -> CARD_CLKREQ#<br>CARD_CLKREQ# -> GPIO23                |       |
| 105  | 33       | 2013/5/16 | Add Pull-up for LID_SW#_TAB                | Add R1163                                                                            |       |
| 106  | 9        | 2013/5/16 | reserve Pull-up for EC_LID_OUT#_TAB        | Add R249 and reserve it                                                              |       |
| 107  | 16       | 2013/5/22 | pop C141                                   | Pop C141                                                                             |       |
| 108  | 15,16    | 2013/5/22 | Change 1uF to 2.2uF                        | Change C108,C123,C130,C143 to 2.2uF                                                  |       |
| 109  | 22,23    | 2013/5/22 | Change 1uF to 2.2uF                        | Change C1328,C1343,C1356,C1368 to 2.2uF                                              |       |
| 110  | 24,25    | 2013/5/22 | Change 1uF to 2.2uF                        | Change C1379,C1395,C1409,C1419 to 2.2uF                                              |       |
| 111  | 28       | 2013/5/22 | Co-lay LBT schematic                       | Remove D1<br>Add U66 and co-lay with F1                                              |       |
| 112  | 12,15    | 2013/5/22 | For Cost/Part count                        | Remove R210,C50,C34,C126                                                             |       |
| 113  | 15,16    | 2013/5/22 | For Cost/Part count                        | Remove C107,C109,C121,C122,C129,C131,C144,C146                                       |       |

| Item | Page # | Date      | Issue Description                          | Solution Description                                       | Stage  |
|------|--------|-----------|--------------------------------------------|------------------------------------------------------------|--------|
| 114  | 22     | 2013/5/22 | For Cost/Part count                        | Remove C1346,C1350,C1331,C1336                             | PVT2   |
| 115  | 23     | 2013/5/22 | For Cost/Part count                        | Remove C1371,C1374,C1358,C1363                             |        |
| 116  | 24     | 2013/5/22 | For Cost/Part count                        | Remove C1397,C1401,C1382,C1387                             |        |
| 117  | 25     | 2013/5/22 | For Cost/Part count                        | Remove C1422,C1426,C1407,C1415                             |        |
| 118  | 30, 31 | 2013/5/22 | For Cost/Part count                        | Remove C946,C961,R869,R870,C870,C872                       |        |
| 119  | 33     | 2013/5/22 | For Cost/Part count                        | Remove C1269,C1257                                         |        |
| 120  | 28, 29 | 2013/5/23 | Change LBT power rail to +3VS/+5VS         | U38 change from +5VALW to +5VS<br>Remove J23 (+3VALW JUMP) |        |
| 121  | 22     | 2013/5/24 | Pop VGA cap                                | Pop C1345,C1348,C1329,C1334                                |        |
| 122  | 23     | 2013/5/24 | Pop VGA cap                                | Pop C1369,C1372,C1357,C1362                                |        |
| 123  | 24     | 2013/5/24 | Pop VGA cap                                | Pop C1394,C1399,C1380,C1385                                |        |
| 124  | 25     | 2013/5/24 | Pop VGA cap                                | Pop C1421,C1423,C1405,C1413                                |        |
| 125  | 33     | 2013/5/28 | Change Board ID                            | Change R1191 from 18K to 33K                               |        |
| 126  | 28     | 2013/5/29 | Add cap for Lightning Bolt 3V power        | Add C262 (47uF)                                            |        |
| 127  | 24     | 2013/5/30 | Add cap for VGA 1.5V (debug)               | Add C1401 (0.1uF)                                          |        |
| 128  | 9      | 2013/5/30 | Change LID_OUT GPIO from GPIO14 to GPIO8   | Change GPIO8,GPIO14 net name                               |        |
| 129  | 34     | 2013/5/31 | Update Part Number for PVT-2 SMT           | Change U82,U83,U84 to SA00003G100                          |        |
| 130  | ALL    | 2013/6/4  | Combine Power schematic 0603               | Combine Power schematic 0603                               |        |
| 131  | 17     | 2013/6/4  | Update Part Number for PVT-2 SMT           | Change D62 to SCS00000Z00                                  |        |
| 132  | 30     | 2013/7/2  | Update WLAN schmatic                       | Change C958 from 4.7uF to 10uF<br>Add C961                 | PVT3   |
| 133  | 6      | 2013/7/3  | For layout spacing                         | Remove R74                                                 |        |
| 134  | ALL    | 2013/7/5  | Combine Power schematic 0627               | Combine Power schematic 0627                               |        |
| 135  | ALL    | 2013/7/29 | Combine Power schematic 0729               | Combine Power schematic 0729                               |        |
| 136  | 34     | 2013/7/31 | Remove Buzzer schematic                    | Remove BUR1,Q53,R492,R493                                  | Pre-MP |
| 137  | 34     | 2013/7/31 | Update BI_GATE schematic (2nd BI_GATE)     | Add R86 and unpop it                                       |        |
| 138  | 30     | 2013/8/1  | Update mSATA schematic for DEVSLP function | Change R877 from R-short to unpop                          |        |
| 139  | 33     | 2013/8/4  | Change Board ID                            | Change R1191 from 33K to 56K                               |        |
| 140  | ALL    | 2013/8/14 | Combine Power schematic 0812A              | Combine Power schematic 0812A                              |        |
| 141  | ALL    | 2013/8/27 | Combine Power schematic 0814               | Combine Power schematic 0814                               |        |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                 |             |                          |                              |         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|-------------|--------------------------|------------------------------|---------|
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