

***VBLE4 / VBLE5***

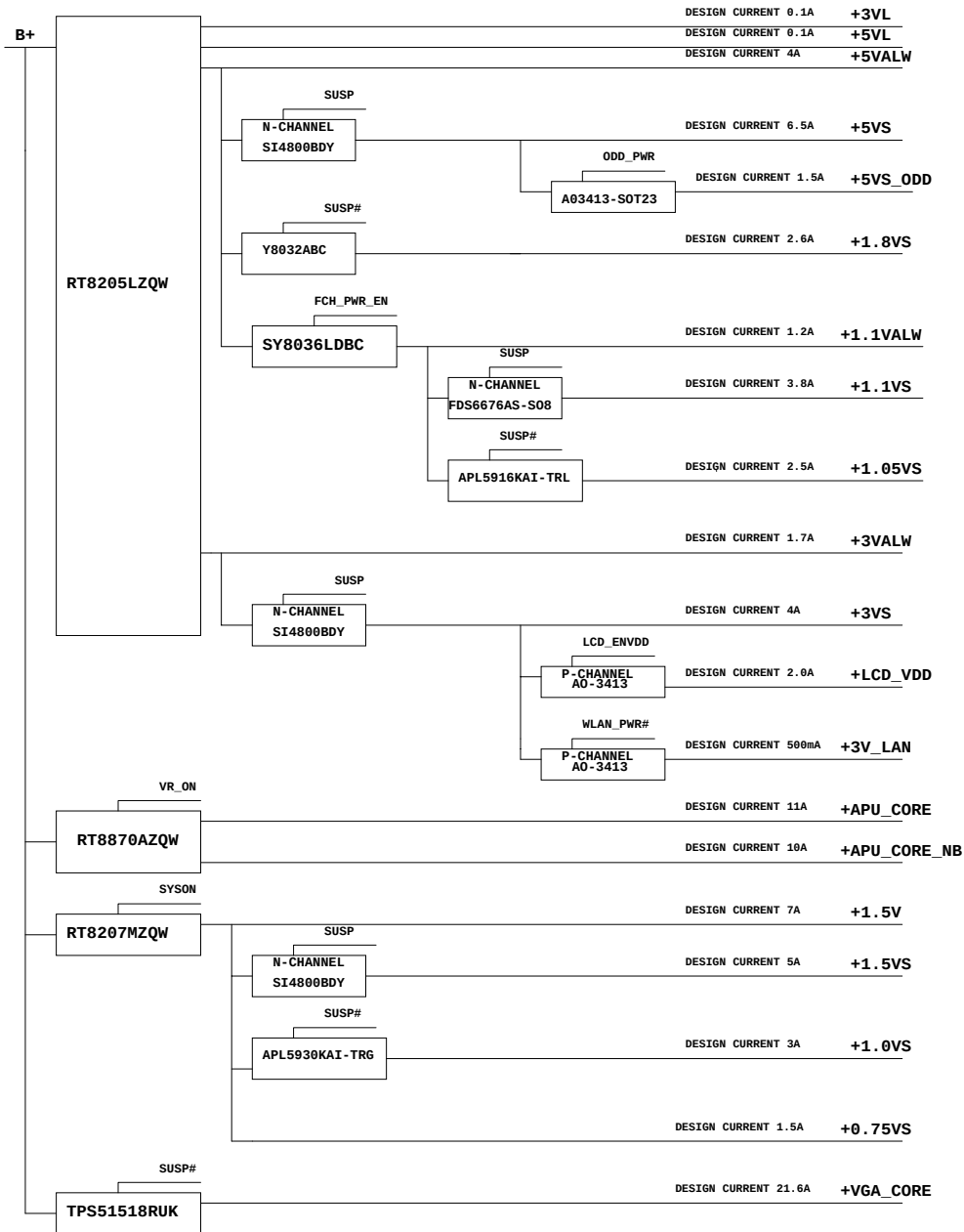
***Eureka***

**LA-8868P REV 1.0 Schematic**

**AMD Brazos 2.0 / Zacate APU / Hudson-M3L FCH  
2012-07-12 Rev 1.0**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |                    |            |                                     |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|-------------------------------------|--|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | Compal Secret Data |            | Compal Electronics, Inc.            |  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2012/05/18 | Deciphered Date    | 2013/10/05 | Title<br><b>SCHEMATIC, MB A8868</b> |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |                    |            | Document Number<br><b>4019K4</b>    |  |
| Date: Saturday, September 07, 2013                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet 1 of 47                       |  |





|                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |            |                              |         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|------------------------------|---------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            | Compal Secret Data |            | Compal Electronics, Inc.     |         |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |            | 4019K4                       | B       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |            | Date                         | Sheet   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |            | Saturday, September 07, 2013 | 3 of 47 |

## Voltage Rails

0 MEANS ON X MEANS OFF

| State \ power plane            | B+<br>+3VL<br>+5VL<br>+RTCVCC | +5VALW<br>+3VALW<br>+1.1VALW | +1.5V | +5VS<br>+3VS<br>+2.5VS<br>+1.8VS<br>+1.5VS<br>+1.1VS<br>+0.9VS<br>+0.75VS<br>+NB_CORE<br>+VDDNB<br>+CPU_CORE_0 |
|--------------------------------|-------------------------------|------------------------------|-------|----------------------------------------------------------------------------------------------------------------|
|                                |                               |                              |       |                                                                                                                |
| S0                             | 0                             | 0                            | 0     | 0                                                                                                              |
| S1                             | 0                             | 0                            | 0     | 0                                                                                                              |
| S3                             | 0                             | 0                            | 0     | X                                                                                                              |
| S5 S4/AC                       | 0                             | 0                            | X     | X                                                                                                              |
| S5 S4/ Battery only            | 0                             | X                            | X     | X                                                                                                              |
| S5 S4/AC & Battery don't exist | X                             | X                            | X     | X                                                                                                              |

## Symbol Note :



: means Digital Ground



: means Analog Ground

@ : means just reserve , no build  
K625R3@ : means just for 1.5G CPU  
K125R3@ : means just for 1.7G CPU  
K325R3@ : means just for 1.3G CPU  
K625R1@ : means just for 1.5G CPU  
K125R1@ : means just for 1.7G CPU  
K325R1@ : means just for 1.3G CPU  
M@ : means just reserve for  
S@3 means just reserve for 11.6 control  
GSENSOR@ : means just reserve for G sensor  
part 1ST@ : means just reserve 1st G sensor  
1STGSENSOR@ : means just reserve 1st G sensor IC  
2ND@ : means just reserve 2nd G sensor IC  
~~2NDGSENSOR@ : means just reserve 2nd G sensor IC~~  
NOSIDE@ : means just reserve NOSIDE  
SIDE@ : means just reserve SIDE  
RS880MR1@ : means just for  
RS880MR3@ : means just for  
SB820MR1@ : means just for SB820MR1  
SB820MR3@ : means just for SB820MR3

## SB SM Bus1 Address

## SB SM Bus2 Address

| Power | Device          | HEX  | Address     | Power  | Device     | HEX | Address |
|-------|-----------------|------|-------------|--------|------------|-----|---------|
| +3VS  | DDR SO-DIMM 0   | A0 H | 1010 0000 b | +3VALW | WLAN/WIMAX |     |         |
| +3VS  | DDR SO-DIMM 1   | A4 H | 1010 0100 b |        |            |     |         |
| +3VS  | Clock Generator | D2 H | 1101 0010 b |        |            |     |         |

## SMBUS Control Table

|                               | SOURCE  | BATT | CPU<br>THERMAL<br>SENSOR | SODIMM 0 | CLK<br>GEN | WLAN<br>WWAN | LCD<br>DDC<br>ROM | HDMI<br>DDC<br>ROM | APU |
|-------------------------------|---------|------|--------------------------|----------|------------|--------------|-------------------|--------------------|-----|
| EC_SMB_CK1<br>EC_SMB_DA1      | KB926   | V    |                          |          |            |              |                   |                    |     |
| EC_SMB_CK2<br>EC_SMB_DA2      | KB926   |      |                          |          |            |              |                   |                    | V   |
| LCD_EDID_CLK<br>LCD_EDID_DATA | APU FT1 |      |                          |          |            |              | V                 |                    |     |
| HDMICLK<br>HDMIDAT            | APU FT1 |      |                          |          |            |              |                   | V                  |     |
| SMB_CK_CLK0<br>SMB_CK_DAT0    | FCH M1  |      |                          | V        |            |              |                   |                    |     |
| SMB_CK_CLK1<br>SMB_CK_DAT1    | FCH M1  |      |                          |          |            | V            |                   |                    |     |

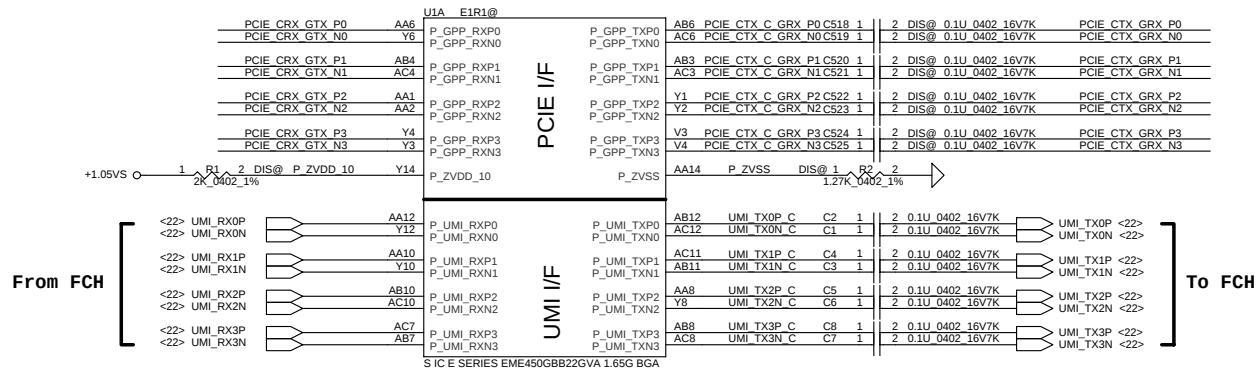
## EC SM Bus1 Address

## EC SM Bus2 Address

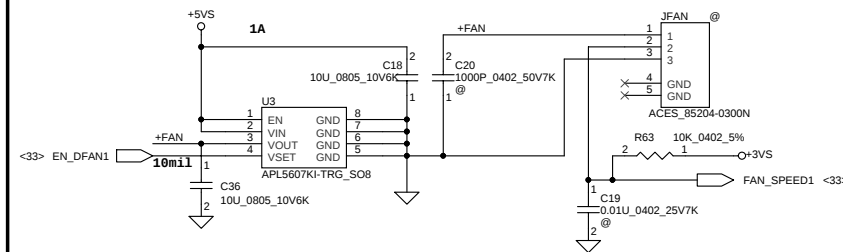
| Power | Device        | HEX  | Address     | Power | Device        | HEX  | Address     |
|-------|---------------|------|-------------|-------|---------------|------|-------------|
| +3VL  | Smart Battery | 16 H | 0001 011X b | +3VS  | CPU_ADM1032-1 | 98 H | 1001 100X b |
|       |               |      |             | +3VS  | G-Sensor      |      |             |

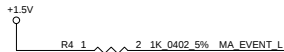
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                              |               |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date                     | Saturday, September 07, 2013 | Sheet 4 of 47 |

<11> PCIE\_CTX\_GRX\_P[3..0] PCIE\_CTX\_GRX\_P[3..0]  
<11> PCIE\_CTX\_GRX\_N[3..0] PCIE\_CTX\_GRX\_N[3..0]  
<11> PCIE\_CRX\_GTX\_P[3..0] PCIE\_CRX\_GTX\_P[3..0]  
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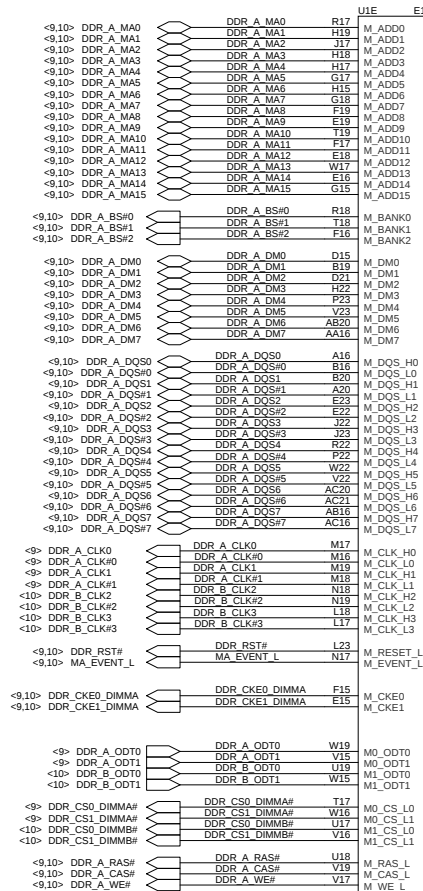
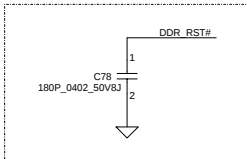


## FAN Control Circuit

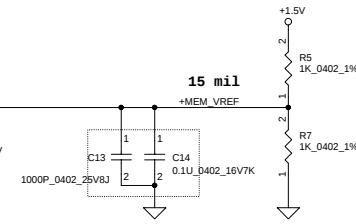
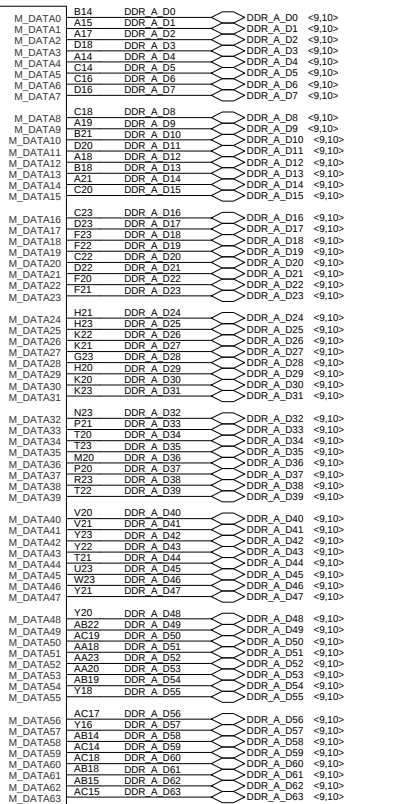


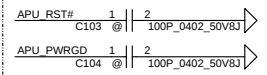
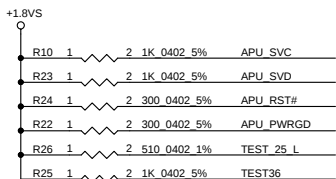


8/6 Add C78 for ESD request

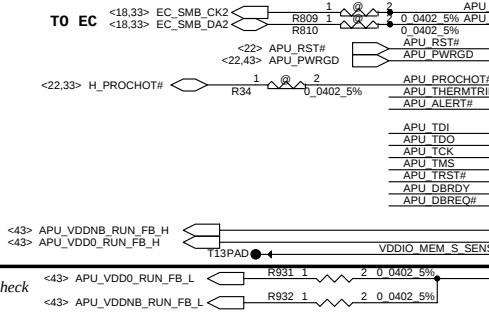
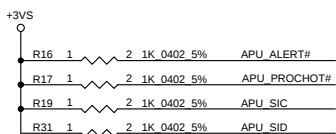


DDR SYSTEM MEMORY



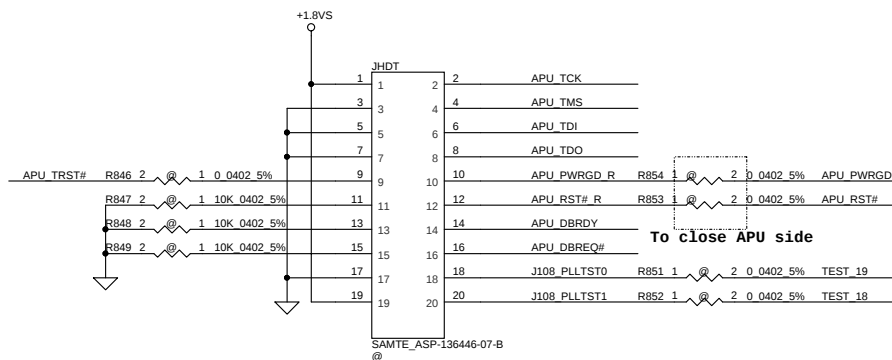
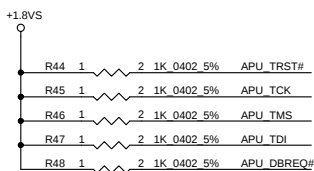


12/13 For debug if layout cross mote

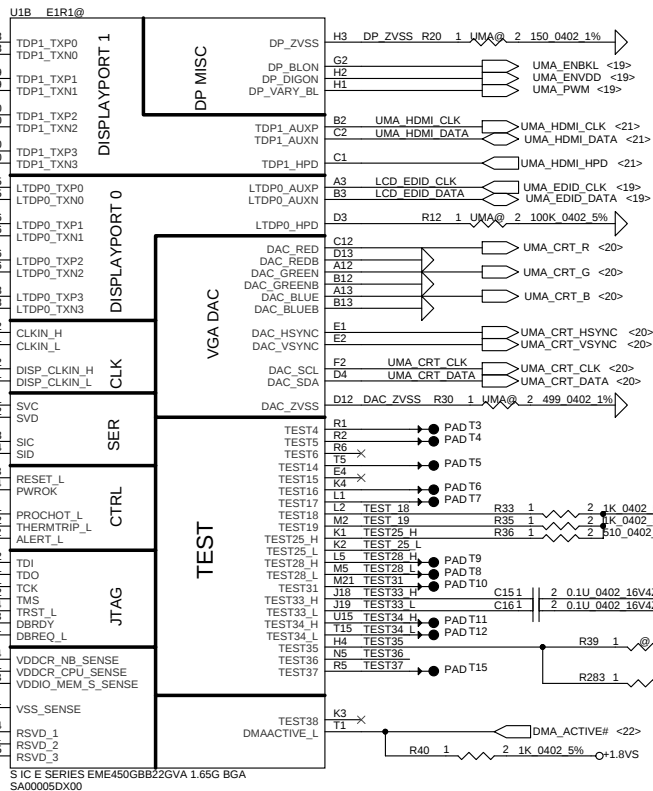


9/26 Add R931 R932 for AMD common design

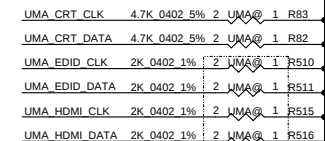
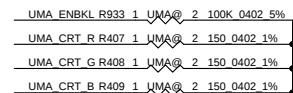
## AMD HDT Debug Conn



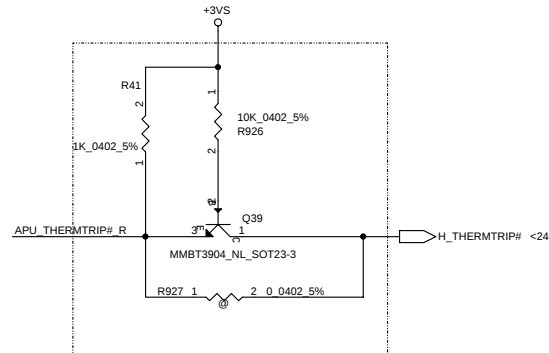
SAMTE\_ASP-136446-07-B  
@



SIC E SERIES EME450GBB22GVA 1.65G BGA  
SA0005DX00

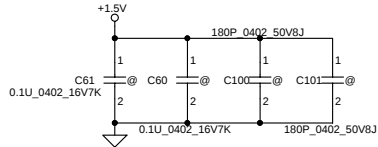
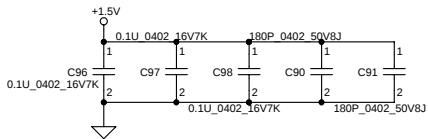
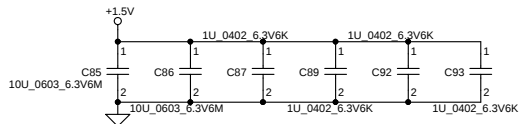
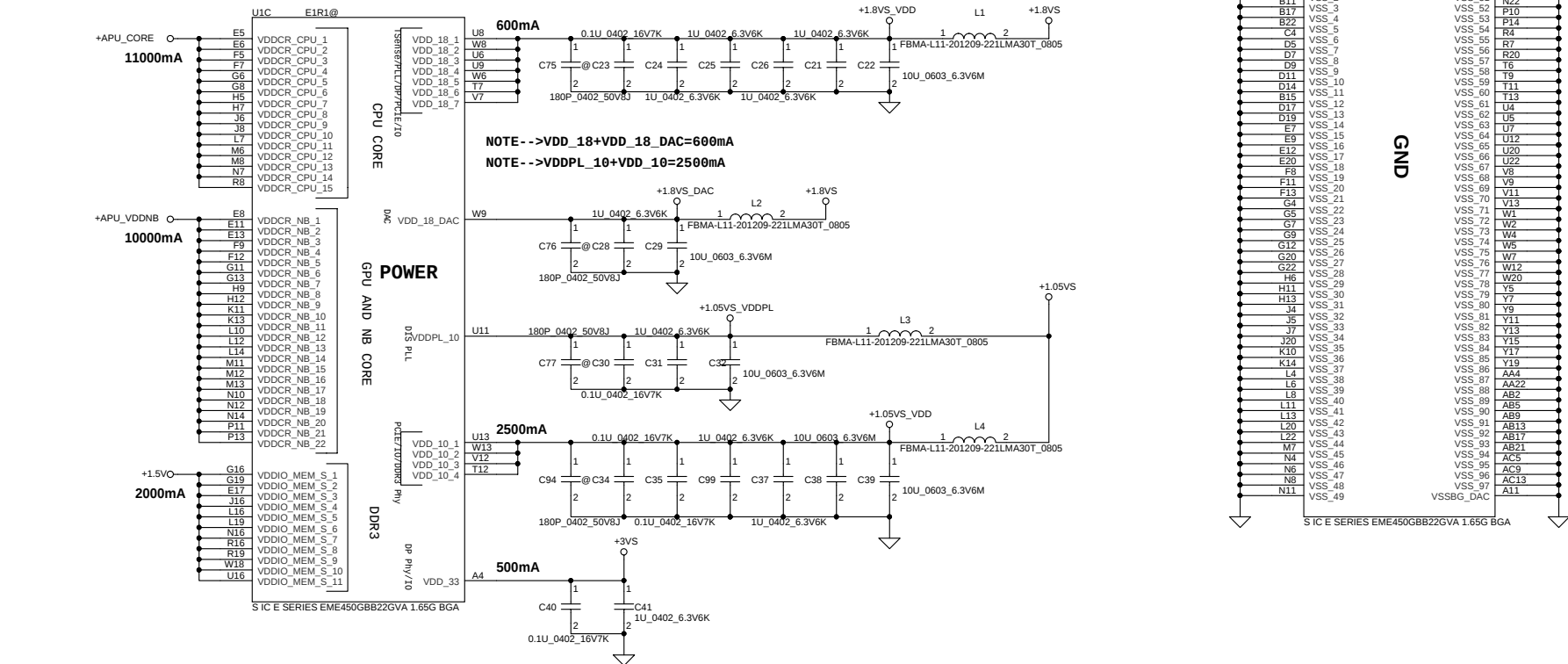


12/22 Change R510, R511, R515, R516 to 2K that meet AMD check list

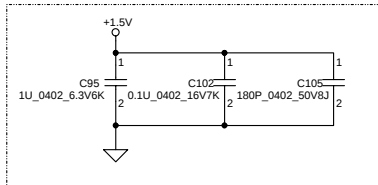


12/22 PCH side has internal pull up +3VLAW\_PCH, so need to level shift

| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  | Compal Secret Data |  |  |  | Compal Electronics, Inc.           |  |  |  |
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Add for EMI request on DVT



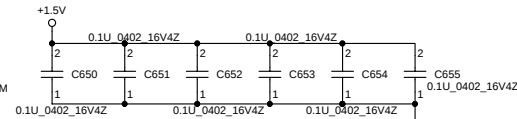
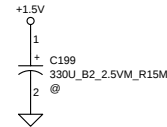
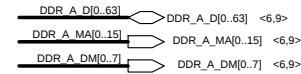
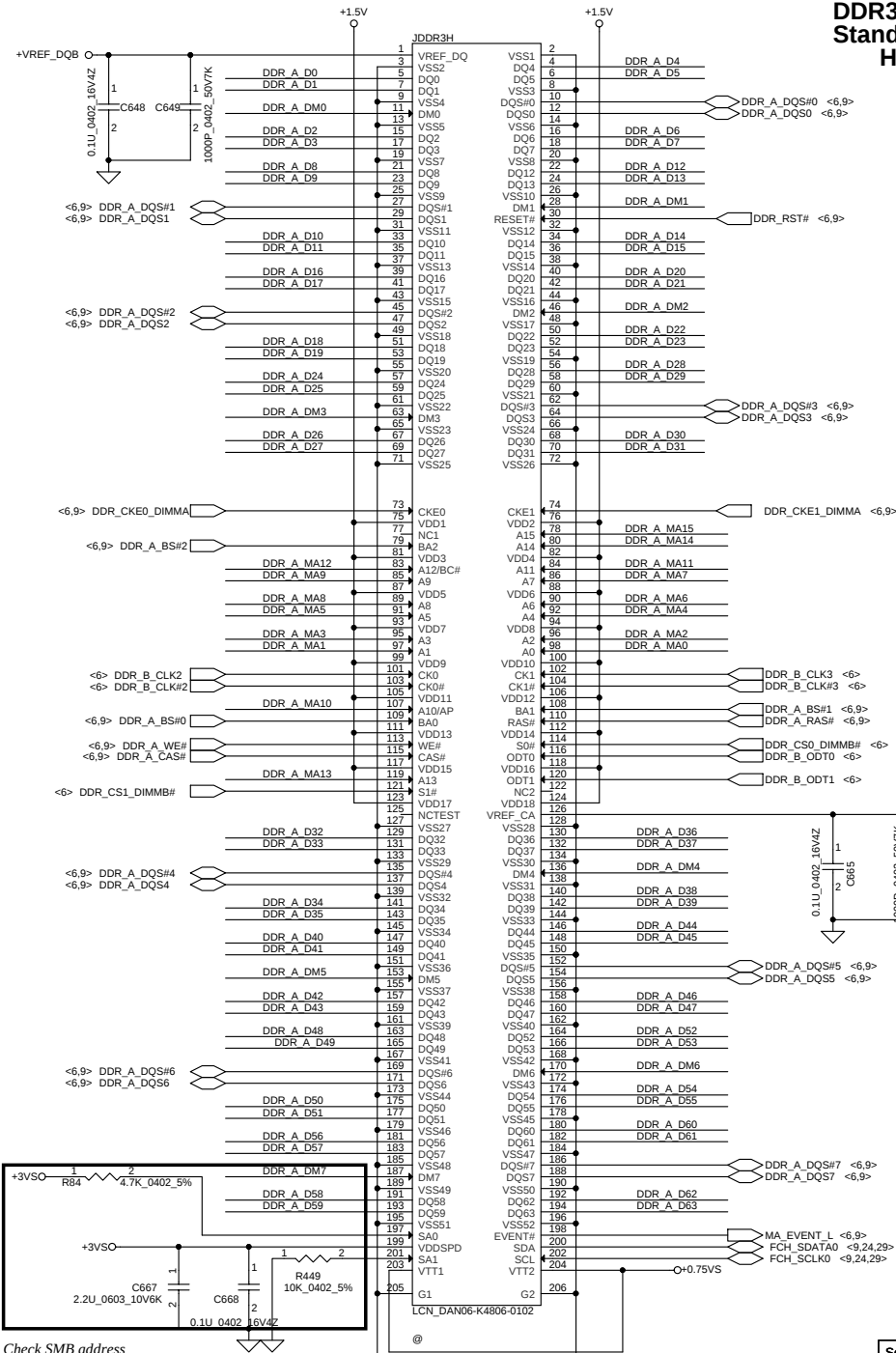
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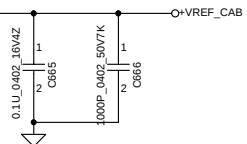
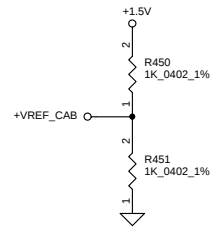
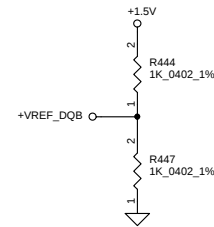
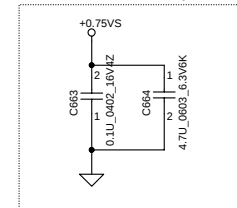
SCHEMATIC, MB A8868



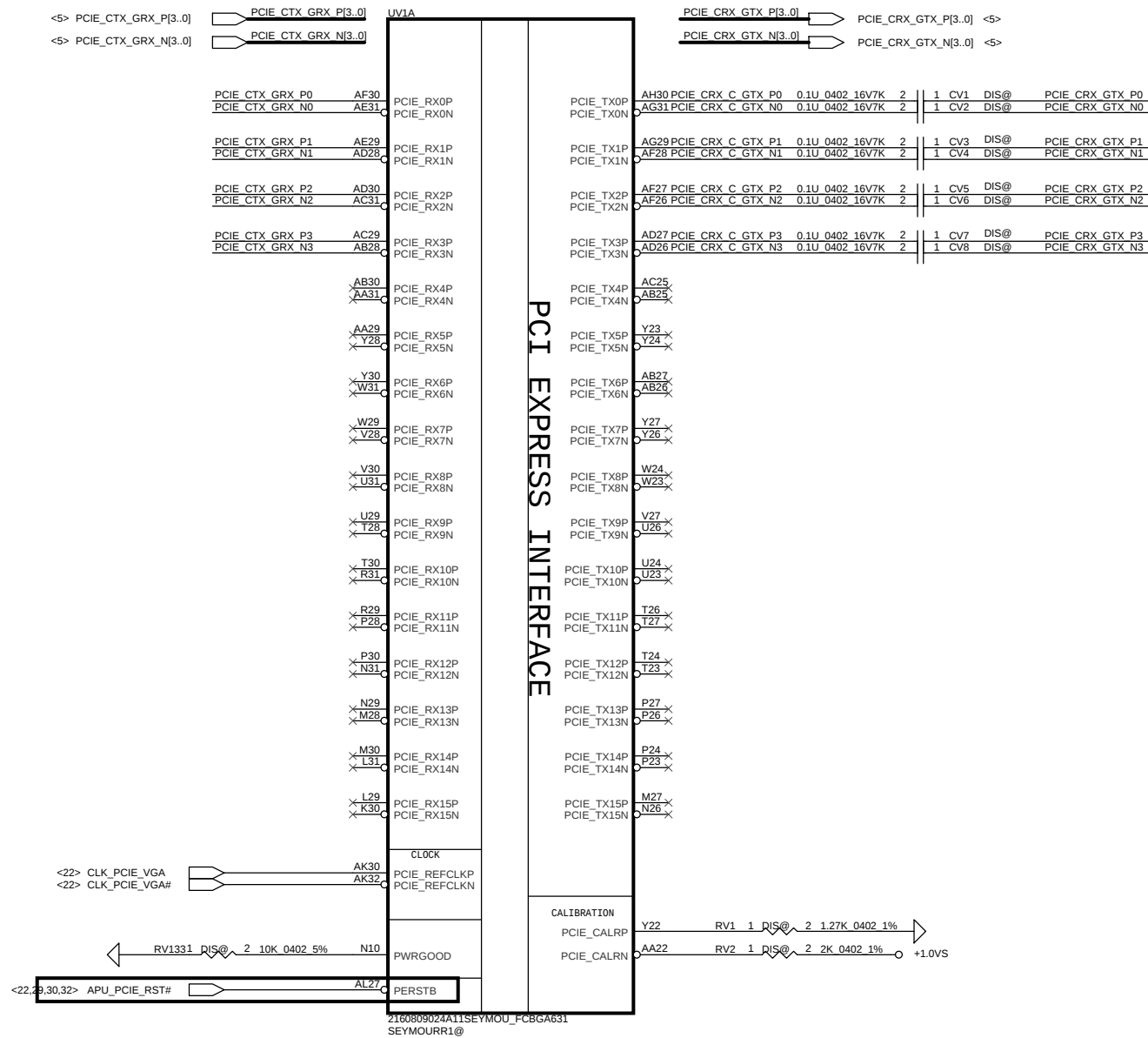
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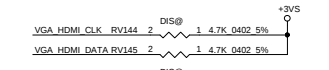
## CRB 0.1u X1 4,7uX1



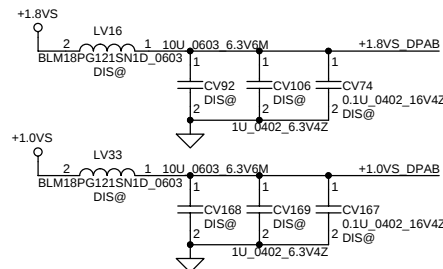
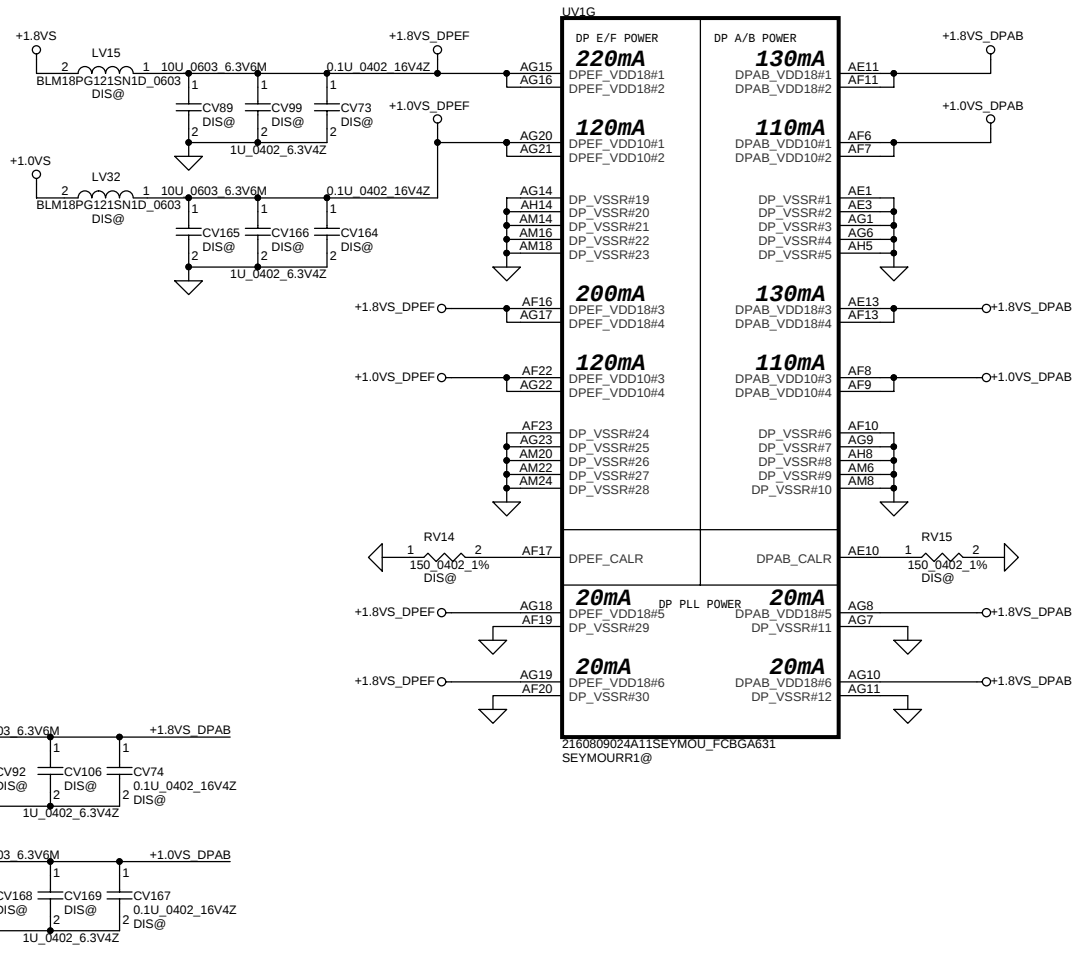
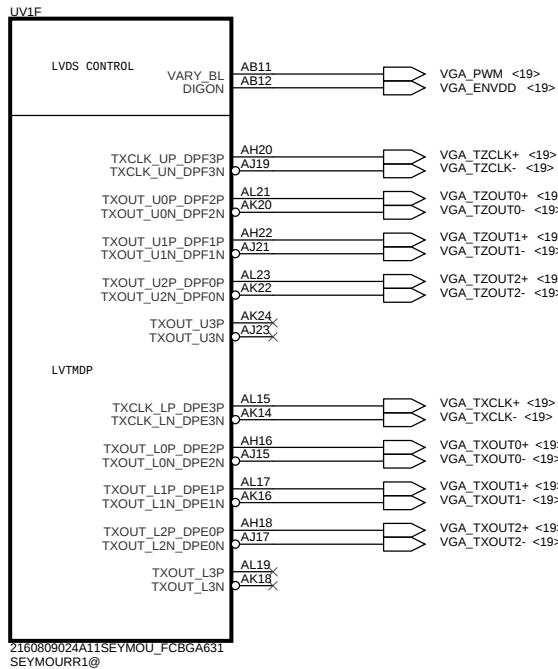
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |            |  | 4019K4              |  | B                            |  |                |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |            |  | Date:               |  | Saturday, September 07, 2013 |  | Sheet 10 of 47 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |            |  |                     |  |                              |  |                |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |            |  |                     |  |                              |  |                |  |



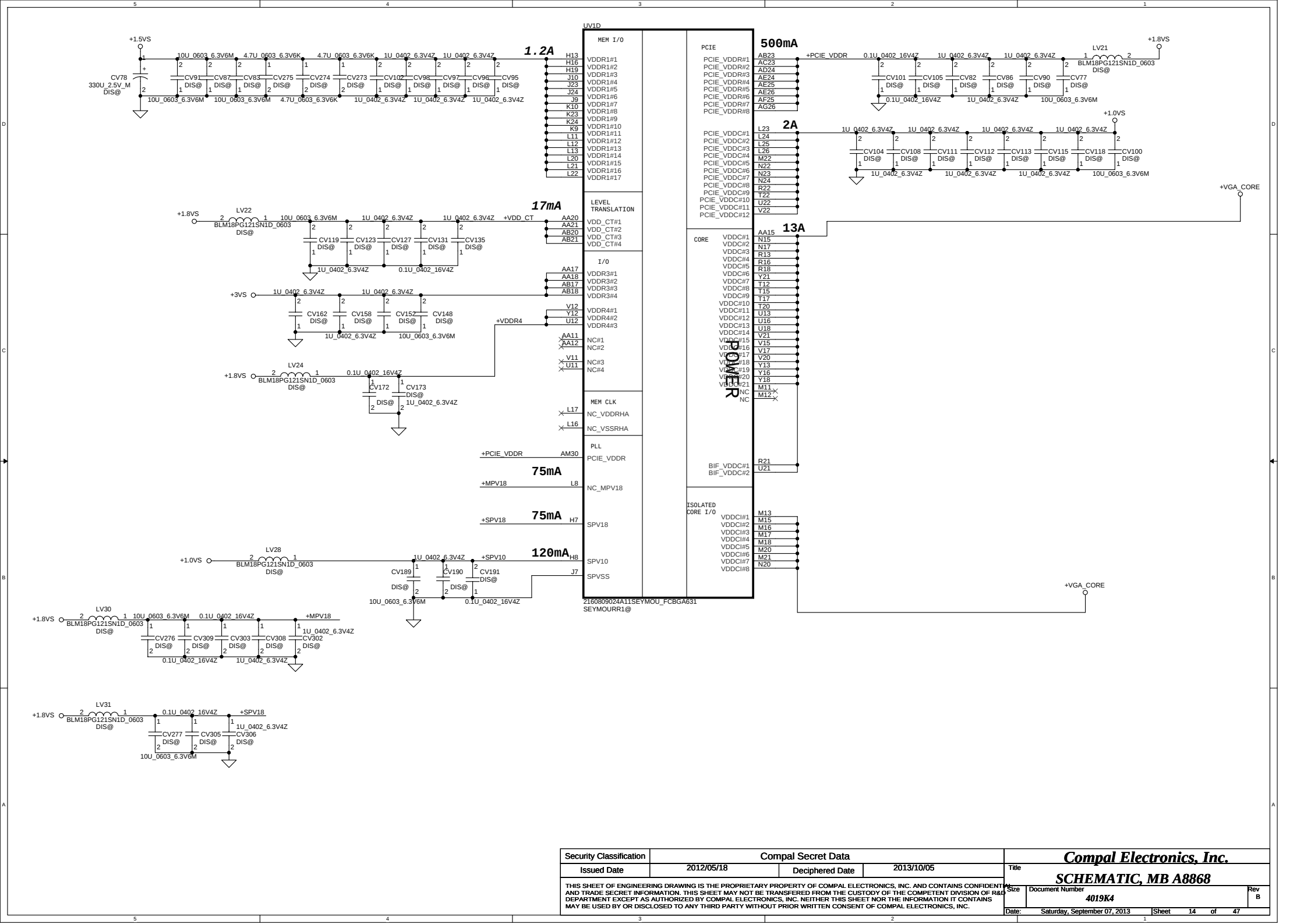
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 11 of 47                     |

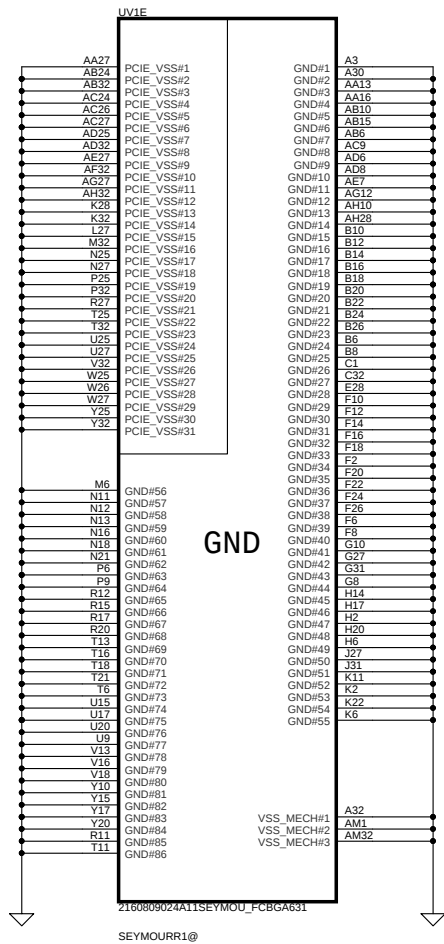


|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                              |                 |            |                                 |       |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                        | Compal Secret Data           |                 | Title      | <b>Compal Electronics, Inc.</b> |       |
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| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Saturday, September 07, 2013 |                 | Sheet      | 12                              | of 47 |



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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number              | 4019K4             | Rev        | B                        |                     |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Saturday, September 07, 2013 | Sheet              | 13         | of                       | 47                  |





<17> MDA[0..63] MDA[0..63]

MDA0 K27  
MDA1 J29  
MDA2 H30  
MDA3 H32  
MDA4 G29  
MDA5 F28  
MDA6 F32  
MDA7 F30  
MDA8 C30  
MDA9 F27  
MDA10 A28  
MDA11 C28  
MDA12 E27  
MDA13 G26  
MDA14 D26  
MDA15 F25  
MDA16 A25  
MDA17 C25  
MDA18 E25  
MDA19 D24  
MDA20 E23  
MDA21 F23  
MDA22 D22  
MDA23 F21  
MDA24 E21  
MDA25 D20  
MDA26 F19  
MDA27 A19  
MDA28 D18  
MDA29 F17  
MDA30 A17  
MDA31 C17  
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MDA33 D16  
MDA34 F15  
MDA35 A15  
MDA36 D14  
MDA37 F13  
MDA38 A13  
MDA39 C13  
MDA40 E11  
MDA41 A11  
MDA42 C11  
MDA43 F11  
MDA44 A9  
MDA45 C9  
MDA46 F9  
MDA47 D8  
MDA48 E7  
MDA49 A7  
MDA50 C7  
MDA51 F7  
MDA52 A5  
MDA53 E5  
MDA54 C3  
MDA55 E1  
MDA56 G7  
MDA57 G6  
MDA58 G1  
MDA59 C3  
MDA60 J6  
MDA61 J1  
MDA62 J3  
MDA63 J5

UV1C

GDDR5/DDR3

DQA0\_0  
DQA0\_1  
DQA0\_2  
DQA0\_3  
DQA0\_4  
DQA0\_5  
DQA0\_6  
DQA0\_7  
DQA0\_8  
DQA0\_9  
DQA0\_10  
DQA0\_11  
DQA0\_12  
DQA0\_13  
DQA0\_14  
DQA0\_15  
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DQA1\_23  
DQA1\_24  
DQA1\_25  
DQA1\_26  
DQA1\_27  
DQA1\_28  
DQA1\_29  
DQA1\_30  
DQA1\_31

MEMORY INTERFACE

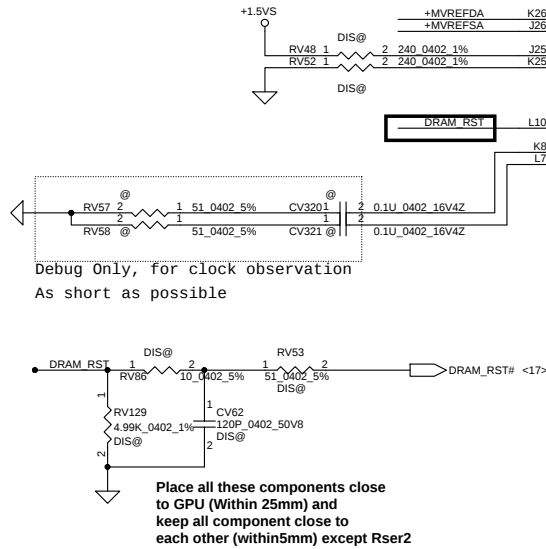
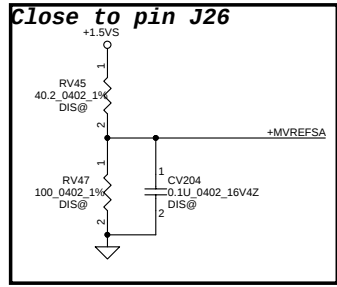
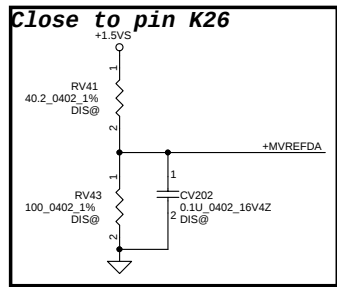
GDDR5/DDR3

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MAA0\_6/MAA\_6  
MAA0\_7/MAA\_7  
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MAA1\_2/MAA\_2  
MAA1\_3/MAA\_3  
MAA1\_4/MAA\_4  
MAA1\_5/MAA\_5  
MAA1\_6/MAA\_6  
MAA1\_7/MAA\_7  
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WCKA0B\_0/DQMA0B\_0  
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WCKA0B\_2/DQMA0B\_2  
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WCKA1B\_0/DQMA1B\_0  
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WCKA1B\_1/DQMA1B\_1  
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EDCA0\_1/QSA0\_1  
EDCA0\_2/QSA0\_2  
EDCA0\_3/QSA0\_3  
EDCA1\_0/QSA1\_0  
EDCA1\_1/QSA1\_1  
EDCA1\_2/QSA1\_2  
EDCA1\_3/QSA1\_3  
DDBIA0\_0/QSA0\_0B  
DDBIA0\_1/QSA0\_1B  
DDBIA0\_2/QSA0\_2B  
DDBIA0\_3/QSA0\_3B  
DDBIA1\_0/QSA1\_0B  
DDBIA1\_1/QSA1\_1B  
DDBIA1\_2/QSA1\_2B  
DDBIA1\_3/QSA1\_3B  
ADBIA0/ODTA0  
ADBIA1/ODTA1  
CLKA0  
CLKA0B  
CLKA1  
CLKA1B  
RASA0B  
RASA1B  
CASA0B  
CASA1B  
CSA0B\_0  
CSA0B\_1  
CSA1B\_0  
CSA1B\_1  
CKEA0  
CKEA1  
WEA0B  
WEA1B

K17 MAA0  
J20 MAA1  
H23 MAA2  
G23 MAA3  
G24 MAA4  
H24 MAA5  
J19 MAA6  
K19 MAA7  
J14 MAA8  
K14 MAA9  
J11 MAA10  
J13 MAA11  
H11 MAA12  
G11 A\_BA2  
J16 A\_BA0  
L15 A\_BA1  
E32 DQMA#0  
E30 DQMA#1  
A21 DQMA#2  
C21 DQMA#3  
E13 DQMA#4  
D12 DQMA#5  
E3 DQMA#6  
F4 DQMA#7  
H28 QSA0  
C27 QSA1  
A23 QSA2  
E19 QSA3  
E15 QSA4  
D10 QSA5  
D6 QSA6  
G5 QSA7  
H27 QSA#0  
A27 QSA#1  
C23 QSA#2  
C19 QSA#3  
C15 QSA#4  
E9 QSA#5  
C5 QSA#6  
H4 QSA#7  
L18  
K16  
H26  
H25  
G9  
H9  
G22  
G17  
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G14

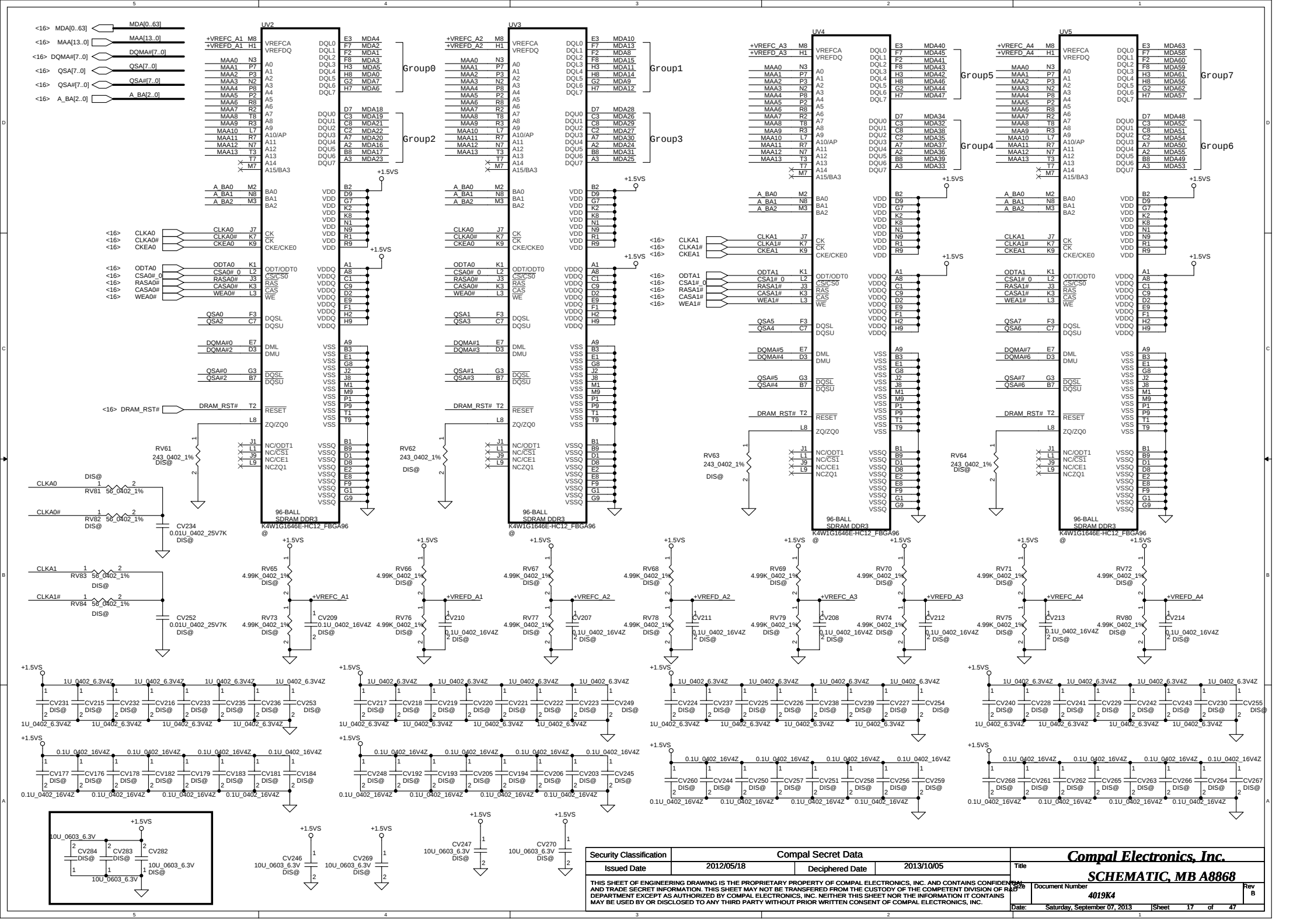
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QSA[7..0] QSA[7..0] <17>  
QSA#[7..0] QSA#[7..0] <17>

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ODTA1 <17>  
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CLKA0# <17>  
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CLKA1# <17>  
RASA0# <17>  
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CASA0# <17>  
CASA1# <17>  
CSA0#\_0 <17>  
CSA1#\_0 <17>  
CKEA0 <17>  
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WEA0# <17>  
WEA1# <17>  
MAA13 <17>

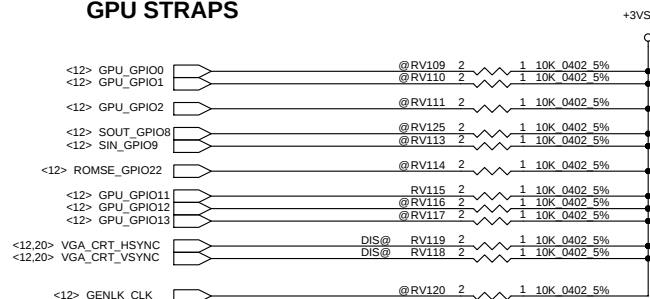


Place all these components close to GPU (Within 25mm) and keep all component close to each other (within5mm) except Rser2

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | 4019K4                             | B              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date: Saturday, September 07, 2013 | Sheet 16 of 47 |

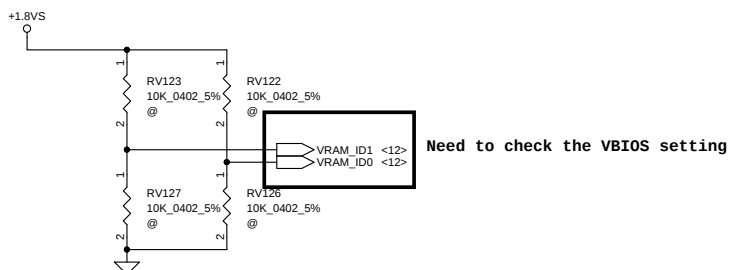
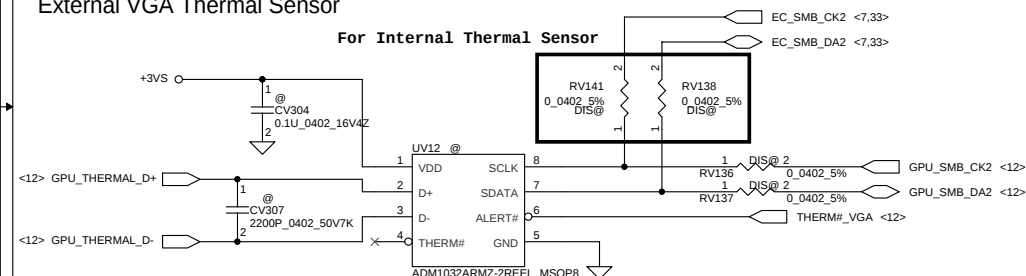


## GPU STRAPS



| GPU by the system BIOS       |             | GPU by VBIOS                 |
|------------------------------|-------------|------------------------------|
| GPIO22 = 0 (BIOS_ROM_EN = 0) |             | GPIO22 = 1 (BIOS_ROM_EN = 1) |
| GPIO[13:11]                  | MEMORY SIZE | GPIO[13:11]                  |
| 0 0 0                        | 128MB       | 1 0 0<br>(M25P05A)           |
| 0 0 1                        | 256MB       |                              |
| 0 1 0                        | 64MB        |                              |

### External VGA Thermal Sensor



## CONFIGURATION STRAPS

**ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOS ARE USED, THEY MUST NOT CONFLICT DURING RESET**

| Straps Name      | Pin Name       | Net Name                               | DESCRIPTION OF DEFAULT SETTINGS                                                                                                                                                                     | RECOMMENDED SETTINGS                                    |
|------------------|----------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| TX_PWRS_ENB      | GPIO0          | GPU_GPIO0                              | Transmitter Power Savings Enable<br>0: 50% Tx output swing<br>1: Full Tx output swing                                                                                                               | 0                                                       |
| TX_DEEMPH_EN     | GPIO1          | GPU_GPIO1                              | PCI Express Transmitter De-emphasis Enable<br>0: Tx de-emphasis disabled<br>1: Tx de-emphasis enabled                                                                                               | 0                                                       |
| BIF_GEN2_EN_A    | GPIO2          | GPU_GPIO2                              | PCIE GNE2 ENABLED<br>0 = Advertises the PCIe device as 2.5 GT/s capable at power-on<br>1 = Advertises the PCIe device as 5.0 GT/s capable at power-on.                                              | 0<br>5.0 GT/s capability will be controlled by software |
| RESERVED         | GPIO_8_ROMSO   | SOUT_GPIO8                             | RESERVED                                                                                                                                                                                            | 0                                                       |
| RESERVED         | GPIO_21_BB_EN  | N.C                                    | RESERVED                                                                                                                                                                                            | 0 (Internal pulldown)                                   |
| VGA_DIS          | GPIO_9_ROMSI   | SIN_GPIO9                              | VGA Controller<br>0: VGA Controller capacity enabled<br>1: The device will not be recognized as the system's VGA controller                                                                         | 0 (Enable)                                              |
| BIOS_ROM_EN      | GPIO_22_ROMCSB | ROMSE_GPIO22                           | Enable external BIOS ROM device<br>0 - Disable external BIOS ROM device<br>1 - Enable external BIOS ROM device                                                                                      | 0                                                       |
| CONFIG(2:0)      | GPIO[13:11]    | GPU_GPIO11<br>GPU_GPIO12<br>GPU_GPIO13 | SERIAL_ROM_TYPE_OR_MEMORY_APERTURE_SIZE_SELECT<br>a) If BIOS_ROM_EN = 1, then Config[2:0] defines the ROM type<br>b) If BIOS_ROM_EN = 0, then Config[2:0] defines the primary memory aperture size. | 0 0 1 (256M)                                            |
|                  |                |                                        |                                                                                                                                                                                                     |                                                         |
| RESERVED         | GENLK_CLK      | GENLK_CLK                              |                                                                                                                                                                                                     | 0                                                       |
| AUD[1]<br>AUD[0] | HSYNC<br>VSYNC | VGA_CRT_HSYNC<br>VGA_CRT_VSYNC         | AUD[1:0]:<br>00 - No audio function;<br>01 - Audio for DisplayPort only;<br>10 - Audio for DisplayPort and HDMI if dongle is detected;<br>11 - Audio for both DisplayPort and HDMI.                 | 0 0                                                     |

| STRAPS       | PIN              | GPU        | VRAM size        | Vendor Part Number# | Compal Part Number# | VRAM_ID 1,0 |  |
|--------------|------------------|------------|------------------|---------------------|---------------------|-------------|--|
| VRAM_ID[1:0] | DVDDATA<br>(1,0) | Seymour-S3 | 512M 64Mx16 (x4) | SAM K4W1G1646G-BC11 | SA00004GS00         | 1 0         |  |
|              |                  |            | 1G 128Mx16 (x4)  | SAM K4W2G1646C-HC11 | SA000047Q00         | 1 1         |  |
|              |                  |            |                  |                     |                     |             |  |
|              |                  |            |                  |                     |                     |             |  |
|              |                  |            |                  |                     |                     |             |  |
|              |                  |            |                  |                     |                     |             |  |
|              |                  |            |                  |                     |                     |             |  |
|              |                  |            |                  |                     |                     |             |  |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                                 |                              |       |          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Doc No                          | Document Number              | Rev   |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Custom                          | 4019K4                       | B     |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                           | Saturday, September 07, 2013 | Sheet | 18 of 47 |

|                   |                                                                                   |                                    |                                                                                            |
|-------------------|-----------------------------------------------------------------------------------|------------------------------------|--------------------------------------------------------------------------------------------|
| <7> UMA_TXOUT0+   |  | 1 <u>UMA</u> @ 2<br>R309 0 0402 5% | LCD TXOUT0+                                                                                |
| <7> UMA_TXOUT0-   |  | 1 <u>UMA</u> @ 2<br>R289 0 0402 5% | LCD TXOUT0-                                                                                |
| <7> UMA_TXOUT1+   |  | 1 <u>UMA</u> @ 2<br>R293 0 0402 5% | LCD TXOUT1+                                                                                |
| <7> UMA_TXOUT1-   |  | 1 <u>UMA</u> @ 2<br>R291 0 0402 5% | LCD TXOUT1-                                                                                |
| <7> UMA_TXOUT2+   |  | 1 <u>UMA</u> @ 2<br>R305 0 0402 5% | LCD TXOUT2+                                                                                |
| <7> UMA_TXOUT2-   |  | 1 <u>UMA</u> @ 2<br>R287 0 0402 5% | LCD TXOUT2-                                                                                |
| <7> UMA_TXCLK+    |  | 1 <u>UMA</u> @ 2<br>R304 0 0402 5% | LCD TXCLK+                                                                                 |
| <7> UMA_TXCLK-    |  | 1 <u>UMA</u> @ 2<br>R303 0 0402 5% | LCD TXCLK-                                                                                 |
| <7> UMA_EDID_CLK  |  | 1 <u>UMA</u> @ 2<br>R308 0 0402 5% | LCD EDID_CLK                                                                               |
| <7> UMA_EDID_DATA |  | 1 <u>UMA</u> @ 2<br>R307 0 0402 5% | LCD EDID_DATA                                                                              |
| <7> UMA_ENVDD     |  | 1 <u>UMA</u> @ 2<br>R358 0 0402 5% | LCD ENVDD                                                                                  |
| <7> UMA_ENBKL     |  | 1 <u>UMA</u> @ 2<br>R359 0 0402 5% | EC ENBKL  |

|      |               |                                                                                   |      |     |           |               |
|------|---------------|-----------------------------------------------------------------------------------|------|-----|-----------|---------------|
| <13> | VGA_TXOUT0+   |  | 1    | D50 | 2         | LCD_TXOUT0+   |
|      |               |                                                                                   | R503 | 0   | 0.0402_5% |               |
| <13> | VGA_TXOUT0-   |  | 1    | D50 | 2         | LCD_TXOUT0-   |
|      |               |                                                                                   | R263 | 0   | 0.0402_5% |               |
| <13> | VGA_TXOUT1+   |  | 1    | D50 | 2         | LCD_TXOUT1+   |
|      |               |                                                                                   | R265 | 0   | 0.0402_5% |               |
| <13> | VGA_TXOUT1-   |  | 1    | D50 | 2         | LCD_TXOUT1-   |
|      |               |                                                                                   | R264 | 0   | 0.0402_5% |               |
| <13> | VGA_TXOUT2+   |  | 1    | D50 | 2         | LCD_TXOUT2+   |
|      |               |                                                                                   | R268 | 0   | 0.0402_5% |               |
| <13> | VGA_TXOUT2-   |  | 1    | D50 | 2         | LCD_TXOUT2-   |
|      |               |                                                                                   | R504 | 0   | 0.0402_5% |               |
| <13> | VGA_TXCLK+    |  | 1    | D50 | 2         | LCD_TXCLK+    |
|      |               |                                                                                   | R297 | 0   | 0.0402_5% |               |
| <13> | VGA_TXCLK-    |  | 1    | D50 | 2         | LCD_TXCLK-    |
|      |               |                                                                                   | R296 | 0   | 0.0402_5% |               |
| <12> | VGA_EDID_CLK  |  | 1    | D50 | 2         | LCD_EDID_CLK  |
|      |               |                                                                                   | R300 | 0   | 0.0402_5% |               |
| <12> | VGA_EDID_DATA |  | 1    | D50 | 2         | LCD_EDID_DATA |
|      |               |                                                                                   | R299 | 0   | 0.0402_5% |               |
| <13> | VGA_ENVDD     |  | 1    | D50 | 2         | LCD_ENVDD     |
|      |               |                                                                                   | R350 | 0   | 0.0402_5% |               |
| <12> | VGA_ENBKL     |  | 1    | D50 | 2         | EC_ENBKL      |
|      |               |                                                                                   | R357 | 0   | 0.0402_5% |               |

|      |             |                                                                                   |                       |      |           |             |
|------|-------------|-----------------------------------------------------------------------------------|-----------------------|------|-----------|-------------|
| <13> | VGA_TZOUT0+ |  | 1 D <sub>16</sub> × 2 | R500 | 0.0402 5% | LCD_TZOUT0+ |
| <13> | VGA_TZOUT0- |  | 1 D <sub>16</sub> × 2 | R501 | 0.0402 5% | LCD_TZOUT0- |
| <13> | VGA_TZOUT1+ |  | 1 D <sub>16</sub> × 2 | R502 | 0.0402 5% | LCD_TZOUT1+ |
| <13> | VGA_TZOUT1- |  | 1 D <sub>16</sub> × 2 | R503 | 0.0402 5% | LCD_TZOUT1- |
| <13> | VGA_TZOUT2+ |  | 1 D <sub>16</sub> × 2 | R509 | 0.0402 5% | LCD_TZOUT2+ |
| <13> | VGA_TZOUT2- |  | 1 D <sub>16</sub> × 2 | R512 | 0.0402 5% | LCD_TZOUT2- |
| <13> | VGA_TZCLK+  |  | 1 D <sub>16</sub> × 2 | R513 | 0.0402 5% | LCD_TZCLK+  |
| <13> | VGA_TZCLK-  |  | 1 D <sub>16</sub> × 2 | R514 | 0.0402 5% | LCD_TZCLK-  |

2/23 Change R388 +3VS to +5VS

W=20mils

For RF

4/23 Change R388 +3VS\_LVDS\_CAM to +5VS\_LVDS\_CAM

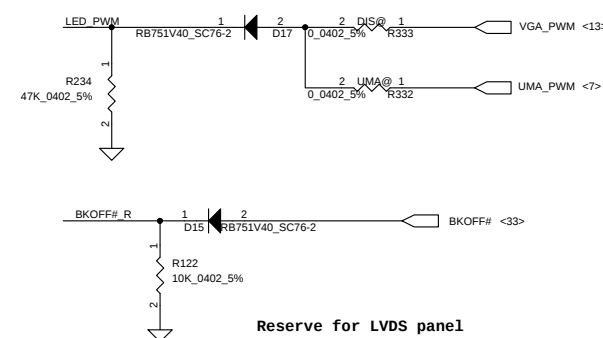
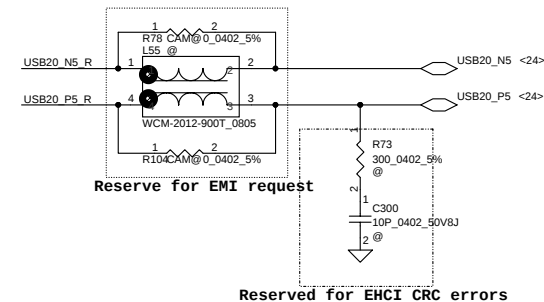
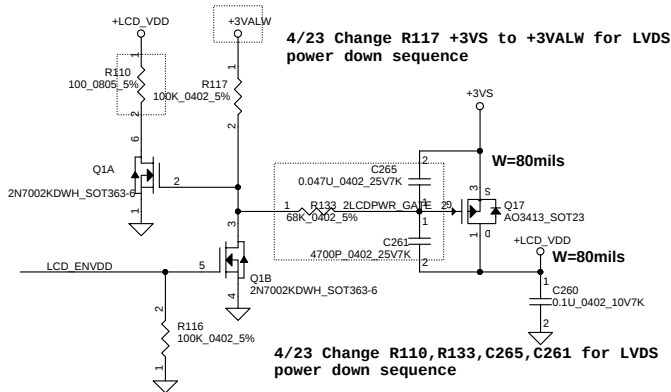
2A

For RF

1.5A

For RF

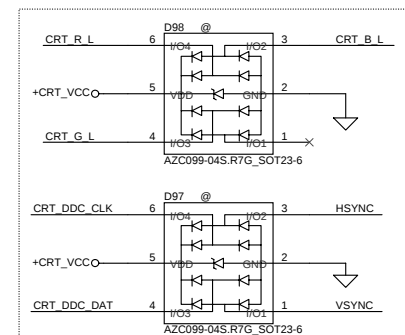
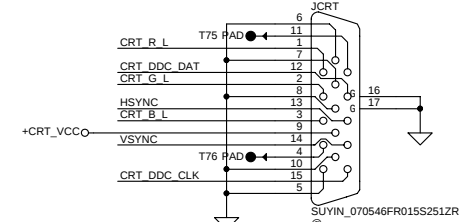
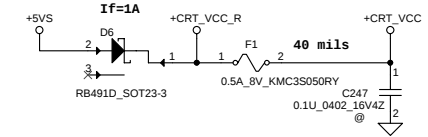
ACES\_87036-1001-CP



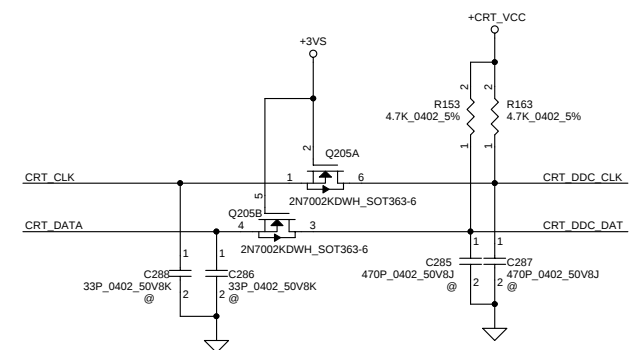
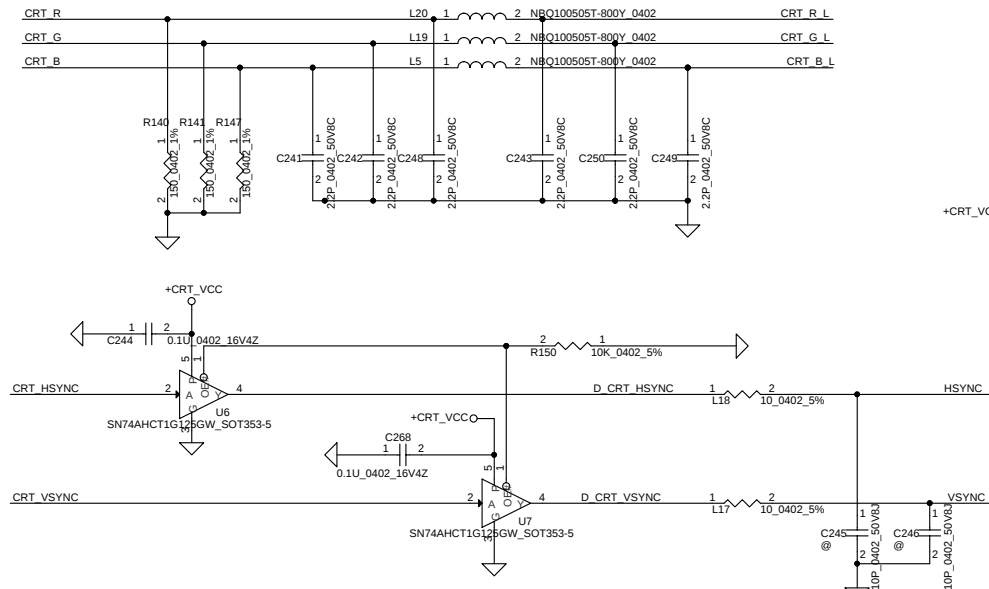
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                                    |                     |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|------------------------------------|---------------------|--|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc.           |                     |  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2012/05/18         | Deciphered Date | 2013/10/05 | Title                              | SCHEMATIC, MB A8868 |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | 4019K4                             |                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date: Saturday, September 07, 2013 | Sheet 19 of 47      |  |

# CRT CONNECTOR

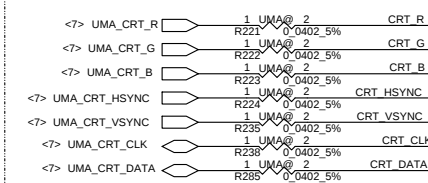
Remove D3-D5 on DVT



Reserve ESD for CRT connector on DVT

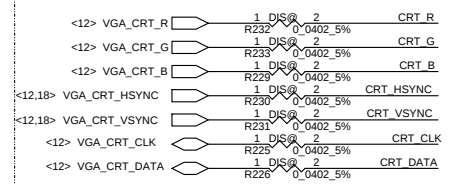


## UMA

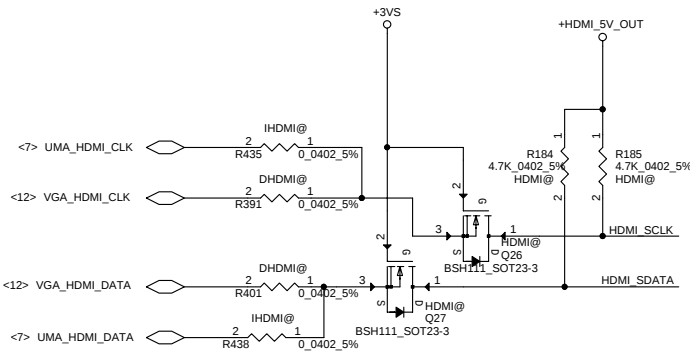


Close to CRT Connector

## DISCRETE



Close to CRT Connector

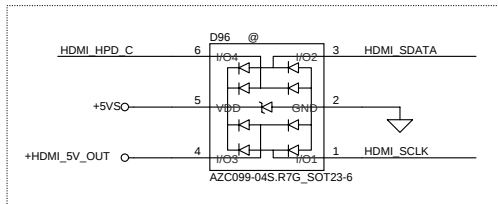


## DISCRETE

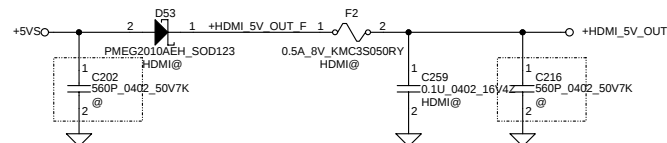
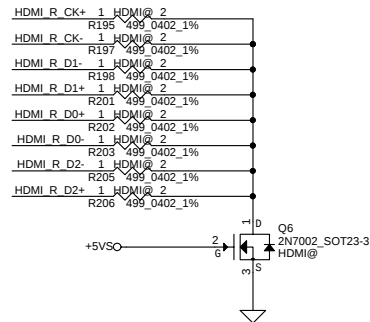
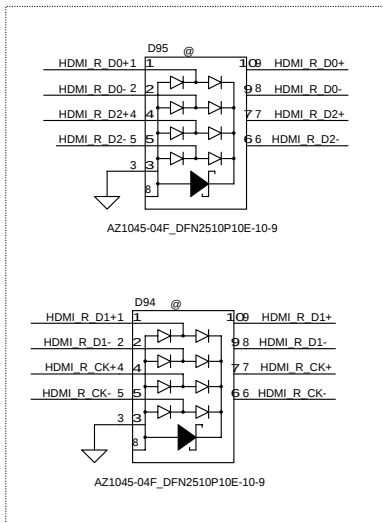
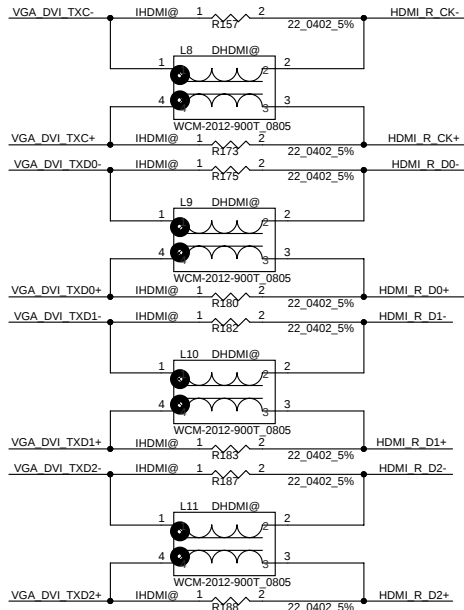
|                    |       |   |   |                        |               |
|--------------------|-------|---|---|------------------------|---------------|
| <12> VGA_HDMI_CLK+ | CV296 | 1 | 2 | 0.1U 0402 16V7K DHDMI@ | VGA DVI TXC+  |
| <12> VGA_HDMI_CLK- | CV293 | 1 | 2 | 0.1U 0402 16V7K DHDMI@ | VGA DVI TXC-  |
| <12> VGA_HDMI_TX0+ | CV294 | 1 | 2 | 0.1U 0402 16V7K DHDMI@ | VGA DVI TXD0+ |
| <12> VGA_HDMI_TX0- | CV297 | 1 | 2 | 0.1U 0402 16V7K DHDMI@ | VGA DVI TXD0- |
| <12> VGA_HDMI_TX1+ | CV299 | 1 | 2 | 0.1U 0402 16V7K DHDMI@ | VGA DVI TXD1+ |
| <12> VGA_HDMI_TX1- | CV298 | 1 | 2 | 0.1U 0402 16V7K DHDMI@ | VGA DVI TXD1- |
| <12> VGA_HDMI_TX2+ | CV295 | 1 | 2 | 0.1U 0402 16V7K DHDMI@ | VGA DVI TXD2+ |
| <12> VGA_HDMI_TX2- | CV300 | 1 | 2 | 0.1U 0402 16V7K DHDMI@ | VGA DVI TXD2- |

## UMA

|                   |      |   |   |                        |               |
|-------------------|------|---|---|------------------------|---------------|
| <7> UMA_HDMI_TXC+ | C838 | 1 | 2 | 0.1U 0402 16V7K IHDMI@ | VGA DVI TXC+  |
| <7> UMA_HDMI_TXC- | C837 | 1 | 2 | 0.1U 0402 16V7K IHDMI@ | VGA DVI TXC-  |
| <7> UMA_HDMI_TX0+ | C843 | 1 | 2 | 0.1U 0402 16V7K IHDMI@ | VGA DVI TXD0+ |
| <7> UMA_HDMI_TX0- | C844 | 1 | 2 | 0.1U 0402 16V7K IHDMI@ | VGA DVI TXD0- |
| <7> UMA_HDMI_TX1+ | C841 | 1 | 2 | 0.1U 0402 16V7K IHDMI@ | VGA DVI TXD1+ |
| <7> UMA_HDMI_TX1- | C842 | 1 | 2 | 0.1U 0402 16V7K IHDMI@ | VGA DVI TXD1- |
| <7> UMA_HDMI_TX2+ | C839 | 1 | 2 | 0.1U 0402 16V7K IHDMI@ | VGA DVI TXD2+ |
| <7> UMA_HDMI_TX2- | C840 | 1 | 2 | 0.1U 0402 16V7K IHDMI@ | VGA DVI TXD2- |

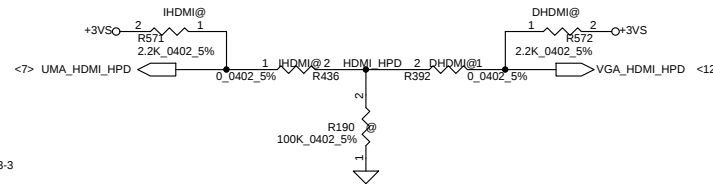
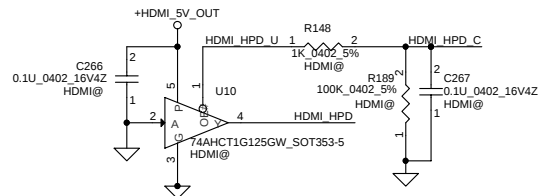
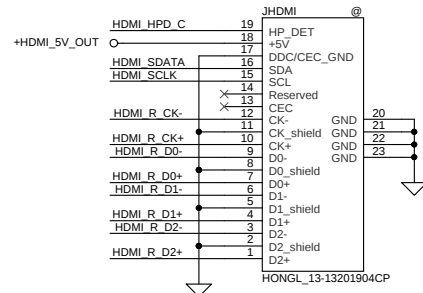


Reserve ESD for HDMI conn. on DVT

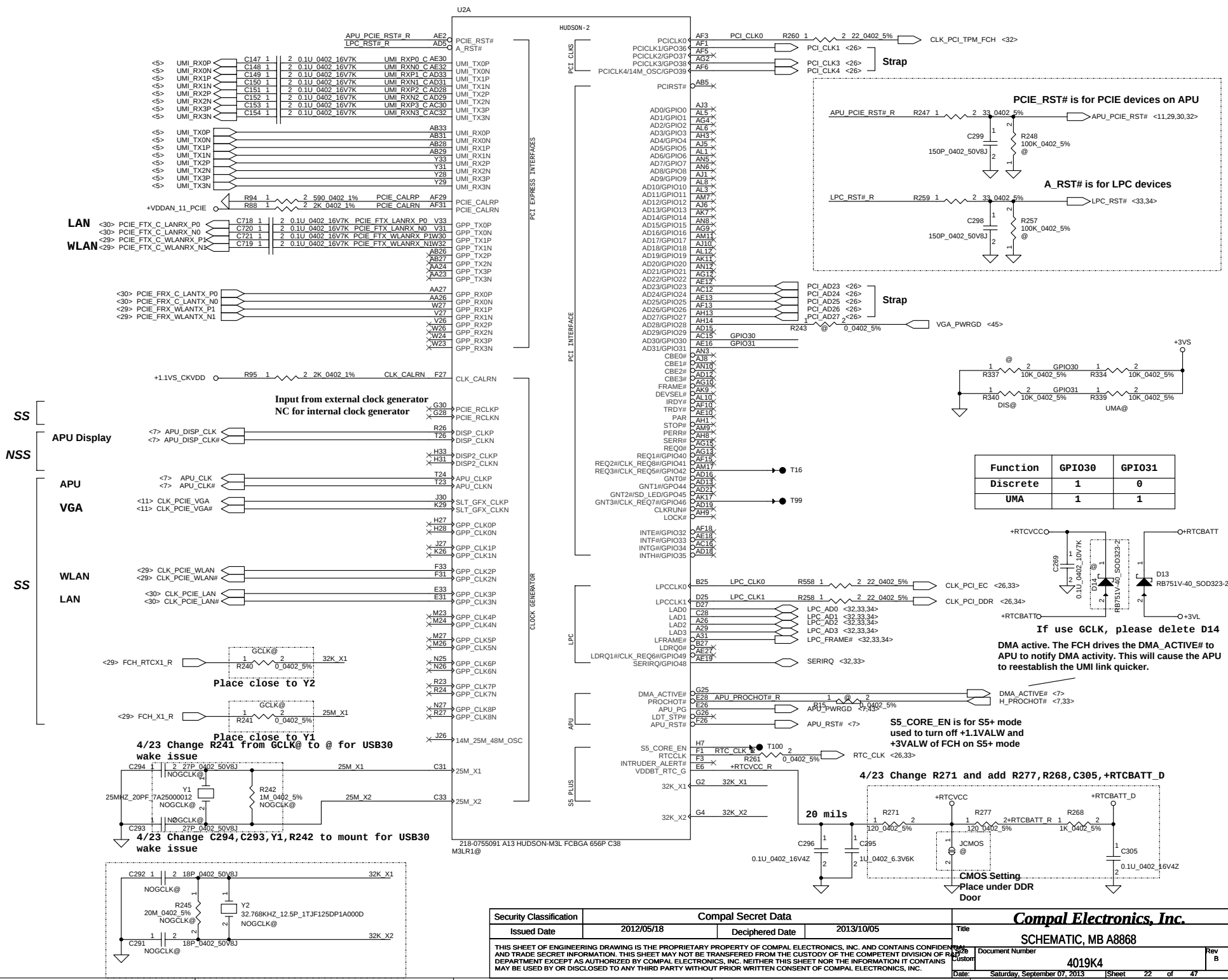


4/23 Add C202 and C216 for EMI request

## HDMI Connector



| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data           |                 | Title      |       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------|------------|-------|
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Custom                       | Document Number | 4019K4     | Rev B |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Saturday, September 07, 2013 | Sheet           | 21         | of 47 |



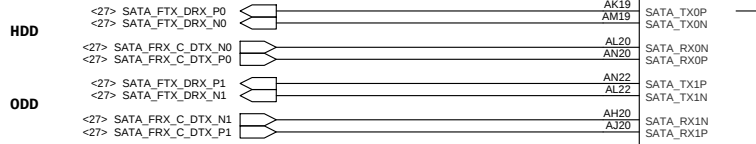
| Function | GPIO30 | GPIO31 |
|----------|--------|--------|
| Discrete | 1      | 0      |
| UMA      | 1      | 1      |

If use GCLK, please delete D14  
DMA active. The FCH drives the DMA\_ACTIVE# to APU to notify DMA activity. This will cause the APU to reestablish the UMI link quicker.

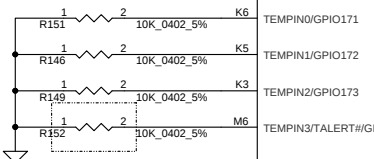
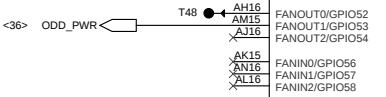
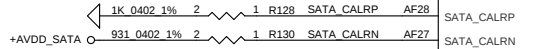
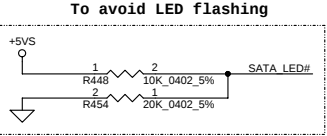
S5\_CORE\_EN is for S5+ mode  
used to turn off +1.1VALW and  
+3VALW of FCH on S5+ mode

4/23 Change R271 and add R277, R268, C305, +RTCBATT\_D

CMOS Setting  
Place under DDR  
Door



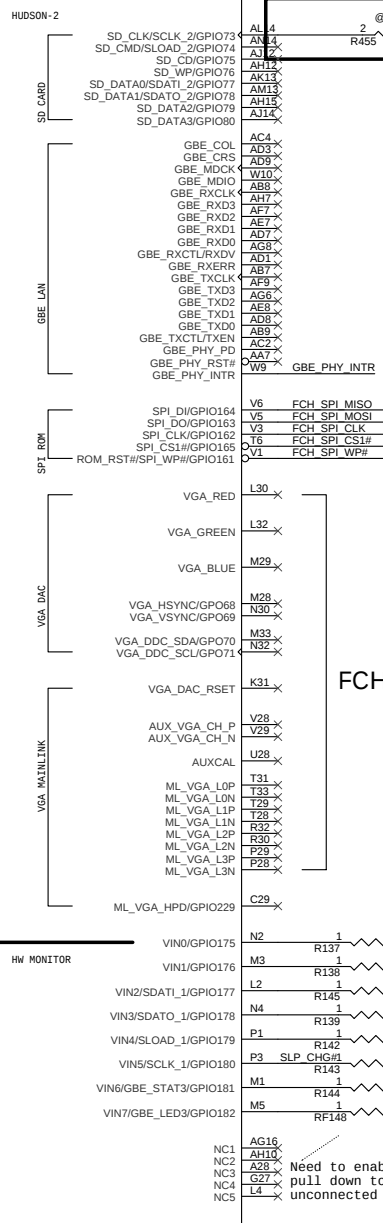
FCH-M3L NC pin



12/22 Follow the last Compal CRB board

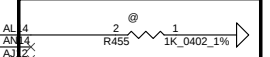
218-0755091 A13 HUDSON-M3L FCBGA 656P C38

M3LR1@

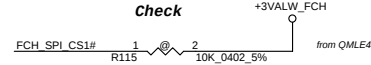


HDMI\_EN# (Internal 8.2K PU)

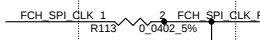
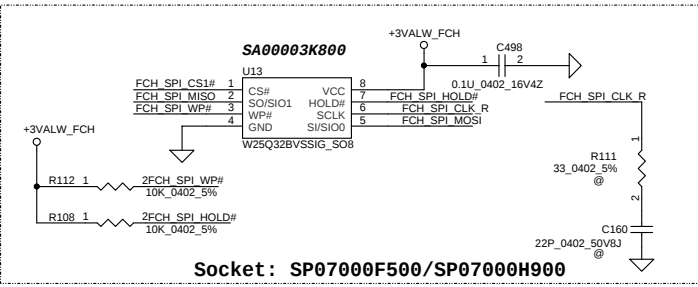
| HDMI_EN# | H            | L        |
|----------|--------------|----------|
| SKU      | Non-HDMI SKU | HDMI SKU |



If an SPI ROM is shared between FCH and the Embedded Controller, a 10-k pull-up resistor to +3.3V\_S5 is installed

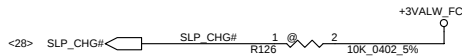
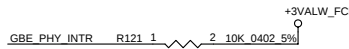


4MB SPI ROM & Non-shared ROM



5/17 Add R113 and reserve C161 for EMI request

FCH-M3L NC pin



| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc.           |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date: Saturday, September 07, 2013 | Sheet 23 of 47 |

# PCIE\_RST2 : Reset PCIE device on Hudson 3

U2D

HUDSON-2

ACPI / WAKE UP EVENTS

GP10

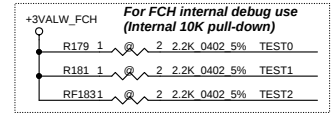
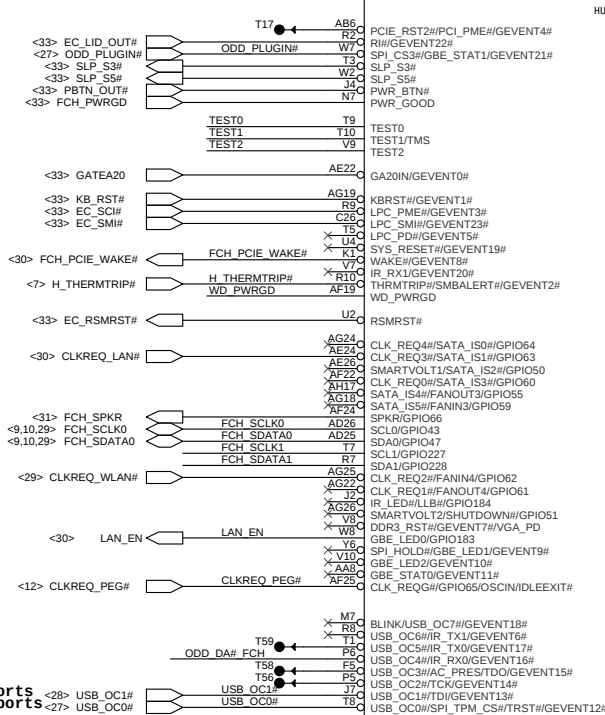
USB OC

HP AUDIO

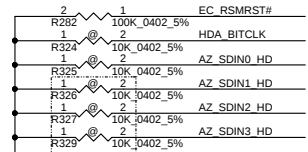
EMBEDDED CTRL

218-0755091 A13 HUDSON-M3L FCBGA 656P C38

M3LR1@

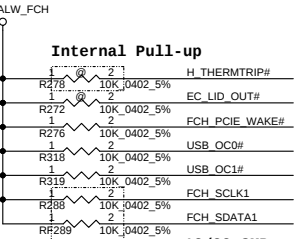


SM Bus 0-->S0 PWR domain==> SO-DIMM, WLAN  
SM Bus 1-->S5 PWR domain==> no use

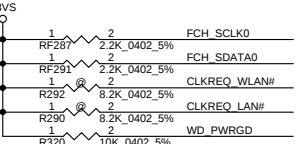


12/22 Reserve R326, R327, R329 but  
AMD have internal pull down

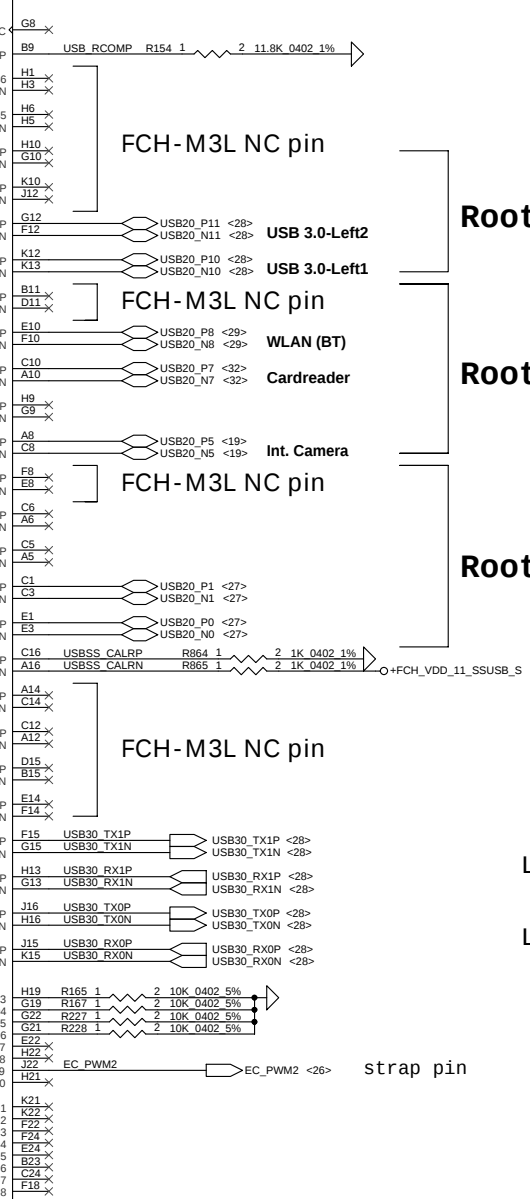
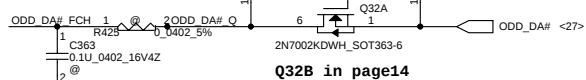
USB OC1# is for left USB3.0 ports  
USB OC0# is for right USB2.0 ports



12/22 SMBus Not Implemented use 10k pull up  
to +3VALW\_PCH



Place R425 and C363  
close to FCH for ESD



FCH-M3L NC pin

FCH-M3L NC pin

FCH-M3L NC pin

FCH-M3L NC pin

Root

Root

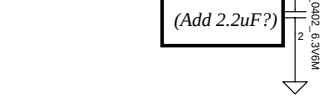
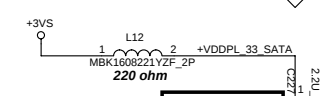
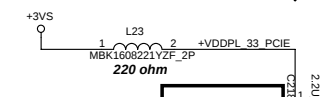
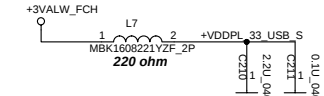
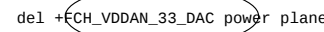
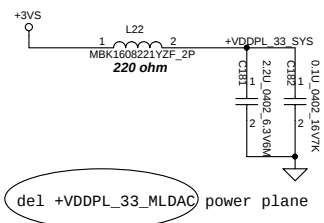
Root

LP2

LP1

strap pin

| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Title                              |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|------------------------------------|----------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2012/05/18 | Deciphered Date    | 2013/10/05 | Compal Electronics, Inc.           |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date: Saturday, September 07, 2013 | Sheet 24 of 47 |



demo board connect to GND

VDDPL\_33\_SSUSB\_S  
For Hudson3 USB3.0 only  
For Hudson2, connect to GND

LDO\_CAP: Internally generated 1.8V  
supply for the RGB outputs

demo board connect to GND

Check Caps

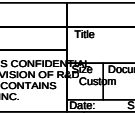
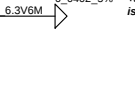
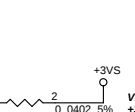
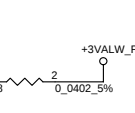
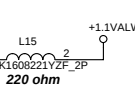
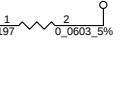
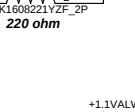
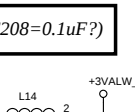
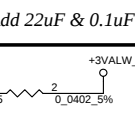
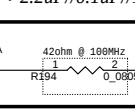
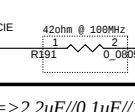
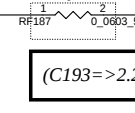
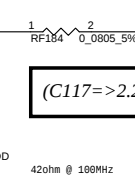
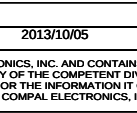
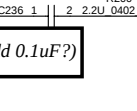
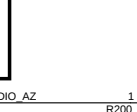
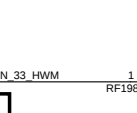
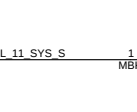
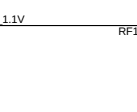
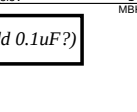
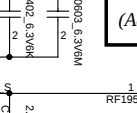
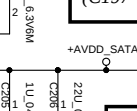
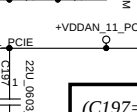
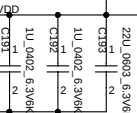
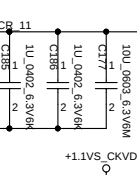
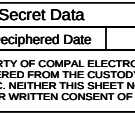
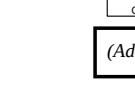
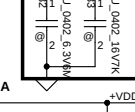
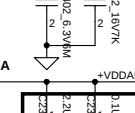
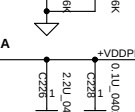
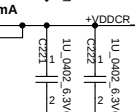
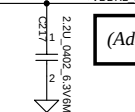
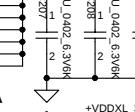
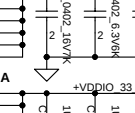
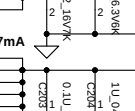
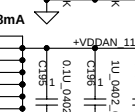
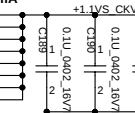
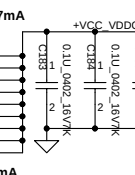
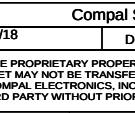
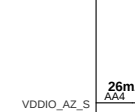
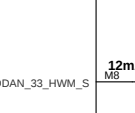
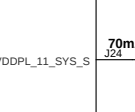
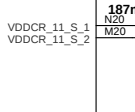
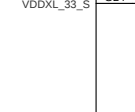
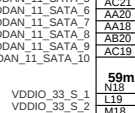
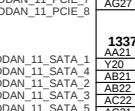
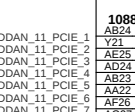
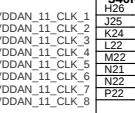
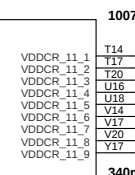
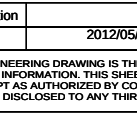
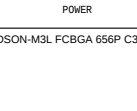
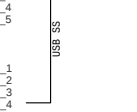
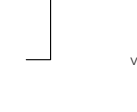
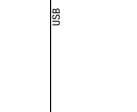
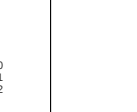
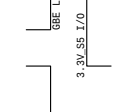
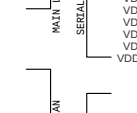
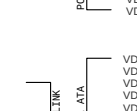
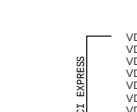
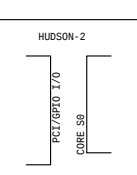
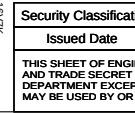
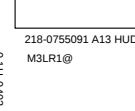
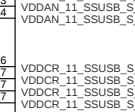
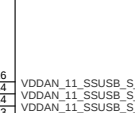
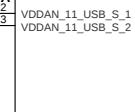
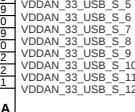
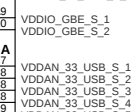
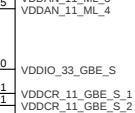
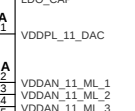
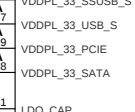
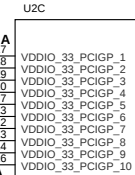
Add C234 follow AMD  
reccommendation 10/28

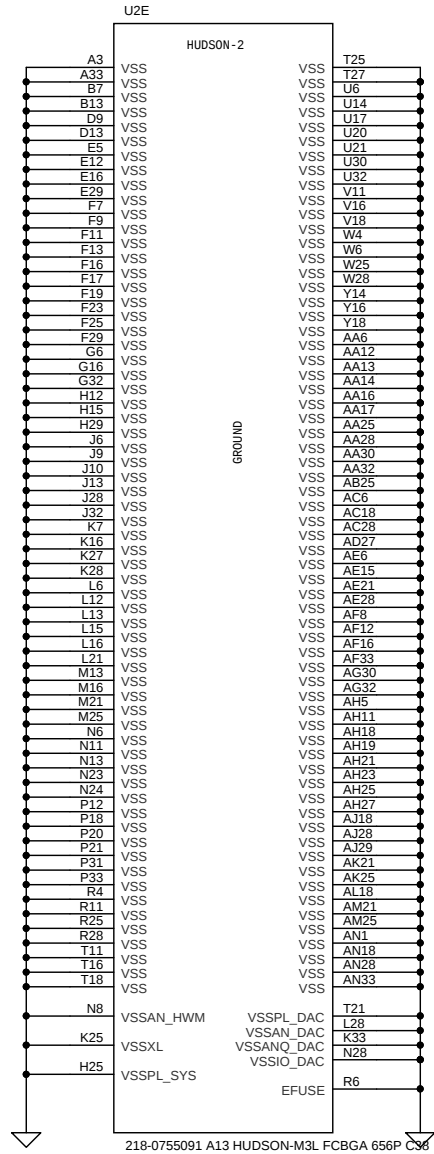
(C223:10uF?)

(Add 2.2uF?)

(Add 2.2uF?)

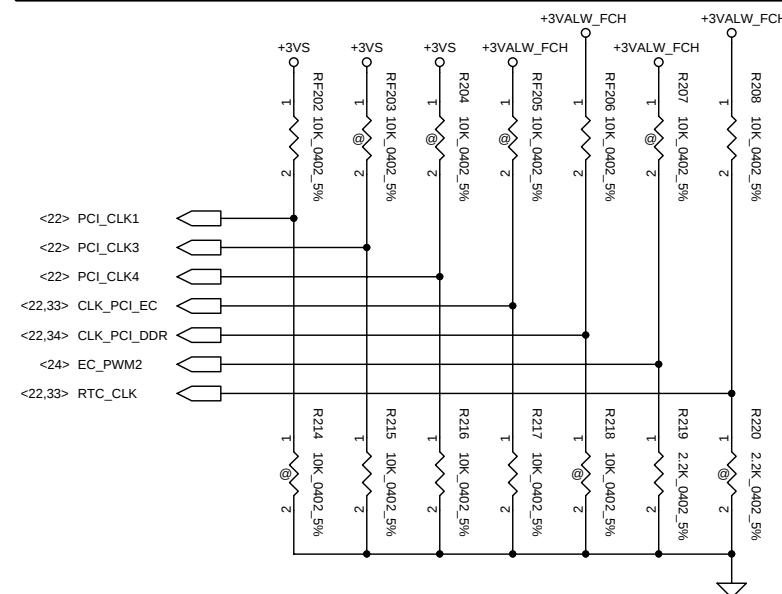
42 ohm/4A





## STRAP PINS

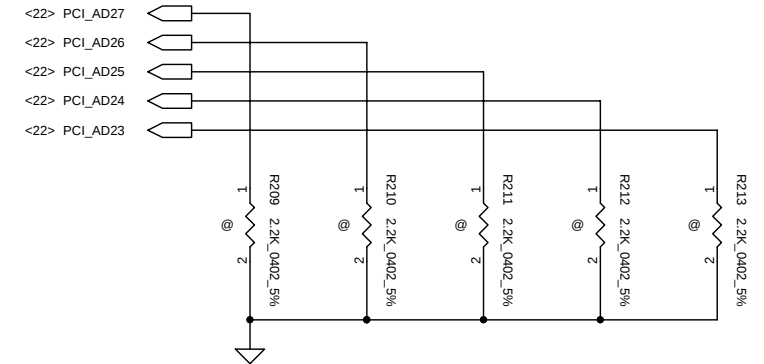
|           | PCI_CLK1                   | PCI_CLK3                      | PCI_CLK4                     | LPC_CLK0_EC            | LPC_CLK1                  | EC_PWM2            | RTC_CLK                          |
|-----------|----------------------------|-------------------------------|------------------------------|------------------------|---------------------------|--------------------|----------------------------------|
| PULL HIGH | ALLOW PCIE GEN2<br>DEFAULT | USE DEBUG STRAPS              | NON_FUSION CLOCK MODE        | EC ENABLED             | CLKGEN ENABLED<br>DEFAULT | LPC ROM            | S5 PLUS MODE DISABLED<br>DEFAULT |
| PULL LOW  | FORCE PCIE GEN1            | IGNORE DEBUG STRAP<br>DEFAULT | FUSION CLOCK MODE<br>DEFAULT | EC DISABLED<br>DEFAULT | CLKGEN DISABLE            | SPI ROM<br>DEFAULT | S5 PLUS MODE ENABLED             |



## DEBUG STRAPS

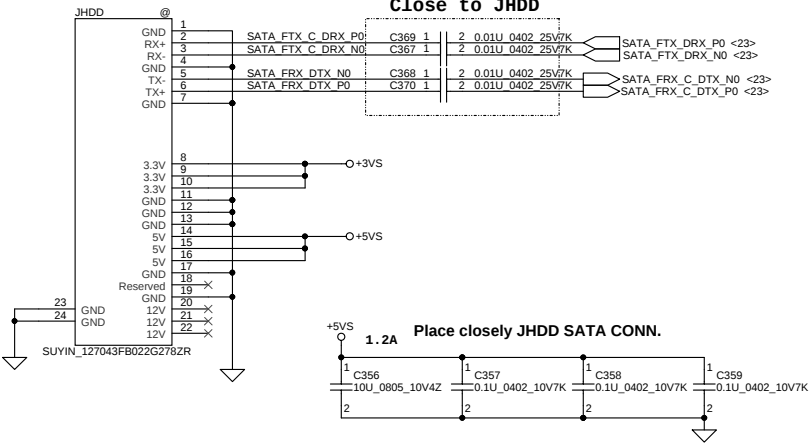
FCH HAS 15K INTERNAL PU FOR PCI\_AD[27:23]

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

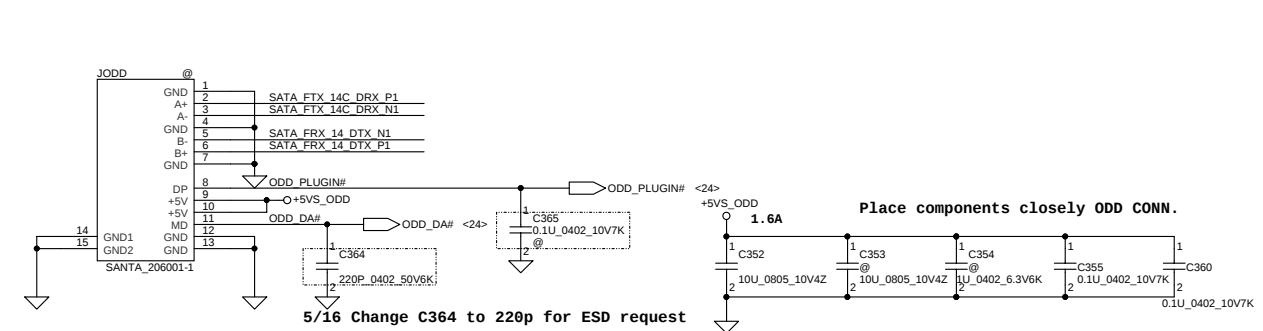


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                          |                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                              |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2012/05/18         | Deciphered Date | 2013/10/05 | Title                    | SCHEMATIC, MB A8868          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date:                    | Saturday, September 07, 2013 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Sheet                    | 26 of 47                     |

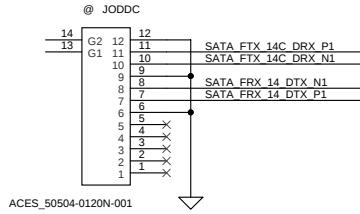
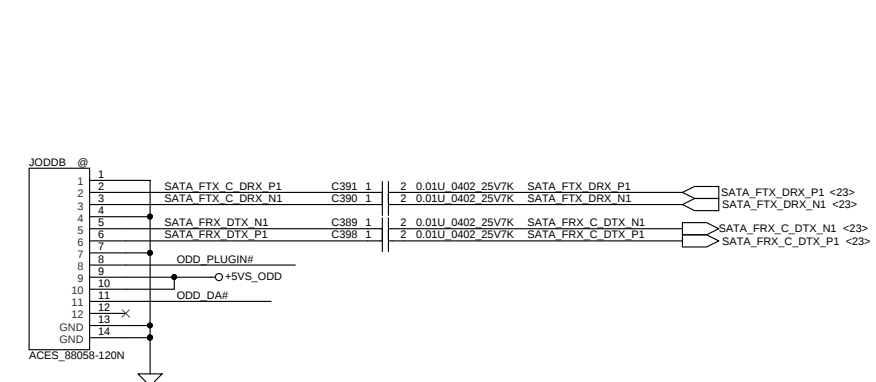
SATA HDD Conn.



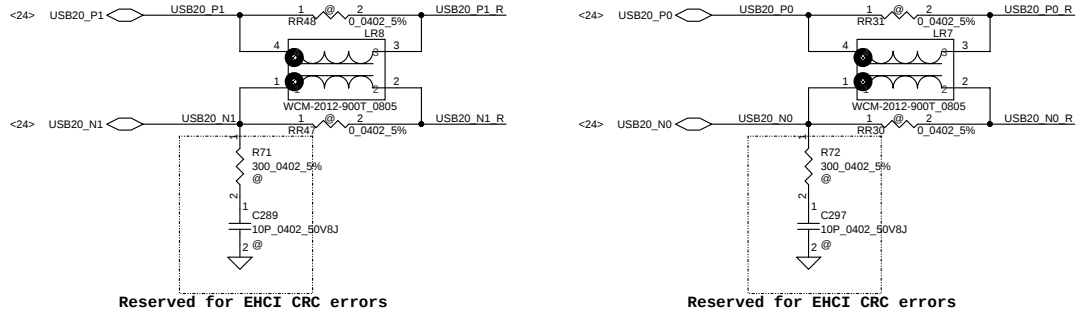
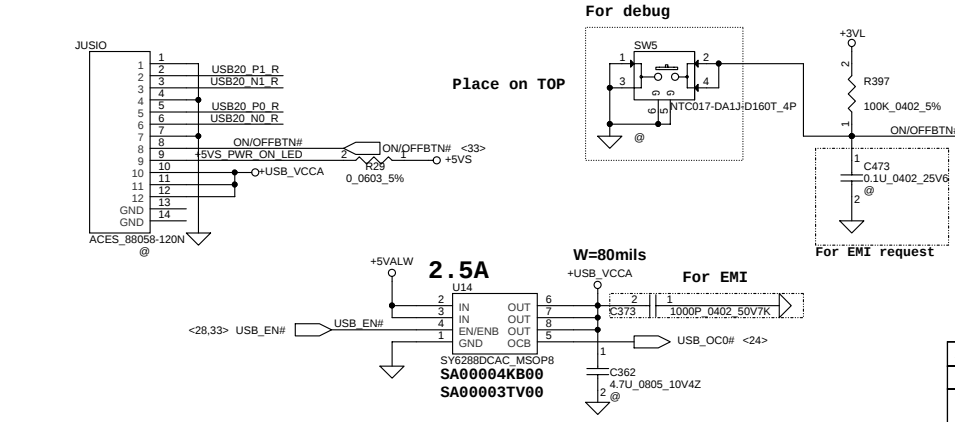
SATA ODD Conn (for 14")



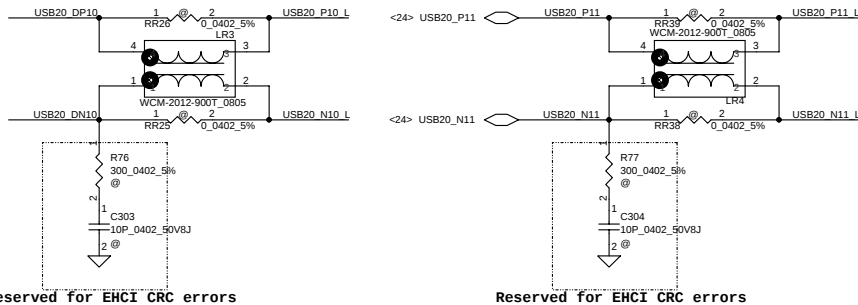
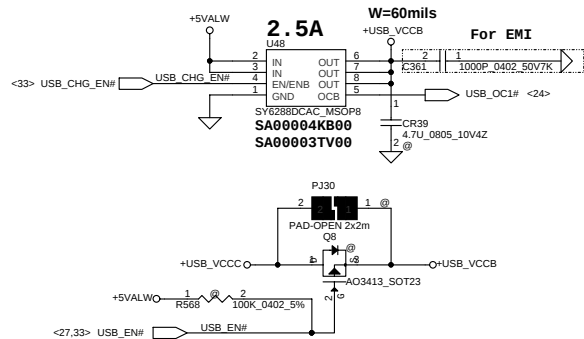
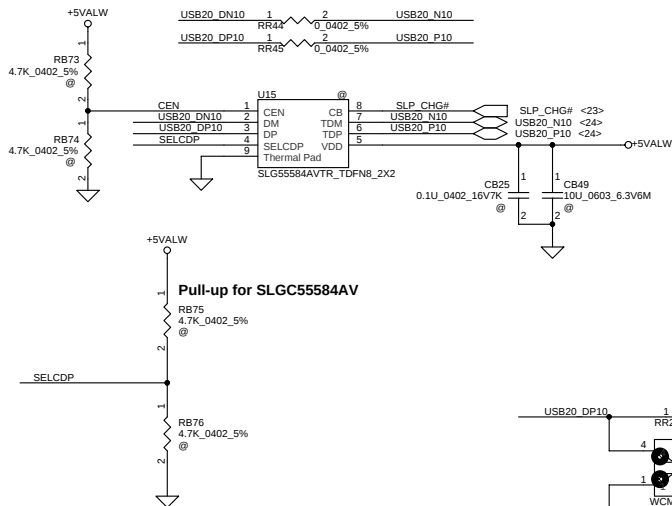
SATA ODD Conn (for 15")



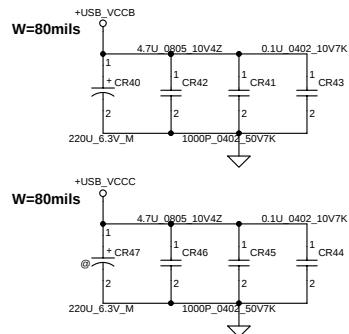
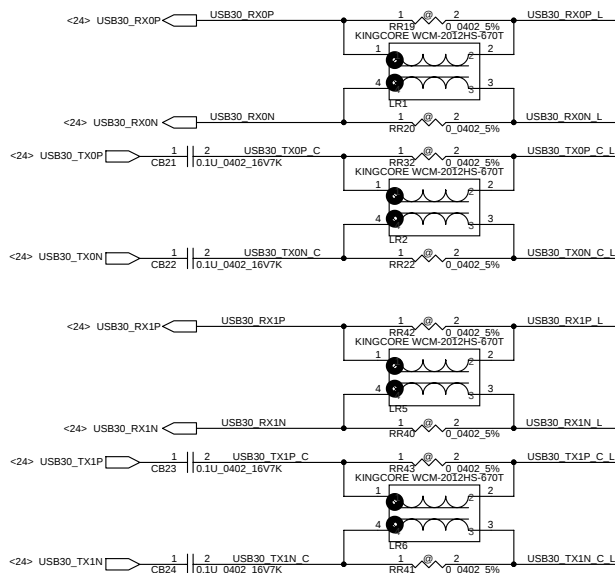
Power Button & RUSB connector



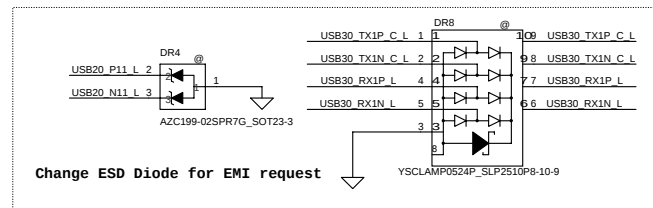
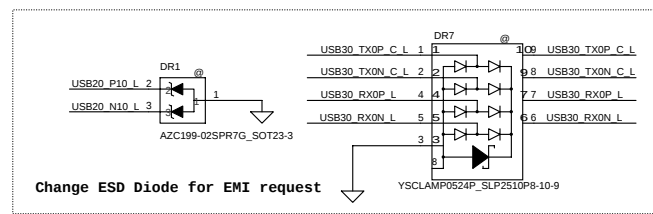
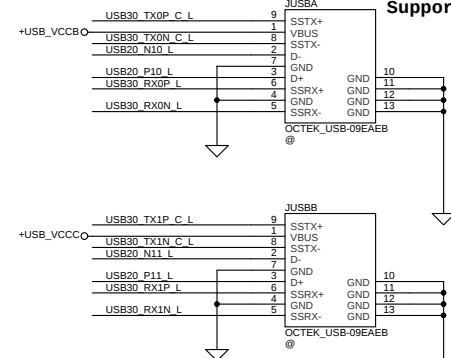
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                                    |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|------------------------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc.           |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2012/05/18         | Deciphered Date | 2013/10/05 | SCHEMATIC, MB A8868                |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | 4019K4                             |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date: Saturday, September 07, 2013 | Sheet 27 of 47 |



Reserved for EHCI CRC errors



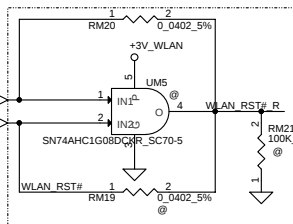
Support S/C



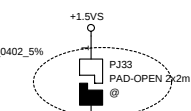
## Slot 1 Half PCIe Mini Card-WLAN

Add WLAN\_RST# on DVT

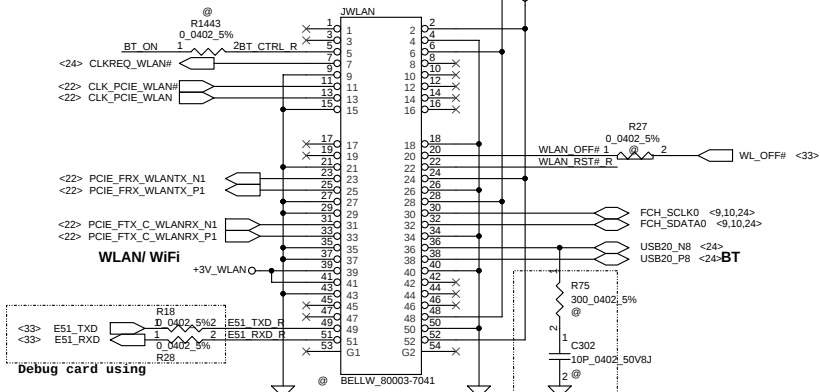
<11,22,30,32> APU\_PCIE\_RST#  
<33> WLAN\_RST#



4/23 Add RM20 and change UM5, RM21 to @

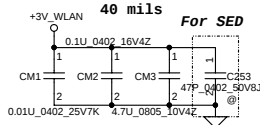


+1.5V\_WLAN  
+3V\_WLAN

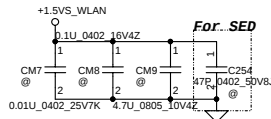


Change JWLAN symbol to SP07000TB00 on DVT

Reserved for EHCI CRC errors



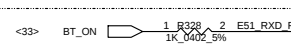
For SED



For... SED

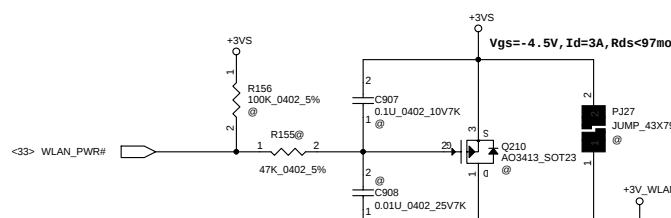
WLAN&BT Combo module circuits

|       | BT on module Enable | BT on module Disable |
|-------|---------------------|----------------------|
| BT_ON | H                   | L                    |



For isolate BT\_CTRL and Compal Debug Card.

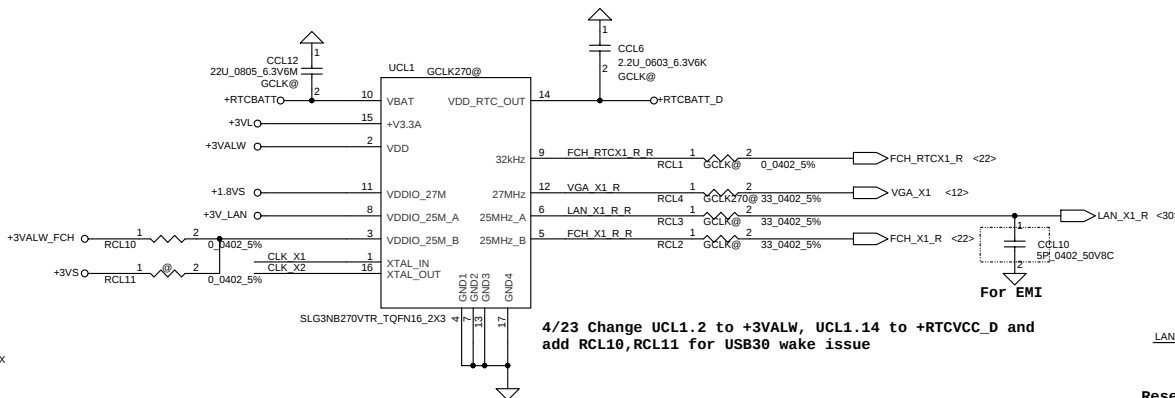
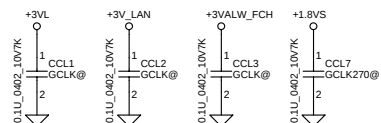
+3VALW TO +3V\_WLAN



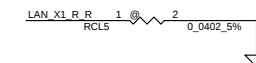
Add WLAN power circuit on DVT

4/23 Change R156, R155, C907, C908, Q210 to @

## Green Clock Generator

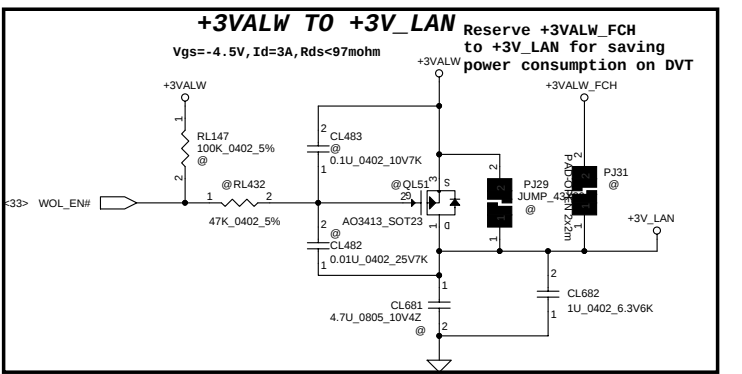
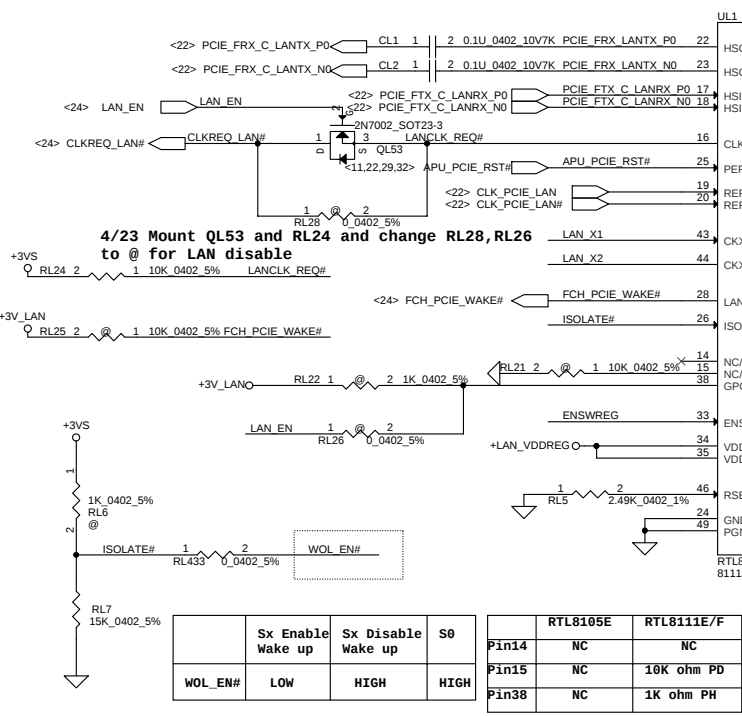


4/23 Change UCL1.2 to +3VALW, UCL1.14 to +RTCVCC\_D and add RCL10, RCL11 for USB30 wake issue



Reserved for Swing Level adjustment ( Close GCLK side )

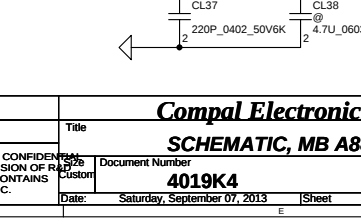
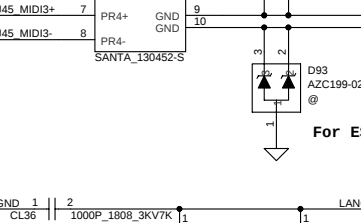
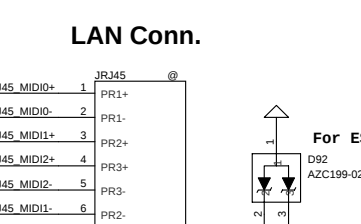
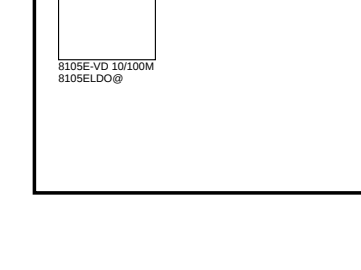
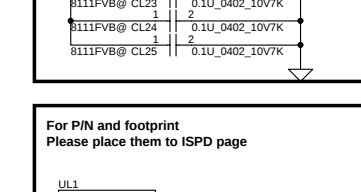
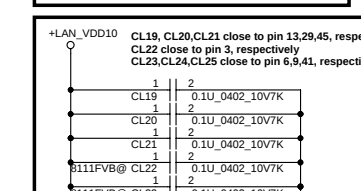
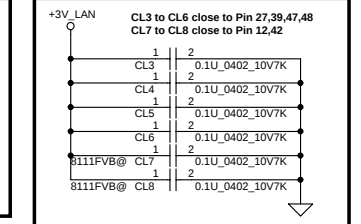
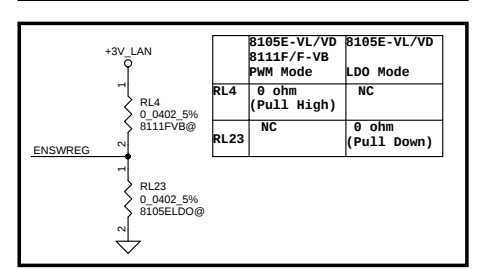
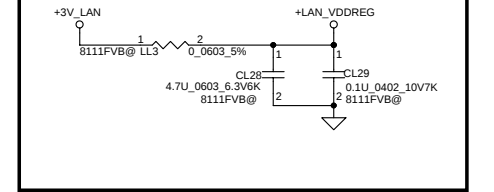
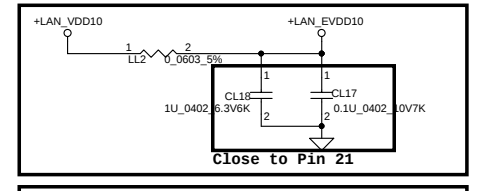
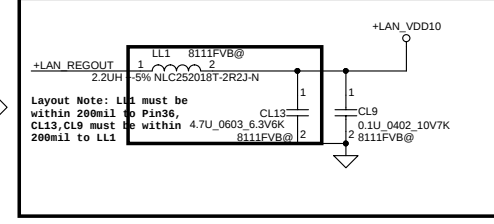
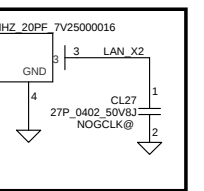
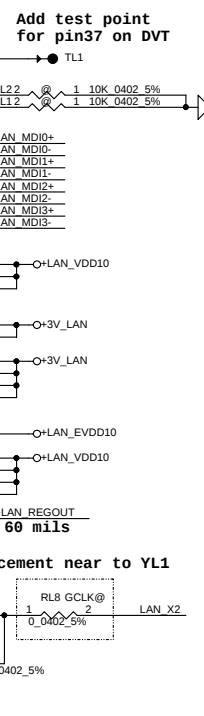
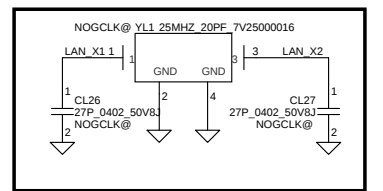
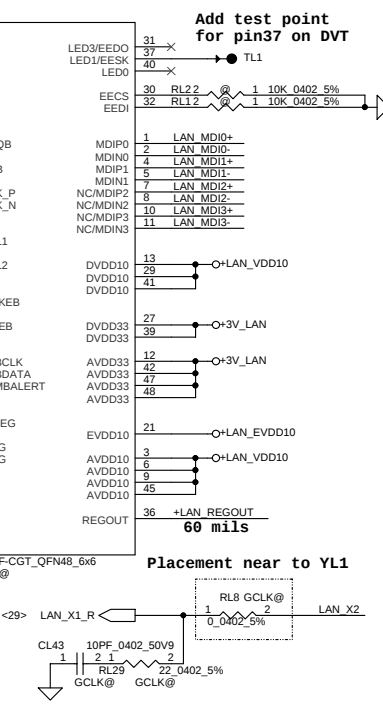
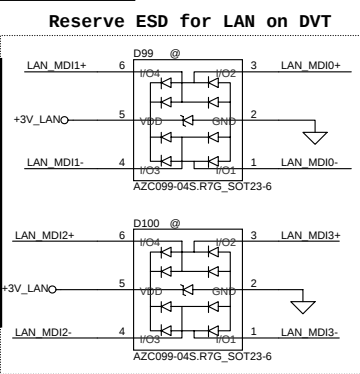
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                          |                              |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|------------------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                              |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date:                    | Saturday, September 07, 2013 | Sheet 29 of 47 |



**+3V\_LAN rising time (10%-90%) need > 1ms and <100ms.**

| LAN | WOL | LAN_EN S0 | Sx | ISOLATEB S0 | Sx |
|-----|-----|-----------|----|-------------|----|
| 0   | 0   | 0         | 0  | 1           | 1  |
| 0   | 1   | 0         | 0  | 1           | 1  |
| 1   | 0   | 1         | 1  | 1           | 1  |
| 1   | 1   | 1         | 1  | 1           | 0* |

**\* S3: after SUSP# assert low over 100ms  
S4/S5: after SYSON assert low over 100ms**

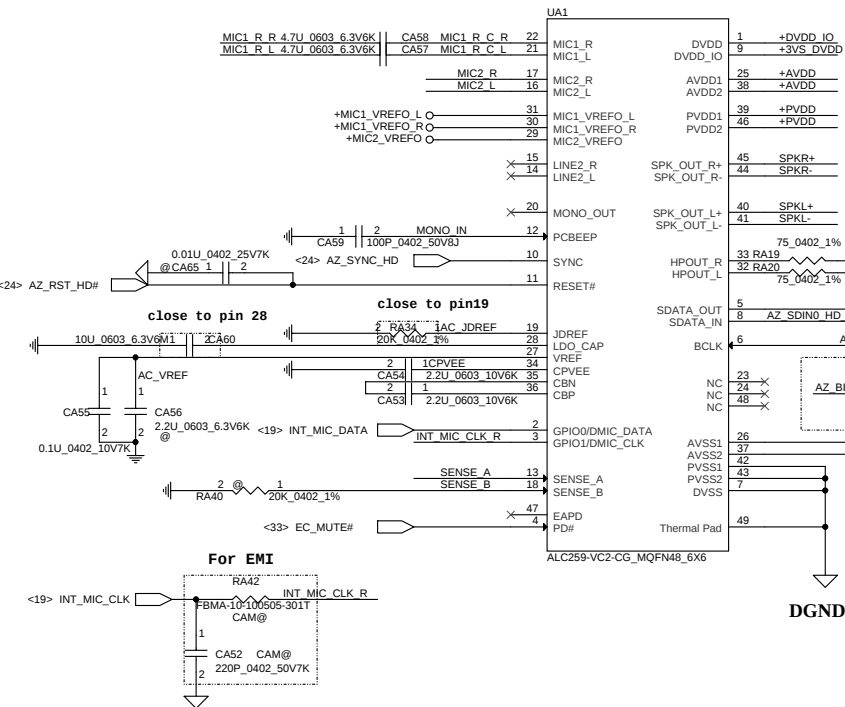


| Security Classification | Compal Secret Data |
|-------------------------|--------------------|
| Issued Date             | 2012/05/18         |
| Deciphered Date         | 2013/10/05         |

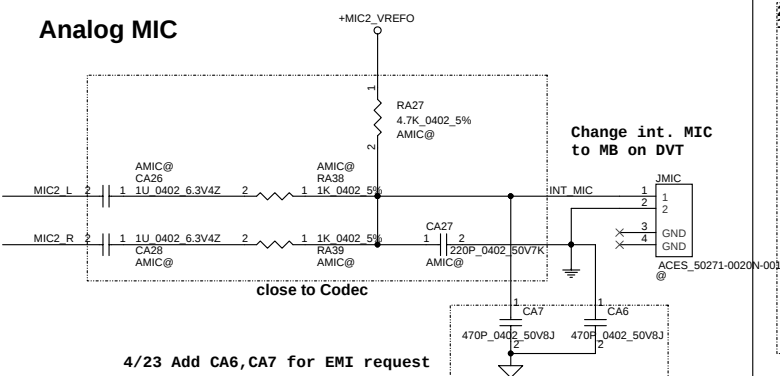
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| Title                    | Document Number              | Rev            |
|--------------------------|------------------------------|----------------|
| Compal Electronics, Inc. | 4019K4                       | B              |
| SCHMATIC, MB A8868       |                              |                |
| Date                     | Saturday, September 07, 2013 | Sheet 30 of 47 |

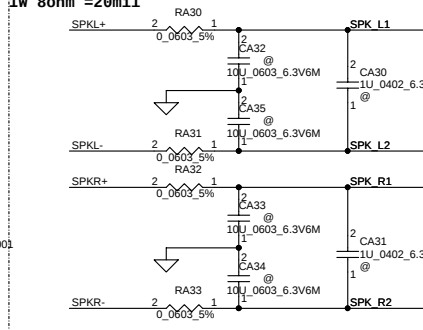
# 35mA for 3.3V level



## Analog MIC



## placement near Audio Codec



## EC Bleep

<33> EC\_BEEP#

## PCI Bleep

<24> FCH\_SPKR

EC MUTE#

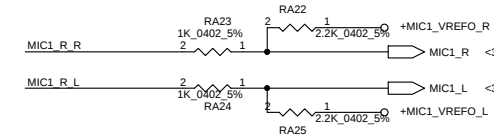
Internal AMP

High Enable

Low Disable

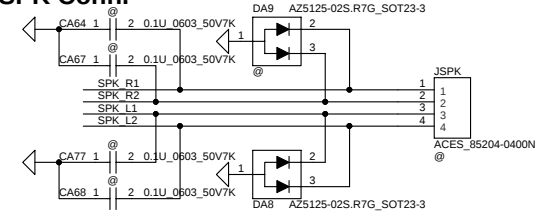
To solve noise issue

## Ext.MIC/LINE IN JACK



## SPK Conn.

4/23 Add CA64,CA67,CA68,CA77 for EMI request

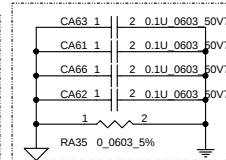


| Sense Pin | Impedance | Codec Signals       | Function      |
|-----------|-----------|---------------------|---------------|
| SENSE A   | 39.2K     | PORT-I (PIN 32, 33) | Headphone out |
|           | 20K       | PORT-B (PIN 21, 22) | Ext. MIC      |
|           | 10K       | PORT-C (PIN 23, 24) |               |
|           | 5.1K      | (PIN 48)            |               |
| SENSE B   | 39.2K     | PORT-E (PIN 14, 15) |               |
|           | 20K       | PORT-F (PIN 16, 17) | Analog MIC    |
|           | 10K       | PORT-H (PIN 20)     |               |

## place close to chip

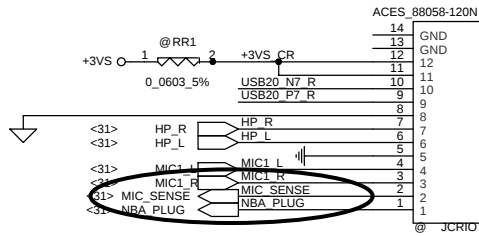
<32> MIC\_SENSE

<32> NBA\_PLUG

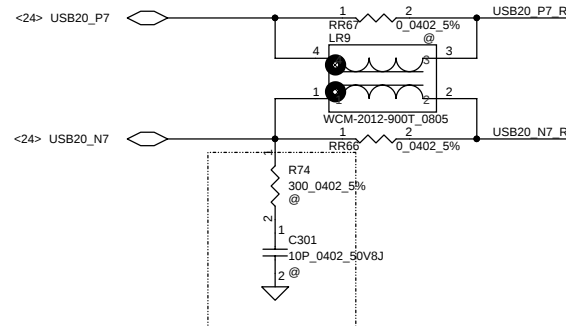


| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 | Title      |                 |
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| Date: Saturday, September 07, 2013                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                 |            | Sheet 31 of 47  |

## CardReader Conn.

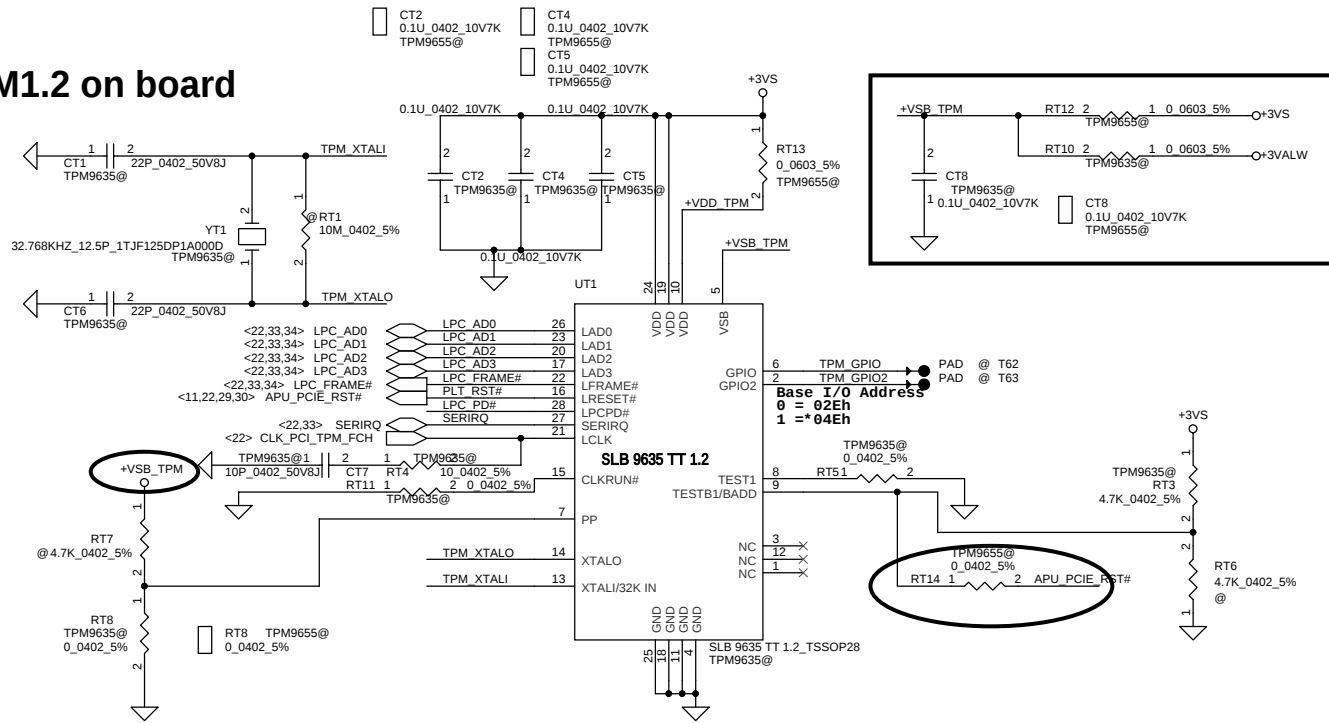


Update JCR10 pin definition on DVT



Reserved for EHCI CRC errors

## TPM1.2 on board



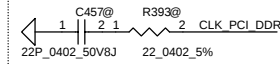
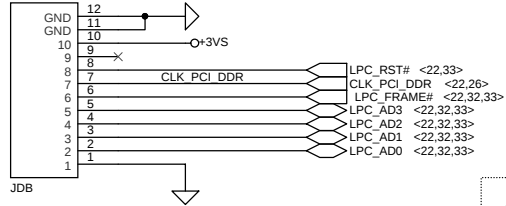
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                              |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 32 of 47                     |

|                                 |                              |       |          |
|---------------------------------|------------------------------|-------|----------|
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| ENGR<br>R.D.<br>5               | Document Number              |       | Rev<br>B |
|                                 | <b>4019K4</b>                |       |          |
| Date:                           | Saturday, September 07, 2013 | Sheet | 33 of 47 |

## LPC Debug Port

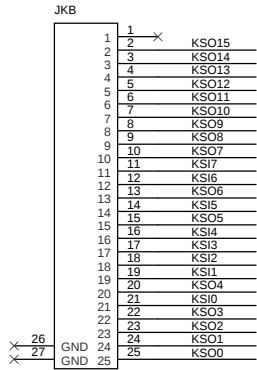
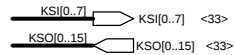
Place the PAD under DDR DIMM.

@  
E-T\_3801K-F10N-01L



For EMI

## KEYBOARD CONN.



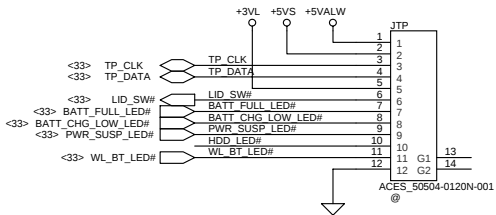
ACES\_50524-02501-001  
@

For EMI  
Close to JKB

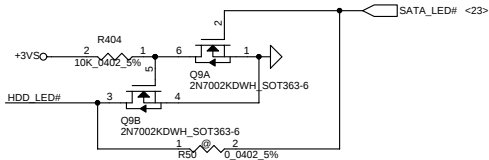
|       |   |                 |
|-------|---|-----------------|
| KSO2  | 1 | 2               |
| C404  | 1 | 100P_0402_50V8J |
| KSO1  | 1 | 2               |
| C405  | 1 | 100P_0402_50V8J |
| KSO0  | 1 | 2               |
| C406  | 1 | 100P_0402_50V8J |
| KSO4  | 1 | 2               |
| C407  | 1 | 100P_0402_50V8J |
| KSO3  | 1 | 2               |
| C408  | 1 | 100P_0402_50V8J |
| KSO5  | 1 | 2               |
| C409  | 1 | 100P_0402_50V8J |
| KSO14 | 1 | 2               |
| C410  | 1 | 100P_0402_50V8J |
| KSO6  | 1 | 2               |
| C411  | 1 | 100P_0402_50V8J |
| KSO7  | 1 | 2               |
| C412  | 1 | 100P_0402_50V8J |
| KSO13 | 1 | 2               |
| C413  | 1 | 100P_0402_50V8J |
| KSO8  | 1 | 2               |
| C415  | 1 | 100P_0402_50V8J |
| KSO9  | 1 | 2               |
| C416  | 1 | 100P_0402_50V8J |
| KSO10 | 1 | 2               |
| C417  | 1 | 100P_0402_50V8J |
| KSO11 | 1 | 2               |
| C418  | 1 | 100P_0402_50V8J |
| KSO12 | 1 | 2               |
| C419  | 1 | 100P_0402_50V8J |
| KSO15 | 1 | 2               |
| C420  | 1 | 100P_0402_50V8J |
| KSI7  | 1 | 2               |
| C421  | 1 | 100P_0402_50V8J |
| KSI2  | 1 | 2               |
| C422  | 1 | 100P_0402_50V8J |
| KSI3  | 1 | 2               |
| C423  | 1 | 100P_0402_50V8J |
| KSI4  | 1 | 2               |
| C424  | 1 | 100P_0402_50V8J |
| KSI0  | 1 | 2               |
| C425  | 1 | 100P_0402_50V8J |
| KSI5  | 1 | 2               |
| C427  | 1 | 100P_0402_50V8J |
| KSI6  | 1 | 2               |
| C429  | 1 | 100P_0402_50V8J |
| KSI1  | 1 | 2               |
| C431  | 1 | 100P_0402_50V8J |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                              |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 34 of 47                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev                      | B                            |

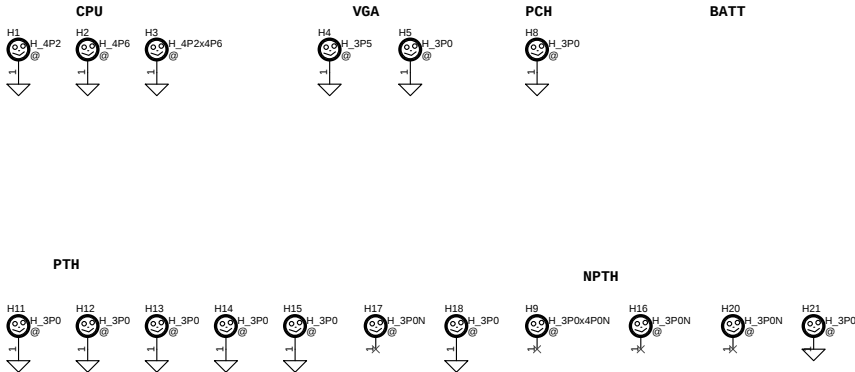
Touchpad Connector  
(Reserve 7 pins for LED & Win8 TP)



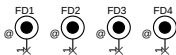
HDD LED



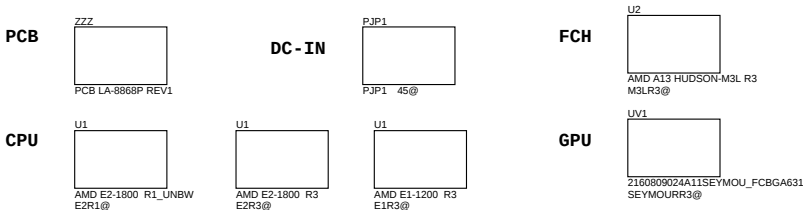
Screw Hole



PCB Fedical Mark PAD



ISPD



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                          |                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                              |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                          | 4019K4                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date                     | Saturday, September 07, 2013 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Sheet                    | 35 of 47                     |

**+3VALW TO +3VS**

**Vgs=10V, Id=9A, Rds=18.5mohm**

4.7u 0805 10V42

1 2

Q29

8 D

7 D

6 D

5 D

4 D

3 D

2 D

1 D

Si4800BDY\_S08

1 2

C459

1 2

1u 0402 6.3V6K

1 2

4.7k 0402 5%

1 2

R410

1 2

330k 0402 5%

R406

1 2

0.022u 0402 25V716

1 2

C472

1 2

Q10A

1 2

2N7002KDWHT\_SOT363-6

2N7002KDWHT\_SOT363-6

SUSP

Q10B

1 2

4.7u 0805 10V42

1 2

R406

1 2

4.7u 0805 10V42

1 2

Q10B

1 2

2N7002KDWHT\_SOT363-6

2N7002KDWHT\_SOT363-6

SUSP

Q10A

1 2

4.7k 0402 5%

1 2

R410

1 2

330k 0402 5%

R406

1 2

0.022u 0402 25V716

1 2

C472

1 2

C459

1 2

1u 0402 6.3V6K

1 2

4.7u 0805 10V42

1 2

Q29

8 D

7 D

6 D

5 D

4 D

3 D

2 D

1 D

Si4800BDY\_S08

1 2

C459

1 2

1u 0402 6.3V6K

1 2

4.7k 0402 5%

1 2

R410

1 2

330k 0402 5%

R406

1 2

0.022u 0402 25V716

1 2

C472

1 2

Q10A

1 2

2N7002KDWHT\_SOT363-6

2N7002KDWHT\_SOT363-6

SUSP

Q10B

1 2

4.7u 0805 10V42

1 2

R406

1 2

4.7u 0805 10V42

1 2

Q10B

1 2

2N7002KDWHT\_SOT363-6

2N7002KDWHT\_SOT363-6

SUSP

Q10A

1 2

4.7k 0402 5%

1 2

R410

1 2

330k 0402 5%

R406

1 2

0.022u 0402 25V716

1 2

C472

1 2

C459

1 2

1u 0402 6.3V6K

1 2

4.7u 0805 10V42

1 2

Q29

8 D

7 D

6 D

5 D

4 D

3 D

2 D

1 D

Si4800BDY\_S08

1 2

C459

1 2

1u 0402 6.3V6K

1 2

4.7k 0402 5%

1 2

R410

1 2

330k 0402 5%

R406

1 2

0.022u 0402 25V716

1 2

C472

1 2

Q10A

1 2

2N7002KDWHT\_SOT363-6

2N7002KDWHT\_SOT363-6

SUSP

Q10B

1 2

4.7u 0805 10V42

1 2

R406

1 2

4.7u 0805 10V42

1 2

Q10B

1 2

2N7002KDWHT\_SOT363-6

2N7002KDWHT\_SOT363-6

SUSP

Q10A

1 2

4.7k 0402 5%

1 2

R410

1 2

330k 0402 5%

R406

1 2

0.022u 0402 25V716

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C472

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1u 0402 6.3V6K

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4.7u 0805 10V42

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Q29

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Si4800BDY\_S08

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R410

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R406

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2N7002KDWHT\_SOT363-6

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2N7002KDWHT\_SOT363-6

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R410

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R406

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0.022u 0402 25V716

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1u 0402 6.3V6K

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4.7u 0805 10V42

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Q29

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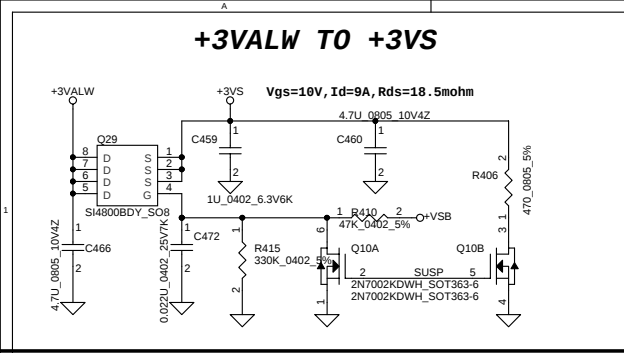
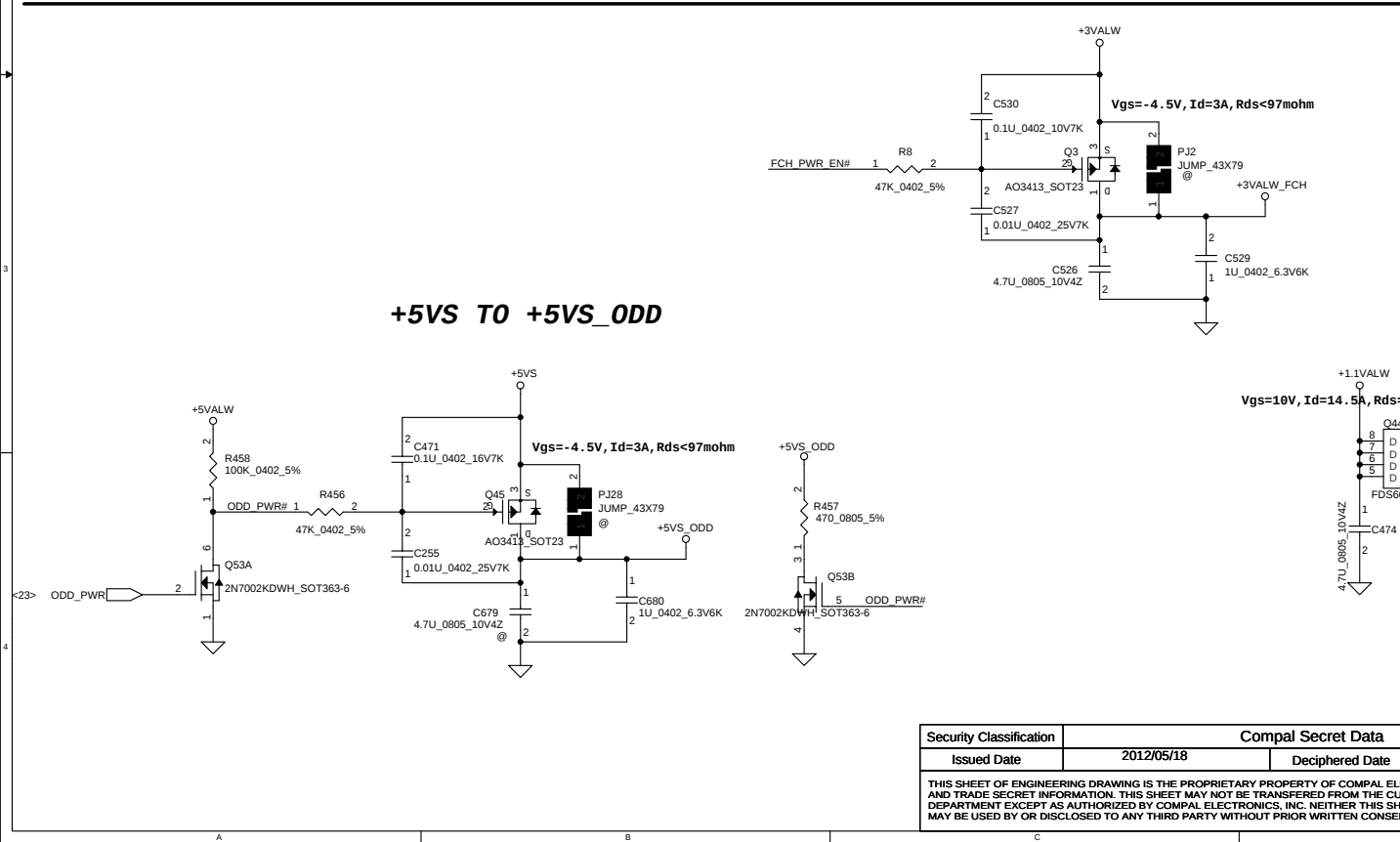
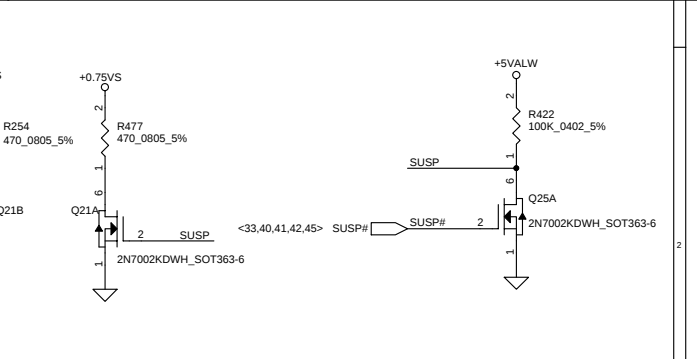
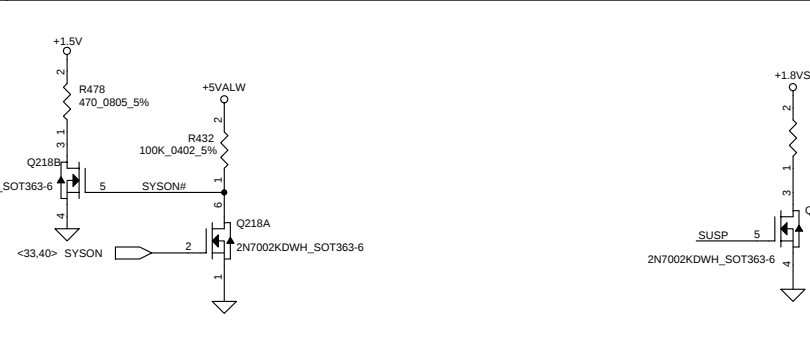
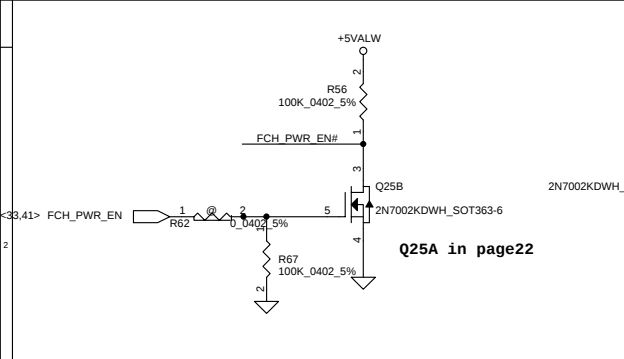
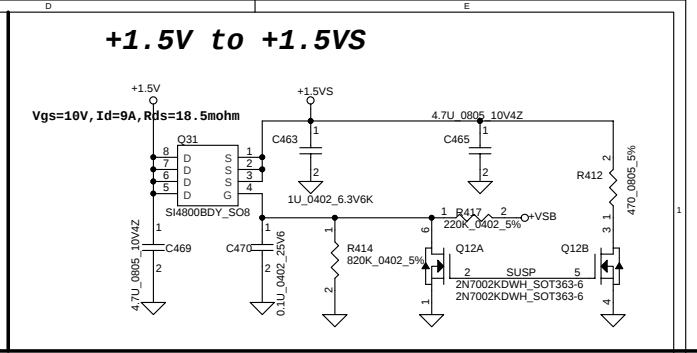
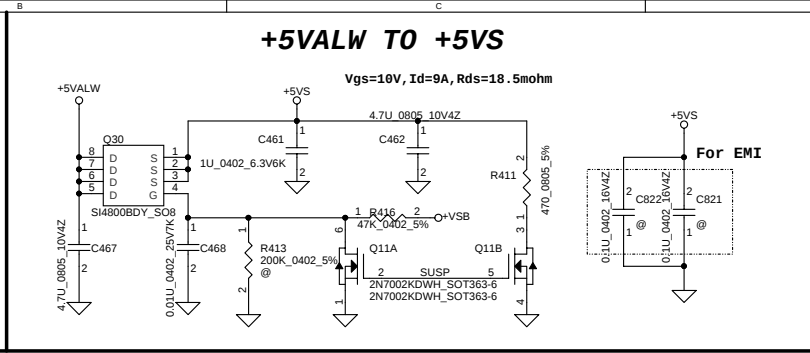
1 D

Si4800BDY\_S08

1 2

C459

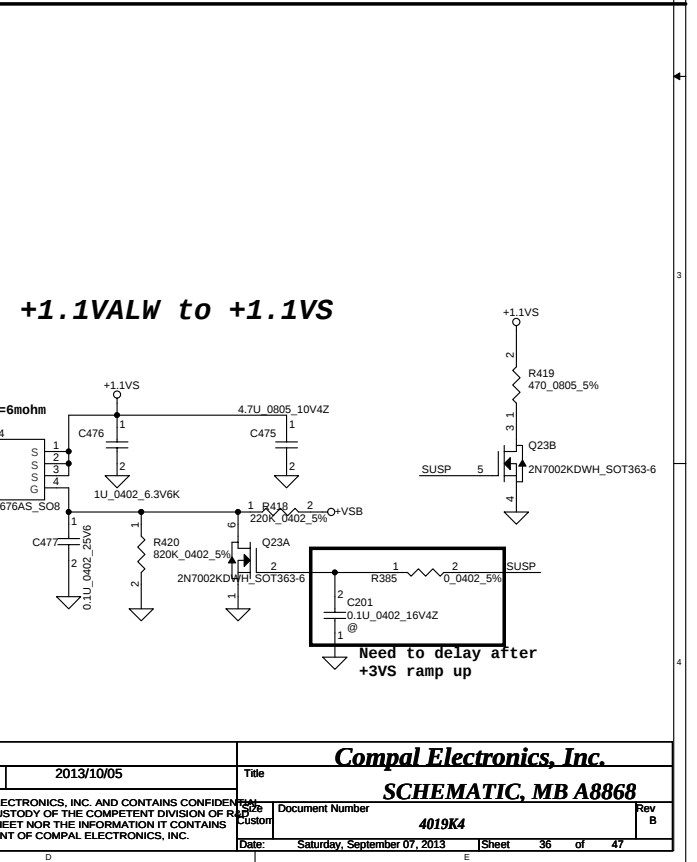
1 2

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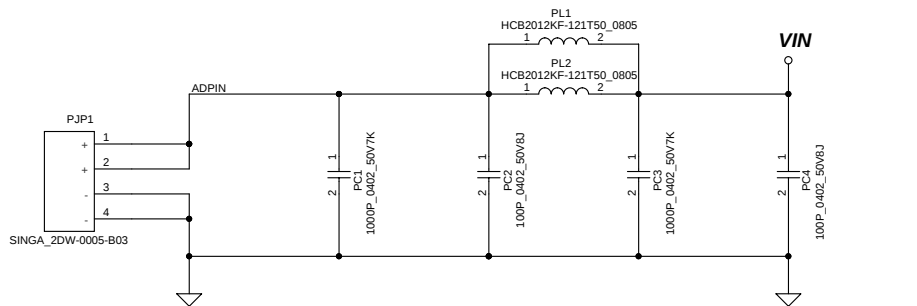
The schematic diagram illustrates a power management or signal conditioning circuit. Key components include:

- Power Input:** Labeled as  $+1.1V_S$ .
- Capacitors:** C476 (1U\_0402\_6.3V6K), C475 (4.7U\_0805\_10V4Z), C201 (0.1U\_0402\_16V4Z), and others.
- Resistors:** R419 (470\_0805\_5%), R420 (820K\_0402\_5%), R385 (0\_0402\_5%).
- Transistors:** Q23A (2N7002KDWH\_SOT363-6) and Q23B (2N7002KDWH\_SOT363-6).
- Other Components:** SUSP (likely a suspension point or similar), GND (grounding points).

A callout box with a black border highlights a section of the circuit near component C201. The text inside the box reads: "Need to delay after +3VS ramp up". This indicates a timing requirement for the circuit's operation during power-up.

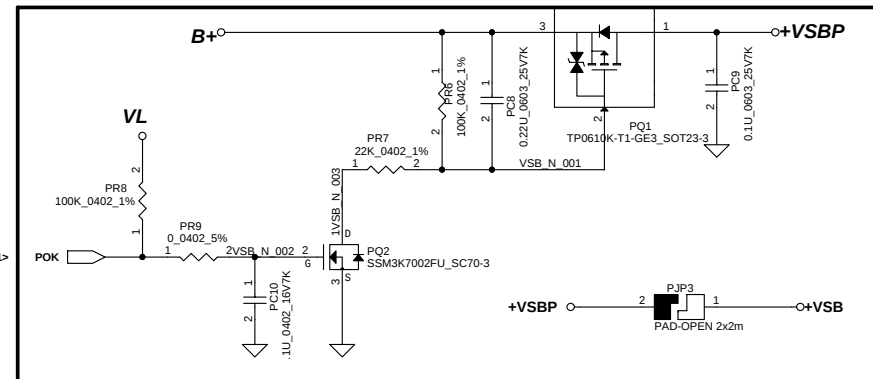
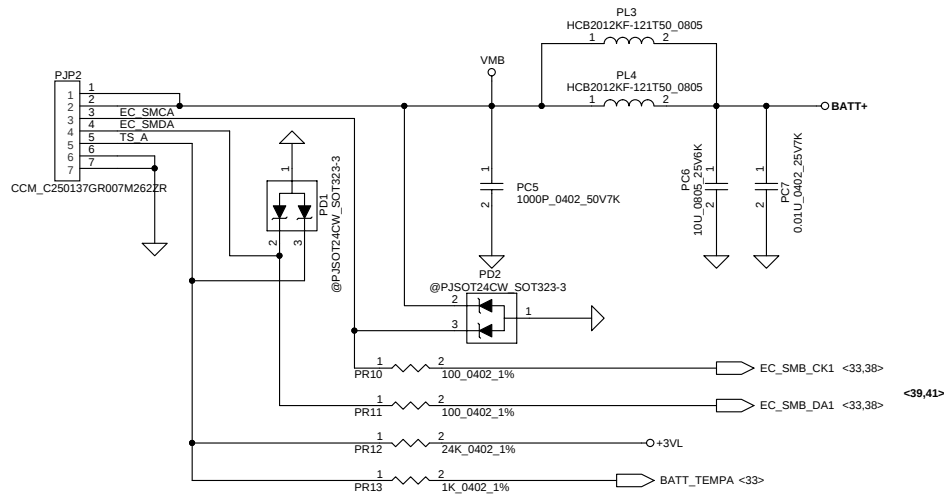
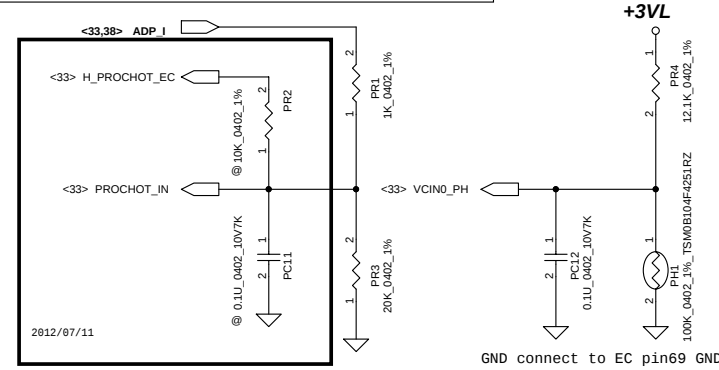


|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                 |            |                                                               |                              |                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|---------------------------------------------------------------|------------------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                         | Compal Secret Data |                 |            | <b>Compal Electronics, Inc.</b><br><b>SCHEMATIC, MB A8868</b> |                              |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2012/05/18         | Deciphered Date | 2013/10/05 | Title                                                         |                              |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                 |            | Date:                                                         | Saturday, September 07, 2013 | Sheet 36 of 47 |

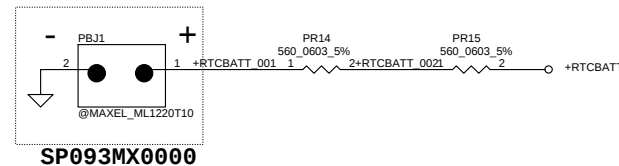


**PH1 under CPU bottom side :**  
**CPU thermal protection at 93 +3 degree C**  
**Recovery at 56 +3 degree C**

Please locate these parts  
 Near EC chip

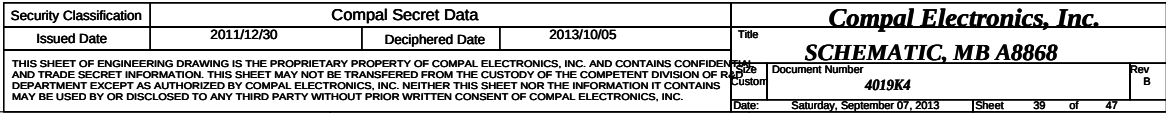


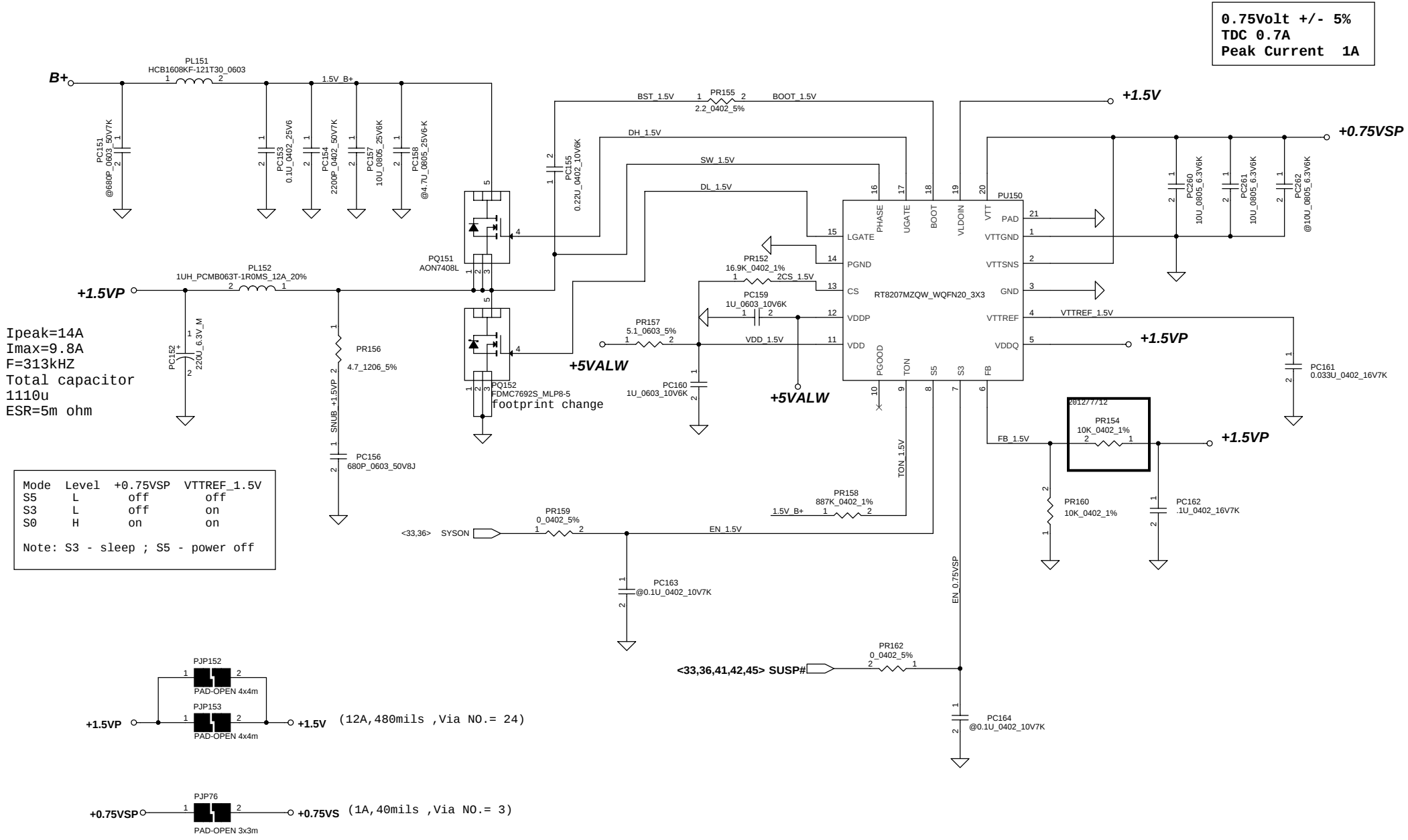
### RTC Battery

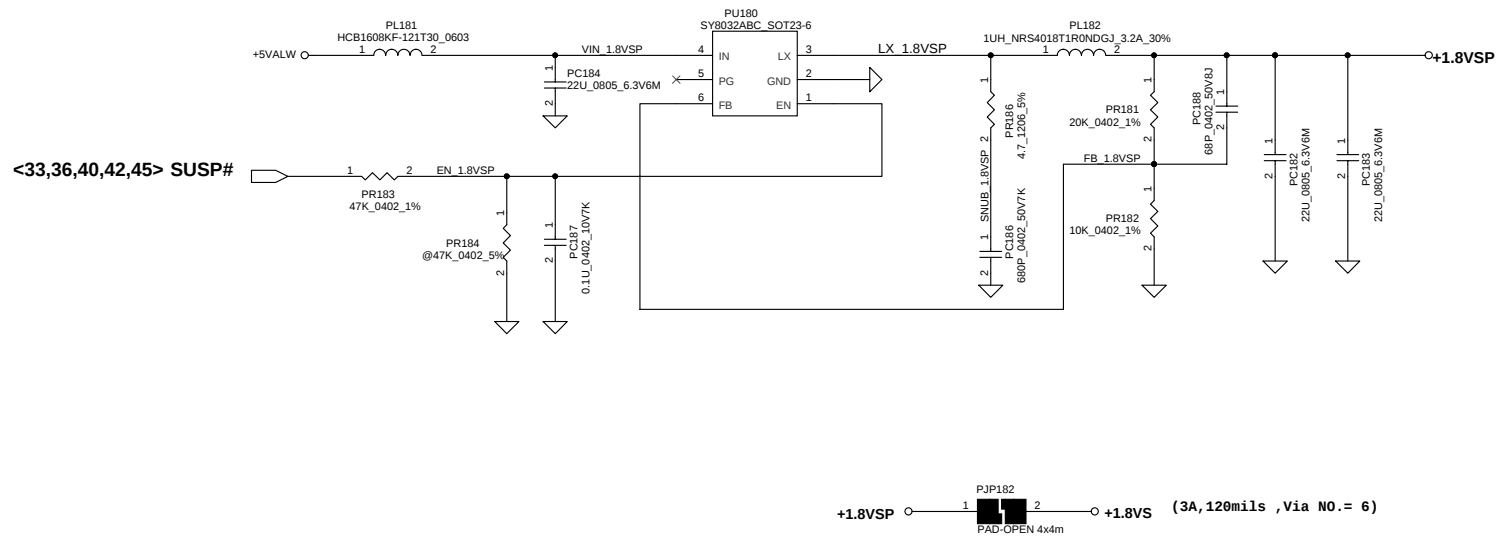
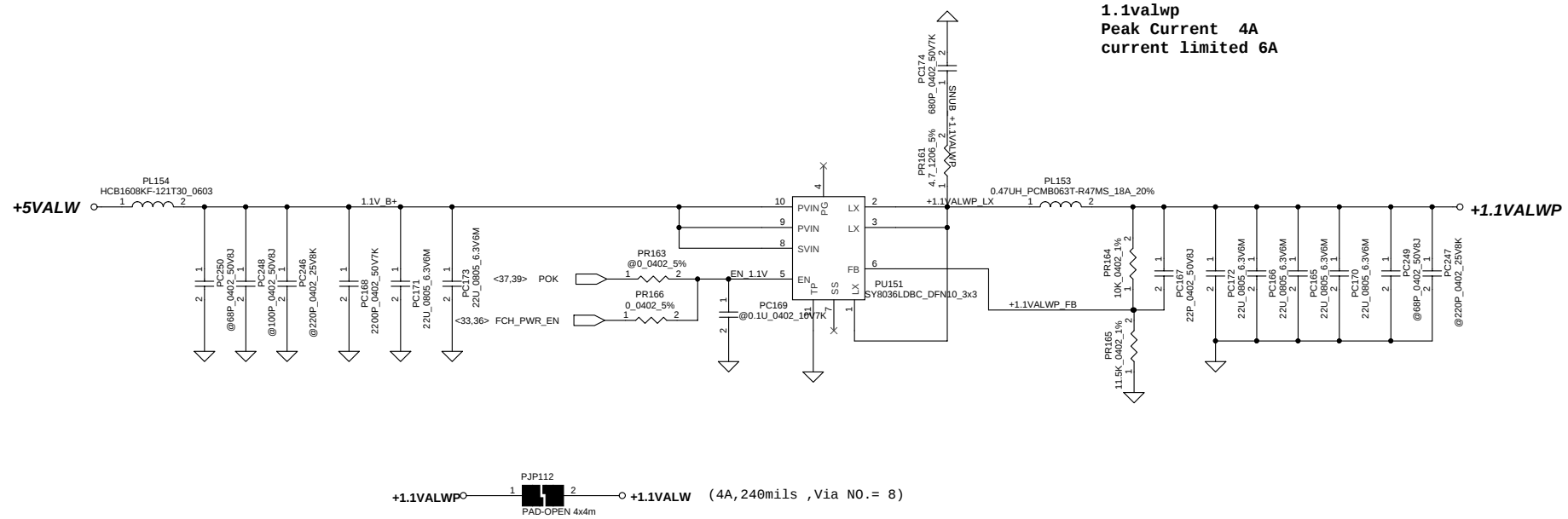


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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                     |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/12/30         | Deciphered Date | 2013/10/05 | Title                    | SCHEMATIC, MB A8868 |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                          | Rev B               |
| Date: Saturday, September 07, 2013                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                 |            |                          | Sheet 37 of 47      |

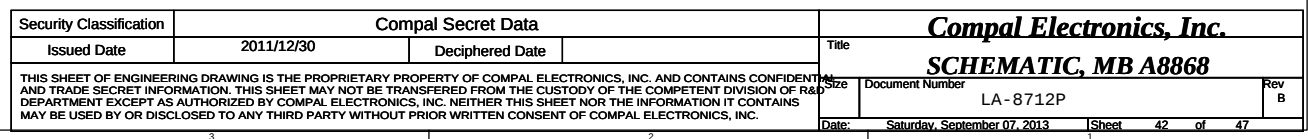
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data           |            | <b>Compal Electronics, Inc.</b><br><b>SCHEMATIC, MB A8868</b> |          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/12/30 | Deciphered Date              | 2013/10/05 | Title                                                         |          |
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| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            | Saturday, September 07, 2013 |            | Sheet                                                         | 38 of 47 |

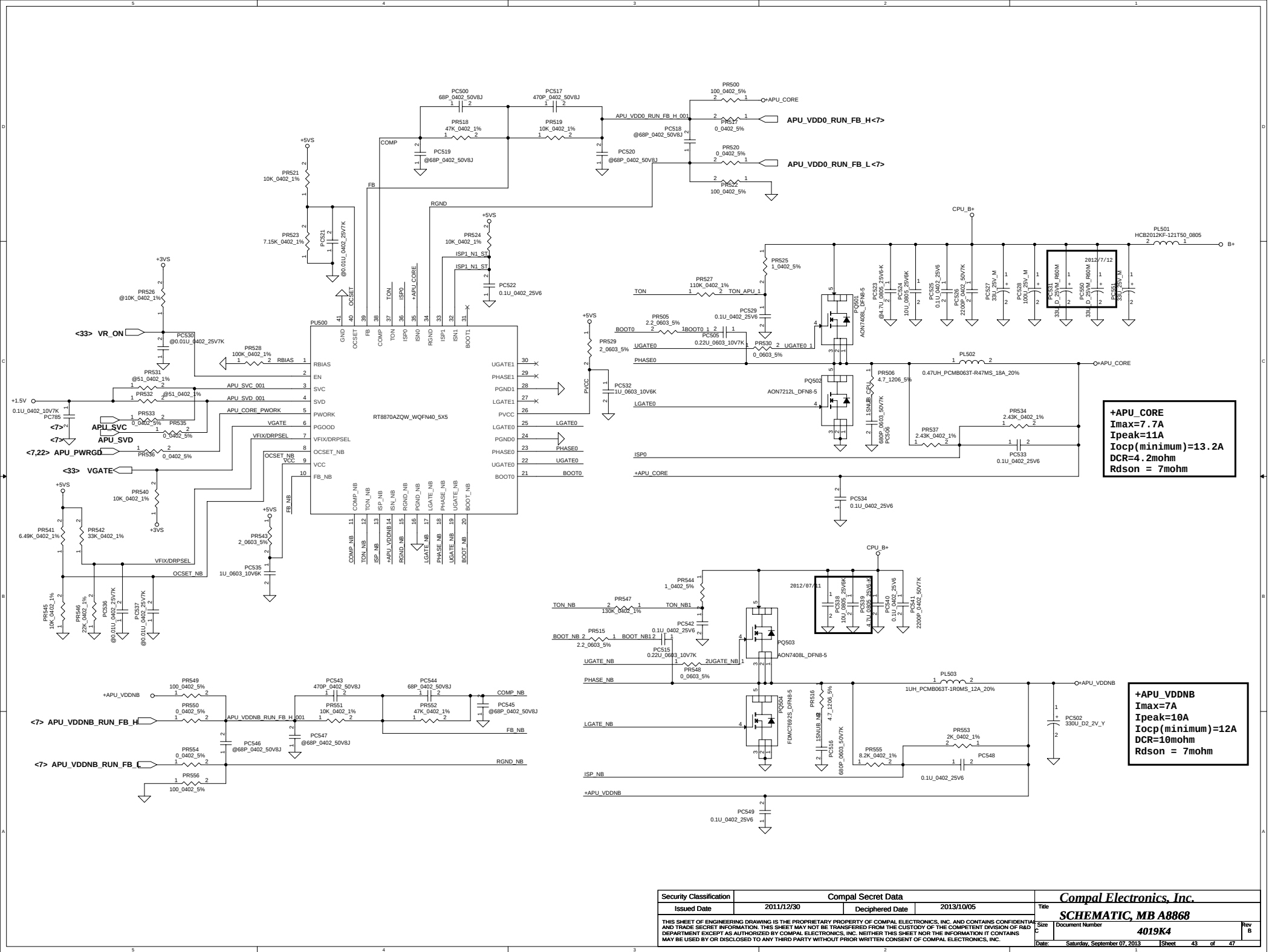






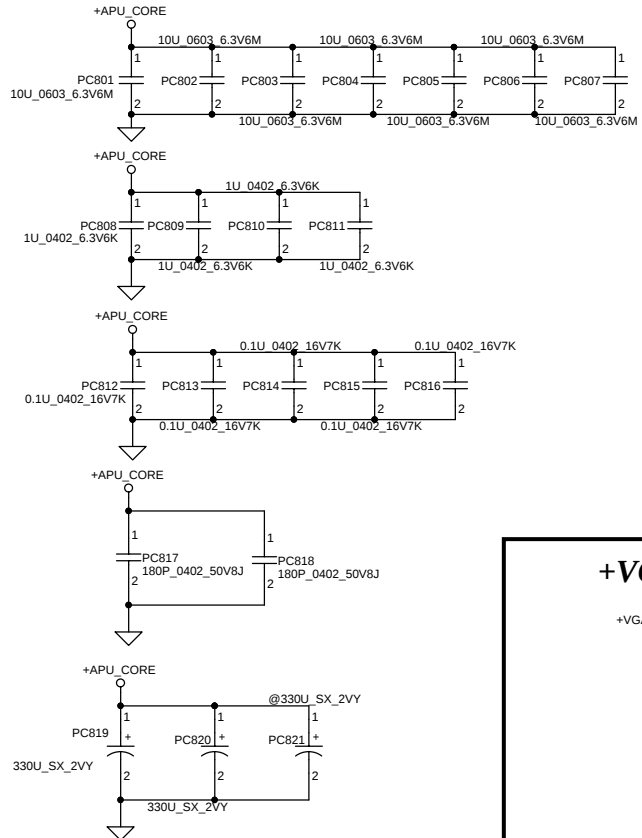
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |  | Compal Electronics, Inc.     |          |
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| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2011/12/30         | Deciphered Date |  | Title                        |          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |  | Date                         | Sheet    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |  | Saturday, September 07, 2013 | 41 of 47 |



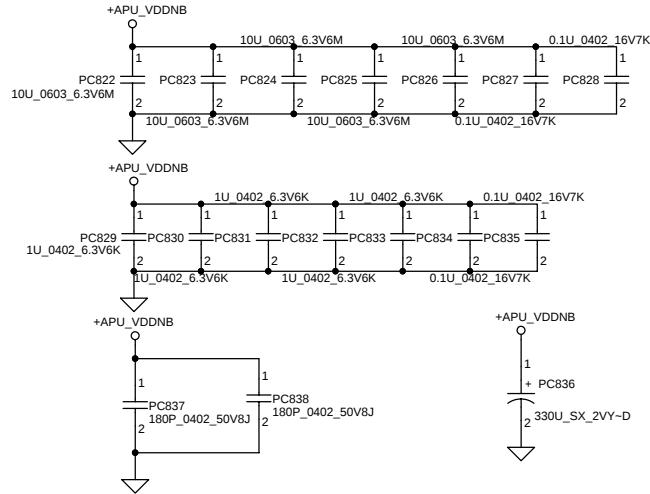


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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data           |                 |            | Compal Electronics, Inc. |                     |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number              | 4019K4          |            |                          |                     |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Saturday, September 07, 2013 | Sheet           | 43         | of                       | 47                  |

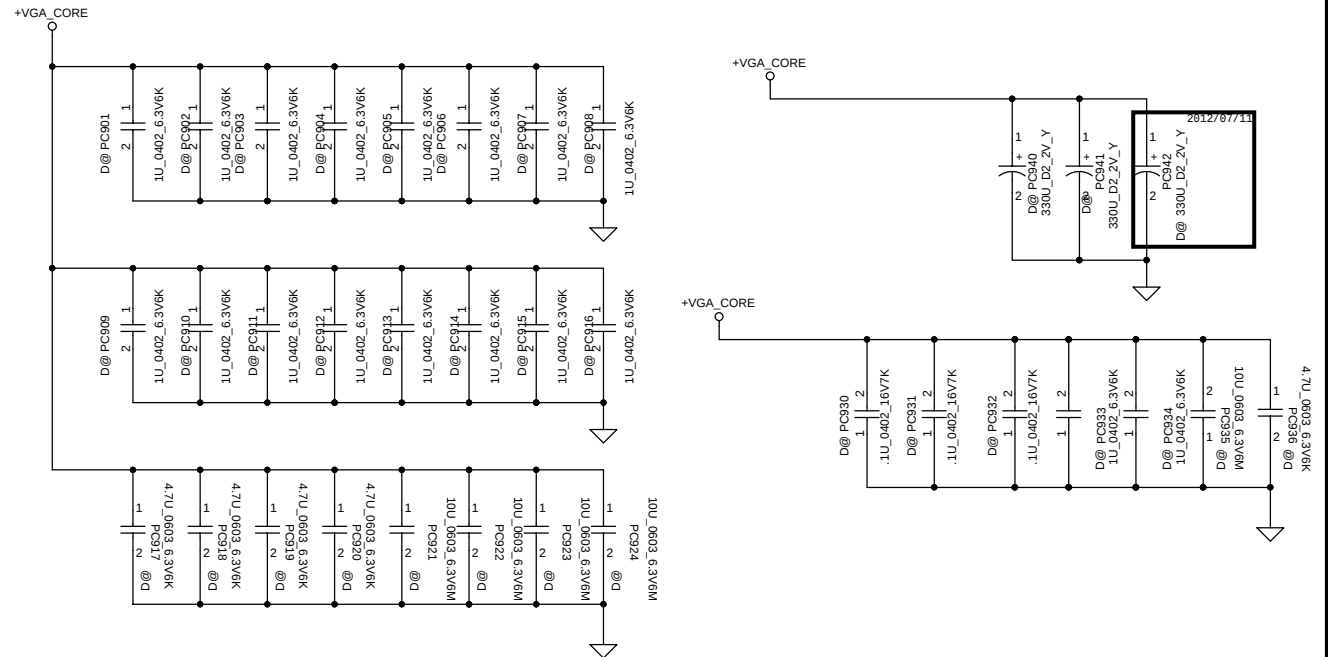
## +APU\_CORE



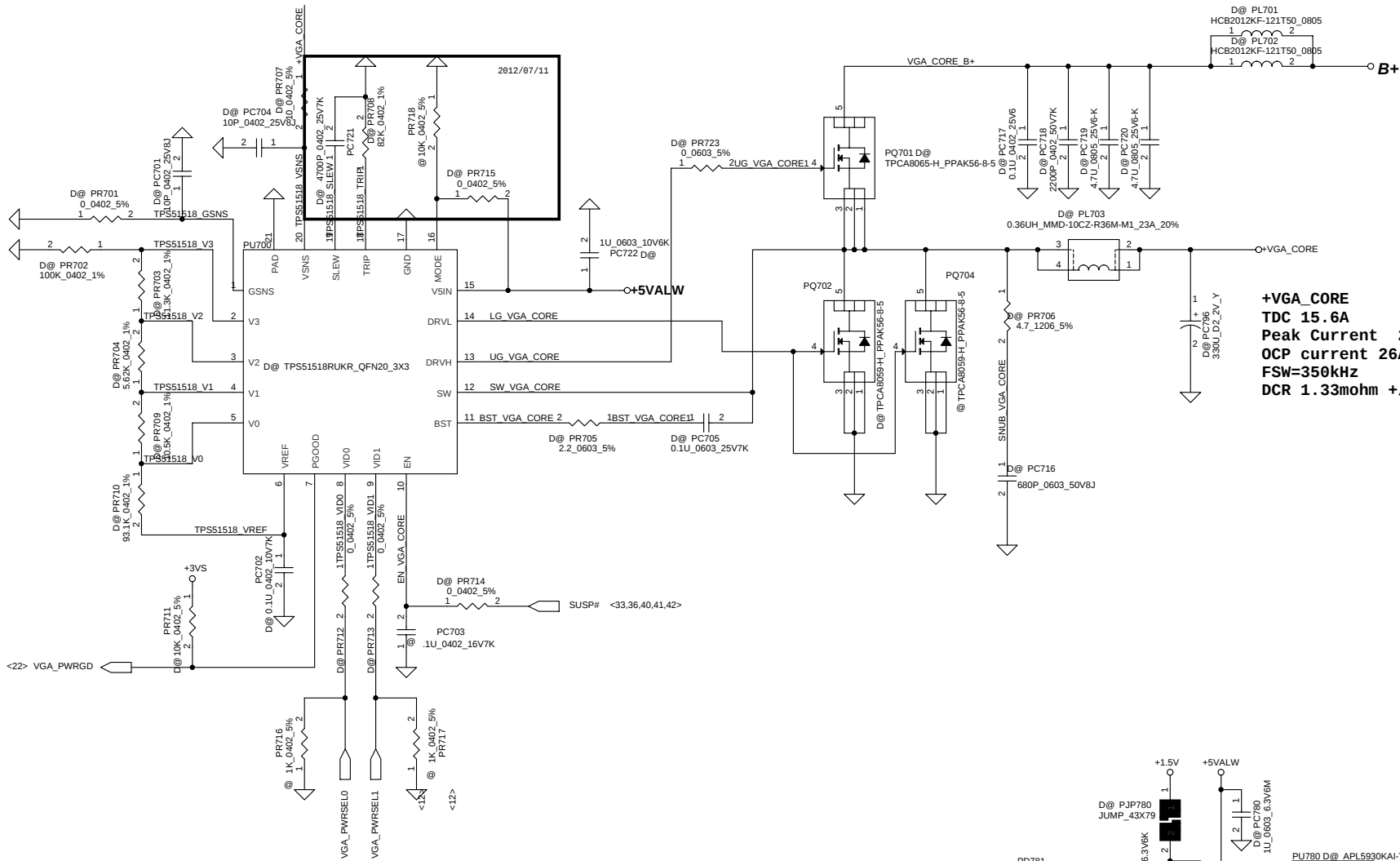
## +APU\_CORE\_NB



## +VGA\_CORE



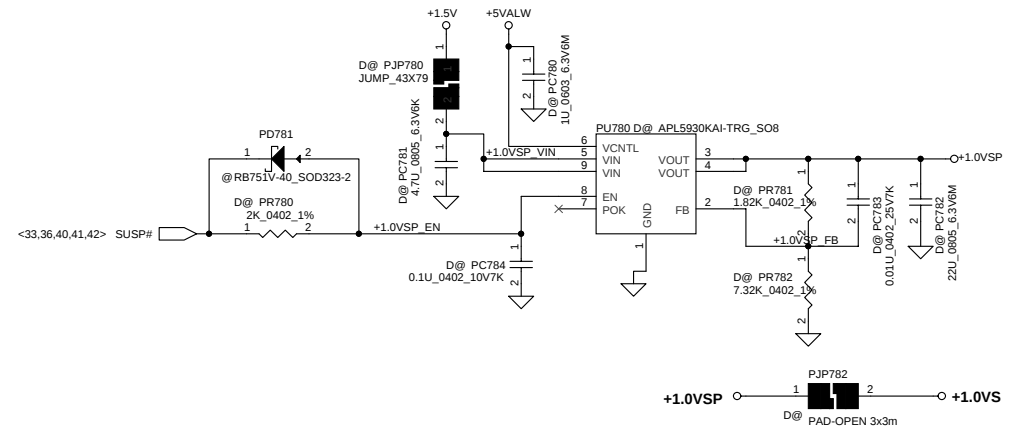
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |  | Title                        |                |
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| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |  | Saturday, September 07, 2013 | Sheet 44 of 47 |



**+VGA\_CORE**  
**TDC 15.6A**  
**Peak Current 21.6A**  
**OCP current 26A**  
**FSW=350kHz**  
**DCR 1.33mohm +/- 5%**

Seymour XTX

| VGA_PWRSEL1 | VGA_PWRSEL0 | Core Voltage Level |
|-------------|-------------|--------------------|
| 1           | 1           | 0.90V              |
| 1           | 0           | 1.00V              |
| 0           | 1           | 1.05V              |
| 0           | 0           | 1.15V              |



| NO DATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    | PAGE                                                                                                                    | MODIFICATION LIST |                                                                                                                | PURPOSE                                                     |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
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| 1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2012/04/24         | P37-PWR-DCIN/BATT CONN/OTP                                                                                              | Change            | PR12 from 6.49k to 24k                                                                                         | Change source                                               |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2012/04/24         | P37-PWR-DCIN/BATT CONN/OTP                                                                                              | Add               | PR13 1k                                                                                                        | Change source                                               |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2012/04/24         | P38-PWR_PWR-CHARGER                                                                                                     | Change            | PQ209 from SI1304BDL-T1-GE3_SC70-3 to SSM3K7002FU_SC70-3                                                       | Change source                                               |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2012/04/24         | P38-PWR_PWR-CHARGER                                                                                                     | Change            | PC244 from 0.1u to 0.22u                                                                                       | Change source                                               |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2012/04/24         | P38-PWR_PWR-CHARGER                                                                                                     | Change            | PR241 from 100k to 150k                                                                                        | Adjust current limit point                                  |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2012/04/24         | P41-PWR-3.3VALWP/5VALWP                                                                                                 | Change            | PR330 from 13k to 13.7k                                                                                        | Adjust 3v voltage for HW request                            |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 7.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2012/04/24         | P41-PWR-3.3VALWP/5VALWP                                                                                                 | Change            | PR351 from 19.1K to 20k                                                                                        | Adjust 5v voltage for HW request                            |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 8.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2012/04/24         | P41-PWR+1.1VALWP/+1.8VSP                                                                                                | Change            | PU180 from SY8032ABC_SOT23-6 to SY8033BDBC_DFN10_3X3                                                           | Change IC solution for cost down                            |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 9.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2012/04/24         | P43-PWR-CPU_CORE                                                                                                        | Add               | PC531 33u                                                                                                      | For acoustic noise                                          |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 10.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/04/24         | P43-PWR-CPU_CORE                                                                                                        | Add               | PC550 33u                                                                                                      | For acoustic noise                                          |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 11.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/04/24         | P43-PWR-CPU_CORE                                                                                                        | Add               | PC551 33u                                                                                                      | For acoustic noise                                          |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 12.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/05/17         | P38-PWR_PWR-CHARGER                                                                                                     | Un-mount          | PC123 10U and PC124 10U                                                                                        | For acoustic noise                                          |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 13.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/05/17         | P39-PWR-3.3VALWP/5VALWP                                                                                                 | Add               | PR336 4.7 and PC336 680P                                                                                       | EMI demand                                                  |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 14.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/05/17         | P39-PWR-3.3VALWP/5VALWP                                                                                                 | Add               | PR356 4.7 and PC356 680P                                                                                       | EMI demand                                                  |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 15.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/05/17         | P40-PWR_1.5VP/0.75VSP                                                                                                   | Add               | PR156 4.7 and PC156 680P                                                                                       | EMI demand                                                  |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 16.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/05/17         | P40-PWR_1.5VP/0.75VSP                                                                                                   | PL152             | Change partnumber SH00000PJ00 to SH00000QD00                                                                   | lake of material                                            |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 17.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/05/17         | P43-PWR-CPU_CORE                                                                                                        | Change            | PC538 from 10U to 4.7U                                                                                         | For acoustic noise                                          |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 18.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/05/17         | P43-PWR-CPU_CORE                                                                                                        | Add               | PC539 4.7U                                                                                                     | For acoustic noise                                          |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 19.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/05/17         | P43-PWR-CPU_CORE                                                                                                        | Add               | PC785 0.1U                                                                                                     | For acoustic noise                                          |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 20.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/05/18         | P44-PWR-PROCESSOR-DECOUPLING                                                                                            | Un-mount          | 1U:PC901,PC902,PC903,PC904,PC905,PC906,PC907,PC908,PC909,PC910,PC911,PC912,PC913,PC914,PC915,PC916,PC933,PC934 | EVT:uma load bom時把vga_core mlcc多Load的部分<br>DVT:設變數把多餘mlcc拿掉 |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 21.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/05/18         | P44-PWR-PROCESSOR-DECOUPLING                                                                                            | Un-mount          | 10U:PC921,PC922,PC923,PC924,PC935                                                                              |                                                             |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 22.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/05/18         | P44-PWR-PROCESSOR-DECOUPLING                                                                                            | Un-mount          | 0.1U:PC930,PC931,PC932                                                                                         |                                                             |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 23.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/05/18         | P44-PWR-PROCESSOR-DECOUPLING                                                                                            | Un-mount          | 330U:PC940,PC941                                                                                               |                                                             |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 24.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/05/18         | P44-PWR-PROCESSOR-DECOUPLING                                                                                            | Un-mount          | 4.7U:PC917,PC918,PC919,PC920,PC936                                                                             |                                                             |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 25.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/06/18         | P41-PWR-3.3VALWP/5VALWP                                                                                                 | Change            | part number PC331 and PC351 from MATSUKI to S.Elcon                                                            | forbid:MATSUKI                                              |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 26.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/06/18         | P41-PWR-3.3VALWP/5VALWP                                                                                                 | Change            | part number PQ333 from TOSHIBA to TOSHIBA                                                                      | EOL                                                         |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 27.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/06/18         | P43-PWR-CPU_CORE                                                                                                        | Change            | part number PC531 and PC550 from Panasonic to KEMET                                                            | shortage                                                    |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 28.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/07/16         | P37-PWR-DCIN/BATT CONN/OTP                                                                                              | Add               | PR2 10K and PC11 Change to unmount                                                                             | For support 60w adapter                                     |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 29.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/07/16         | P38-PWR_PWR-CHARGER                                                                                                     | Change            | vendor PQ205 and PQ207 from DII to NIKO-SEM                                                                    | Customoer forbid DII                                        |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 30.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/07/16         | P40-PWR_1.5VP / 0.75VSP                                                                                                 | Change            | PR154 from 10.2k to 10k                                                                                        | For HW request                                              |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 31.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/07/16         | P43-PWR-CPU_CORE                                                                                                        | Change            | vendor PC531 and PC550 from Kemet to Sayno                                                                     | For acoustic noise                                          |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 32.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/07/16         | P43-PWR-CPU_CORE                                                                                                        | Change            | PC538 and Pc539 from 4.7u to 10u                                                                               | For acoustic noise                                          |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 33.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/07/16         | P45-PWR-VGA_CORE/1.0VSP                                                                                                 | Change            | PR708 from 130K to 82k                                                                                         | Adjust over current protection point                        |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 34.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/07/16         | P45-PWR-VGA_CORE/1.0VSP                                                                                                 | Add               | PR718 and PR715                                                                                                | For vga transient test                                      |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 35.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/07/16         | P37-PWR-DCIN/BATT CONN/OTP<br>P38-PWR-CHARGER<br>P39-PWR-3.3VALWP/5VALWP<br>P40-PWR_1.5VP / 0.75VSP<br>P43-PWR-APU_CORE | Change            | PC6,PC157,PC211,PC212,PC222,PC223,PC358,PC524,PC539,PC538 from TAIYO(10U_25V_0805_H1.25) to Murata             | For acoustic noise                                          |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| 36.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2012/08/07         | P41-PWR-3.3VALWP/5VALWP                                                                                                 | Change            | PR351 from 20k to 19.1k                                                                                        | Adjust 5v voltage for HW request                            |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| <table> <tr> <td>Security Classification</td><td colspan="3">Compal Secret Data</td><td colspan="2">Compal Electronics, Inc.</td></tr> <tr> <td>Issued Date</td><td>2011/12/14</td><td>Deciphered Date</td><td>2012/12/31</td><td>Title</td><td></td></tr> <tr> <td colspan="4">THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</td><td>Size Custom</td><td>Document Number 4019K4</td></tr> <tr> <td colspan="4"></td><td>Date: Saturday, September 07, 2013</td><td>Rev B</td></tr> <tr> <td colspan="4"></td><td>Sheet 46 of 47</td><td></td></tr> </table> |                    |                                                                                                                         |                   |                                                                                                                |                                                             | Security Classification | Compal Secret Data |  |  | Compal Electronics, Inc. |  | Issued Date | 2011/12/14 | Deciphered Date | 2012/12/31 | Title |  | THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. |  |  |  | Size Custom | Document Number 4019K4 |  |  |  |  | Date: Saturday, September 07, 2013 | Rev B |  |  |  |  | Sheet 46 of 47 |  |
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Compal Secret Data |                                                                                                                         |                   | Compal Electronics, Inc.                                                                                       |                                                             |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2011/12/14         | Deciphered Date                                                                                                         | 2012/12/31        | Title                                                                                                          |                                                             |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                                                                                                                         |                   | Date: Saturday, September 07, 2013                                                                             | Rev B                                                       |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                                                                                                                         |                   | Sheet 46 of 47                                                                                                 |                                                             |                         |                    |  |  |                          |  |             |            |                 |            |       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |             |                        |  |  |  |  |                                    |       |  |  |  |  |                |  |

HW PIR (Product Improve Record)

VBLE4/5 LA-8866P SCHEMATIC CHANGE LIST

REVISION CHANGE: 0.1 TO 0.2

GERBER-OUT DATE: 2012/02/14

| Item | Date | Page | Solution                                                                    | Request                               |
|------|------|------|-----------------------------------------------------------------------------|---------------------------------------|
| 1.   | 2/1  | P28  | Change JUSB8.1 from +USB_VCCB to +USB_VCCC                                  | For USB power                         |
| 2.   | 2/1  | P18  | Change RV141,RV138,RV137 to DIS@                                            | For VGA int. sensor                   |
| 3.   | 2/1  | P12  | Remove RV29, change RV28 to 0 ohm                                           | For VGA 27MHz                         |
| 4.   | 2/1  | P22  | Change R339 to UMA@ , Change R340 to DIS@                                   | For board ID                          |
| 5.   | 2/1  | P29  | Change +1.8VGS to +1.8VS                                                    | For Green CLK                         |
| 6.   | 2/2  | P30  | Change CL36 from SE120102K80 to SE120102K90                                 | For shortage                          |
| 7.   | 2/6  | P32  | Update JCRI0 pin definition                                                 | Change int. MIC to MB                 |
| 8.   | 2/6  | P31  | Add RA36,RA37 and delete CA64                                               | Move sense resistors to MB            |
| 9.   | 2/6  | P35  | Change JTP from SP010015H00 to SP010018F10                                  | For ME request                        |
| 10.  | 2/6  | P31  | Add JMIC connector SP02000R000                                              | For customer request                  |
| 11.  | 2/6  | P29  | Change JWLAN from SP07000JP00 to SP07000TB00                                | For ME request                        |
| 12.  | 2/8  | P30  | Add PJ31                                                                    | For saving power consumption          |
| 13.  | 2/8  | P29  | Add PJ33, WLAN power circuit and reset pin                                  | For customer request                  |
| 14.  | 2/8  | P29  | Change CM7,CM8,CM9 to @                                                     | For cost down                         |
| 15.  | 2/8  | P29  | Add WLAN_PWR# and WLAN_RST#                                                 | For customer request                  |
| 16.  | 2/8  | P30  | Add test point TL1 for pin37                                                | For vendor request                    |
| 17.  | 2/8  | P27  | Delete SW4                                                                  | For layout request                    |
| 18.  | 2/8  | P11  | Change UV1 from SA000047G70 to SA000047G60                                  | For PJE request                       |
| 19.  | 2/8  | P18  | Change RV118, RV119 to DIS@                                                 | For HDMI issue                        |
| 20.  | 2/8  | P35  | Add screw H17, H20 and H21                                                  | For ME request                        |
| 21.  | 2/9  | P21  | Reserve ESD D94-D96 for HDMI                                                | For ESD request                       |
| 22.  | 2/9  | P9   | Change C218 from 390U to 330U (SF000002080)                                 | For cost down                         |
| 23.  | 2/9  | P20  | Remove D3-D5 and add D97 and D98                                            | For ESD request                       |
| 24.  | 2/9  | P30  | Reserve ESD D99 and D100 for LAN                                            | For ESD request                       |
| 25.  | 2/9  | P27  | Add resistors R87,R89,R164,R158                                             | Improve SATA signal quality           |
| 26.  | 2/10 | P27  | Add JODDC                                                                   | For HW experiment on DVT              |
| 27.  | 2/10 | P8   | Add C95,C102,C105                                                           | For EMI request                       |
| 28.  | 2/10 | P34  | Change C457,R393 to mount                                                   | For EMI request                       |
| 29.  | 2/10 | P29  | Change CCL10 to mount                                                       | For EMI request                       |
| 30.  | 2/10 | P24  | Change ODD_DA# FCH connect to U2.P6                                         | For Module Design                     |
| 31.  | 2/10 | P24  | Change ODD_PLUGIN# connect to P2.W7                                         | For Module Design                     |
| 32.  | 2/6  | P21  | Change Q6 from SB00000M700 to SB570020020                                   | For BOM reduce                        |
| 33.  | 4/23 | P19  | Change R117 +3VS to +3VALW                                                  | For LVDS power down sequence          |
| 34.  | 4/23 | P19  | Change R110,R133,C265,C261                                                  | For LVDS power down sequence          |
| 35.  | 4/23 | P19  | Change R388 +3VS to +5VS,R388 +3VS_LVDS_CAM to +5VS_LVDS_CAM                |                                       |
| 36.  | 4/23 | P21  | Add C202 and C216                                                           | For EMI request                       |
| 37.  | 4/23 | P22  | Change R241 from GCLK@ to @                                                 | For USB30 wake issue                  |
| 38.  | 4/23 | P22  | Change C294,C293,Y1,R242 to mount                                           | For USB30 wake issue                  |
| 39.  | 4/23 | P22  | Change R271 and add R277,R268,C305,+RTCBATT_D                               |                                       |
| 40.  | 4/23 | P29  | Change R156,R155,C907,C908,Q210 to @                                        |                                       |
| 41.  | 4/23 | P29  | Add RM20 and change UM5,RM21 to @                                           |                                       |
| 42.  | 4/23 | P29  | Change UCL1.2 to +3VALW, UCL1.14 to +RTCVCC_D and add RCL10 ,RCL11          | For USB30 wake issue                  |
| 43.  | 4/23 | P30  | Mount QL53 and RL24 and change RL28,RL26 to @                               | For LAN disable                       |
| 44.  | 4/23 | P31  | Add CA6,CA7                                                                 | For EMI request                       |
| 45.  | 4/23 | P31  | Add CA64,CA67,CA68,CA77                                                     | For EMI request                       |
| 46.  | 5/16 | P27  | Delete R90-R93,R166,R168-R170,C379-C382,R87,R89,R96,R97,R158 R164,R171,R172 | For ODD 14" and 15" common PCBA issue |
| 47.  | 5/16 | P27  | Add U4                                                                      | For ODD 14" and 15" common PCBA issue |
| 48.  | 5/16 | P23  | Reserve R174                                                                | For ODD 14" and 15" common PCBA issue |
| 49.  | 5/16 | P27  | Change C364 to 220p                                                         | For ESD request                       |

REVISION CHANGE: 0.2 TO 0.3

GERBER-OUT DATE: 2012/06/18

| Item | Date | Page | Solution                                        | Request                           |
|------|------|------|-------------------------------------------------|-----------------------------------|
| 1.   | 6/11 | P27  | Add JODDC circuit and remove U4 circuit         | SATA ODD                          |
| 2.   | 6/11 | P33  | Reserve RB8,RB9                                 | Due to TP module for win8 feature |
| 3.   | 6/15 | P7   | Change R846,R847,R848,R849,R851,R852 to Reserve | For Debug only                    |

REVISION CHANGE: 0.3 TO 1.0

GERBER-OUT DATE: 2012/07/18

| Item | Date | Page | Solution                     | Request                         |
|------|------|------|------------------------------|---------------------------------|
| 1.   | 7/12 | P19  | Add D85                      | For avoid LVDS_CLK damage issue |
| 2.   | 7/17 | P6   | Add C78                      | For EMI request                 |
| 3.   | 7/18 | P27  | Un-stuff SW5                 | For debug only                  |
| 4.   | 7/25 | P30  | Stuff D92                    | For ESD request                 |
| 5.   | 8/27 | P32  | Stuff CT7 and RT4 on TPM SKU | For EMI request                 |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                          |                              |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|------------------------------|----------------|
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| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2012/05/18         | Deciphered Date | 2013/10/05 | Title                    | SCHEMATIC, MB A8868          |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Document Number          | 4019K4                       | Rev B          |