

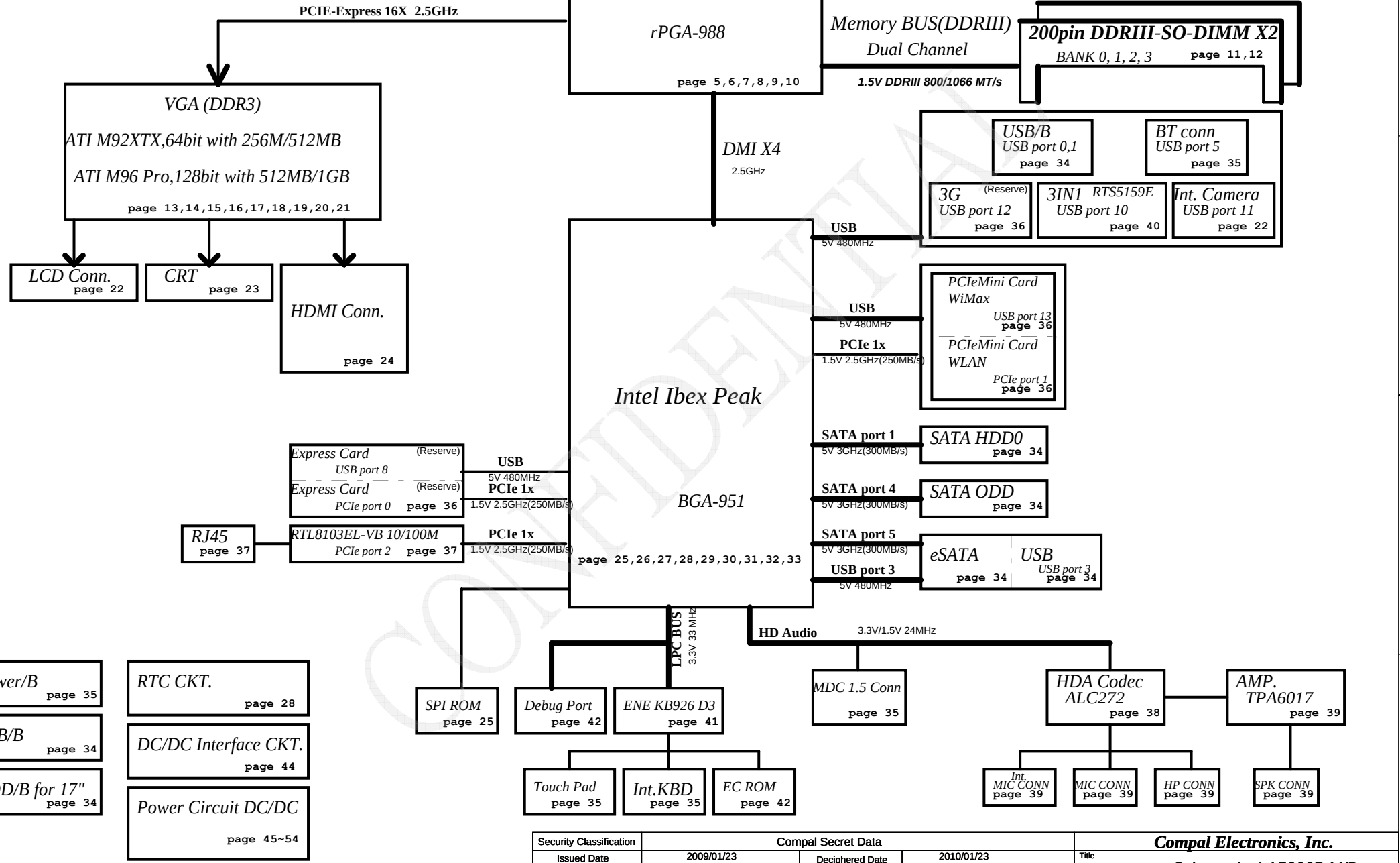
**NSWAA/NTWAA**  
***Liverpool 10G***  
***Sunderland 10G***  
**LA-5322P REV 1.0 Schematic**

**Intel Arrandale /IBEX PEAK**  
**2009-12-22 Rev 1.0**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|--------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/01/23 | Deciphered Date    | 2010/01/23 | Title                    |                          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Size B                   | Document Number          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date                     | Monday, January 25, 2010 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet 1                  | of 58                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev D                    |                          |

Compal Confidential

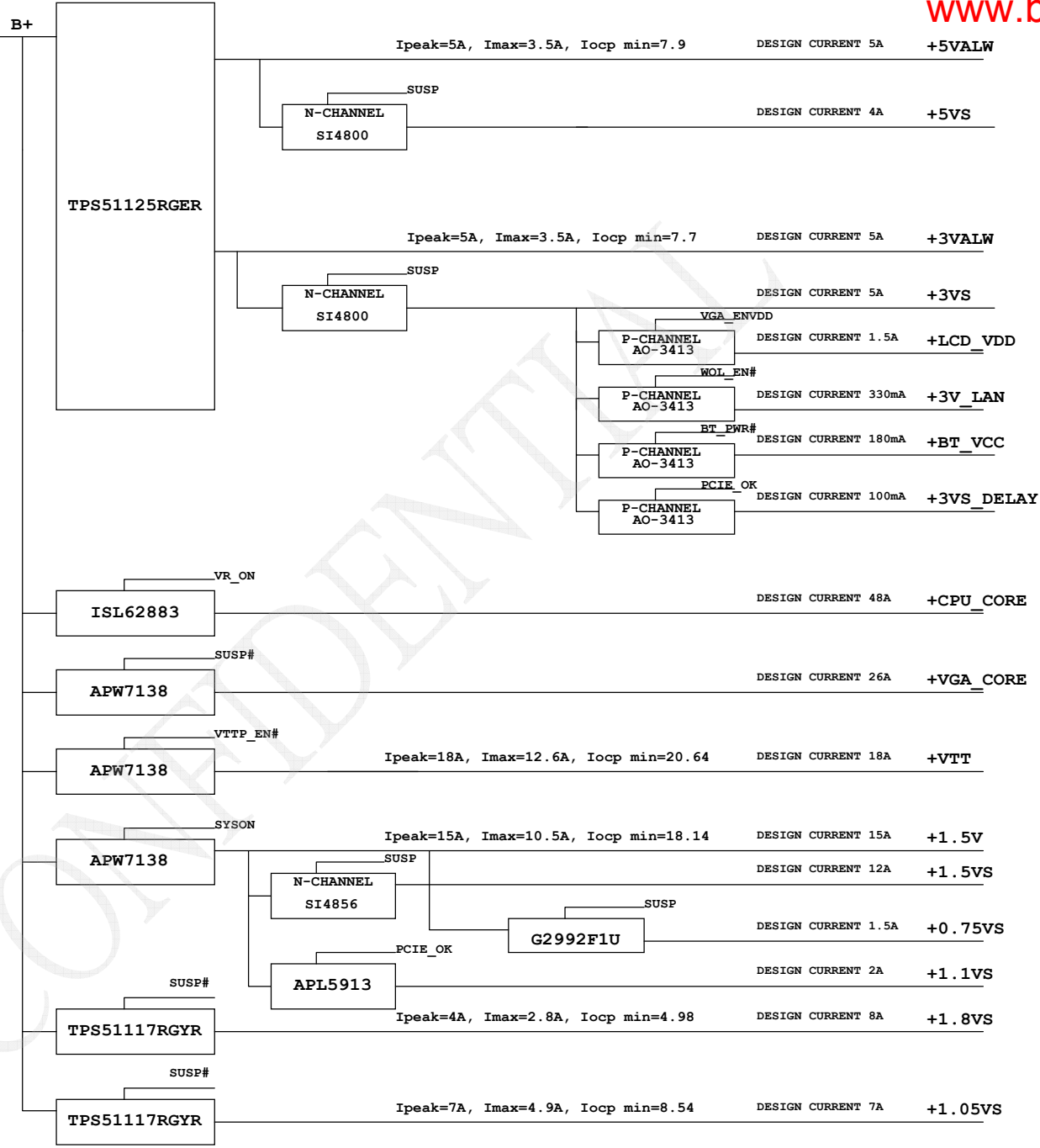
Model Name : NSWAA/NTWAA  
File Name : LA-5322P



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                          |            |                          |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------|------------|--------------------------|--|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data       |            | Compal Electronics, Inc. |  |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | Document Number          |            | Rev D                    |  |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | Monday, January 25, 2010 |            | Sheet 2 of 58            |  |

NSWAA Liverpool Intel Arrandale (Discrete)  
NTWAA Sunderland Intel Arrandale (Discrete)

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                          |            |                          |  |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | Document Number          |            | Rev D                    |  |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | Monday, January 25, 2010 |            | Sheet 3 of 58            |  |

Voltage Rails ( O MEANS ON X MEANS OFF )

| power plane<br>State           | +RTCVCC | +B | +5VALW<br>+3VALW<br>+VSB | +1.5V | +5VS<br>+3VS<br>+1.5VS<br>+VGA_CORE<br>+CPU_CORE<br>+VTT<br>+1.05VS<br>+1.8VS<br>+1.1VS<br>+0.75VS |
|--------------------------------|---------|----|--------------------------|-------|----------------------------------------------------------------------------------------------------|
|                                |         |    |                          |       |                                                                                                    |
| S0                             | O       | O  | O                        | O     | O                                                                                                  |
| S1                             | O       | O  | O                        | O     | O                                                                                                  |
| S3                             | O       | O  | O                        | O     | X                                                                                                  |
| S5 S4/AC                       | O       | O  | O                        | X     | X                                                                                                  |
| S5 S4/ Battery only            | O       | O  | X                        | X     | X                                                                                                  |
| S5 S4/AC & Battery don't exist | O       | X  | X                        | X     | X                                                                                                  |

BTO Option Table

| Function    | Bluetooth | RJ11 | Express Card | MIC  | HDMI  | Panel |     | M1/M3 |     |
|-------------|-----------|------|--------------|------|-------|-------|-----|-------|-----|
| description | (B)       |      | (E)          |      | (Y)   |       |     |       |     |
| explain     | Bluetooth | MDC  | New Card     | MIC  | HDMI  | 16"   | 17" | M1    | M3  |
| BTO         | BT@       | MDC@ | NEW@         | MIC@ | HDMI@ | 16@   | 17@ | M1@   | M3@ |

| Function    | Mini Card | VRAM  |       |       | GPU     |         |
|-------------|-----------|-------|-------|-------|---------|---------|
| description |           |       |       |       |         |         |
| explain     | WIRELESS  | 256M  | 512M  | 1G    | M92 XTX | M96 Pro |
| BTO         | WLAN@     | 2PCS@ | 4PCS@ | 8PCS@ | M92XTX@ | M96PRO@ |

| STATE                | SIGNAL | SLP_S3# | SLP_S4# | SLP_S5# |
|----------------------|--------|---------|---------|---------|
| Full ON              |        | HIGH    | HIGH    | HIGH    |
| S1(Power On Suspend) |        | HIGH    | HIGH    | HIGH    |
| S3 (Suspend to RAM)  |        | LOW     | HIGH    | HIGH    |
| S4 (Suspend to Disk) |        | LOW     | LOW     | HIGH    |
| S5 (Soft OFF)        |        | LOW     | LOW     | LOW     |
| G3                   |        | LOW     | LOW     | LOW     |

EC SM Bus1 address

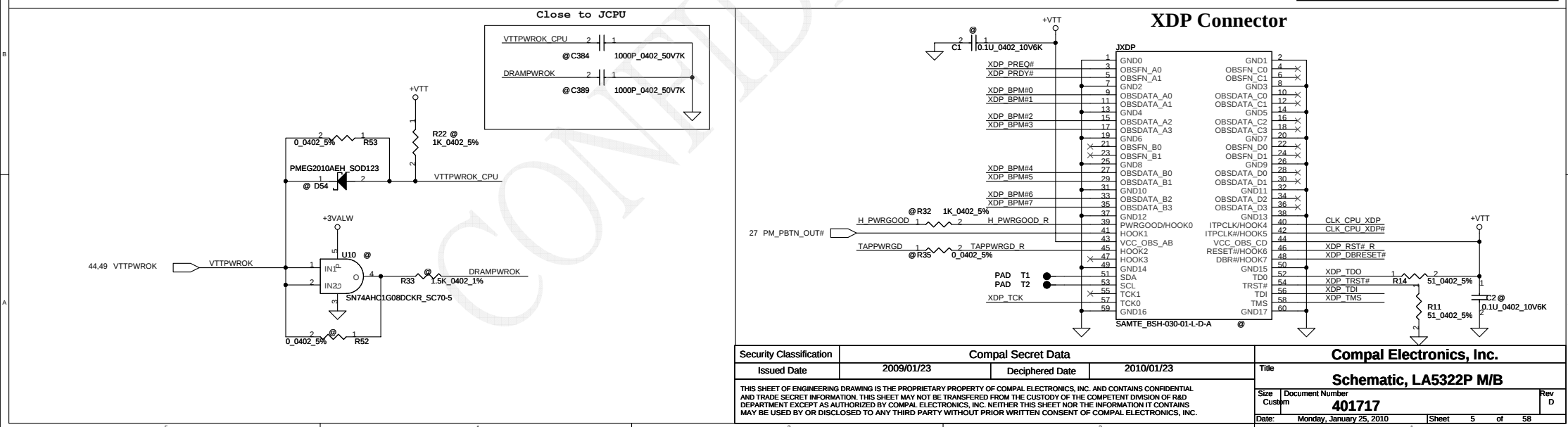
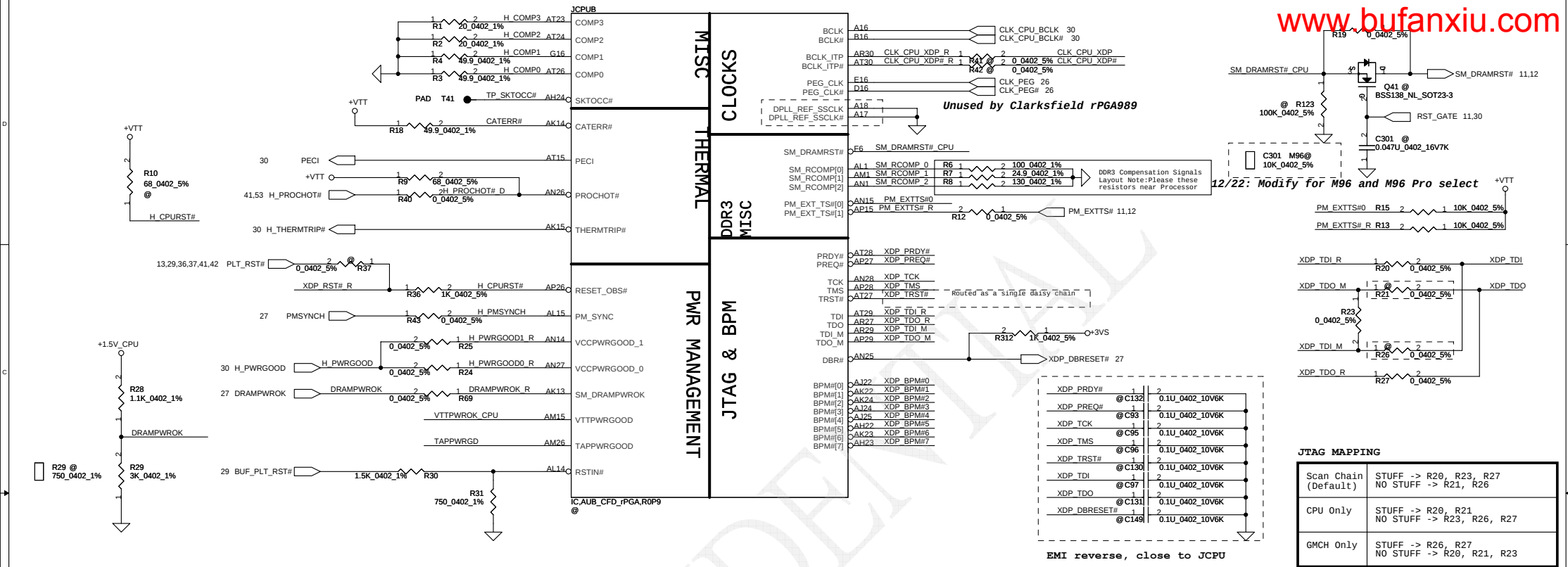
EC SM Bus2 address

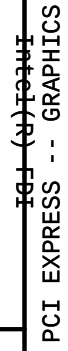
| Power  | Device        | Address     | Power | Device                     | Address     |
|--------|---------------|-------------|-------|----------------------------|-------------|
| +3VALW | EC KB926 D3   |             | +3VS  | EC KB926 D3                |             |
| +3VALW | Smart Battery | 0001 011x b | +3VS  | VGA THM Sensor ADM1032ARMZ | 1001 110x b |
|        |               |             | +3VS  | PCH                        | 0100 110x b |

PCH SM Bus address

| Power  | Device          | Address     |
|--------|-----------------|-------------|
| +3VALW | PCH             |             |
| +3VS   | Clock Generator | 1101 001x b |
| +3VS   | DDR DIMM0       | 1001 000x b |
| +3VS   | DDR DIMM1       | 1001 010x b |
| +3VS   | Express         |             |
| +3VS   | WLAN/Wimax/3G   |             |

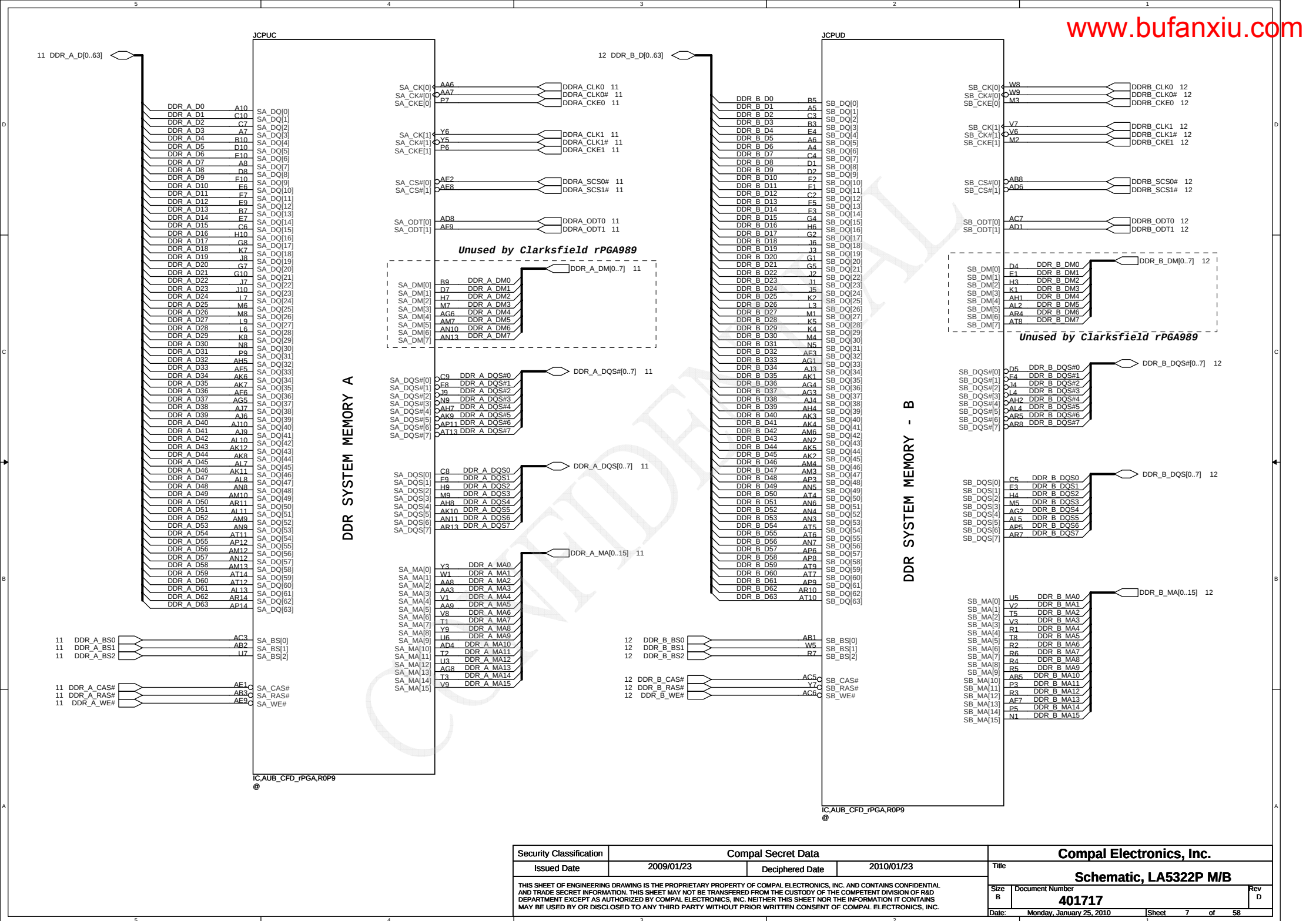
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  | Size Custom                    |  | Document Number |  | Rev D |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  | 401717                         |  |                 |  |       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  | Date: Monday, January 25, 2010 |  | Sheet 4 of 58   |  |       |  |

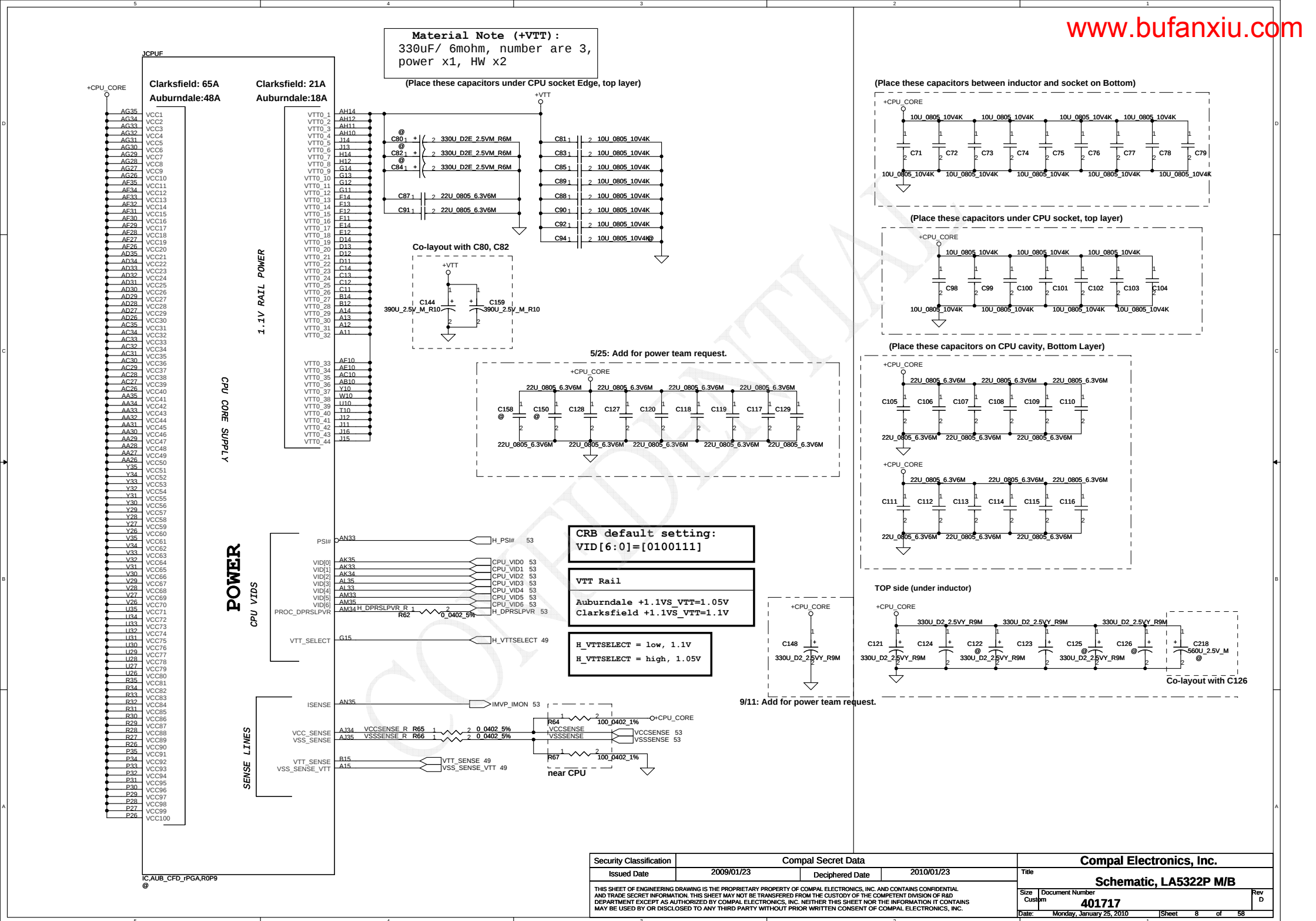


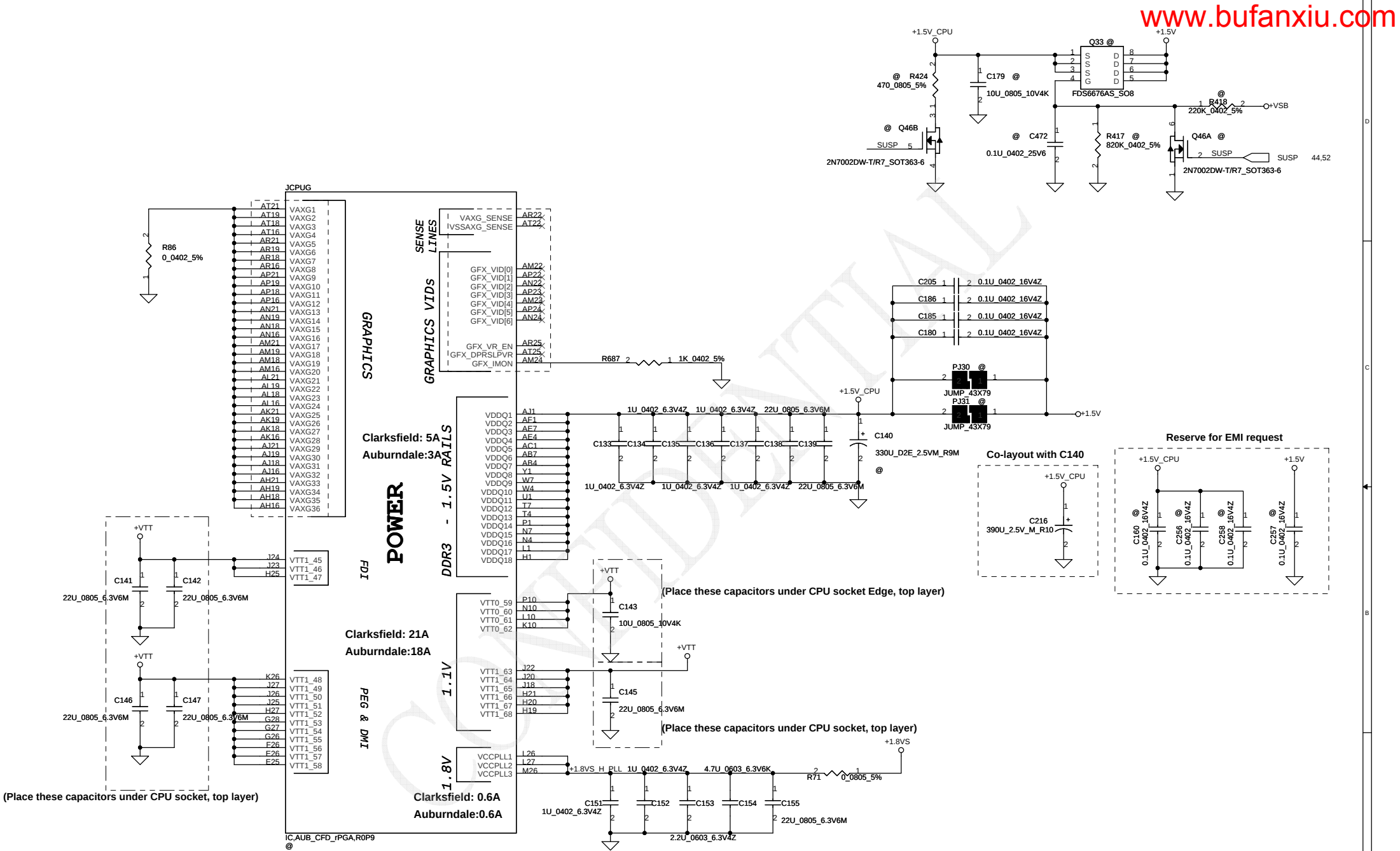


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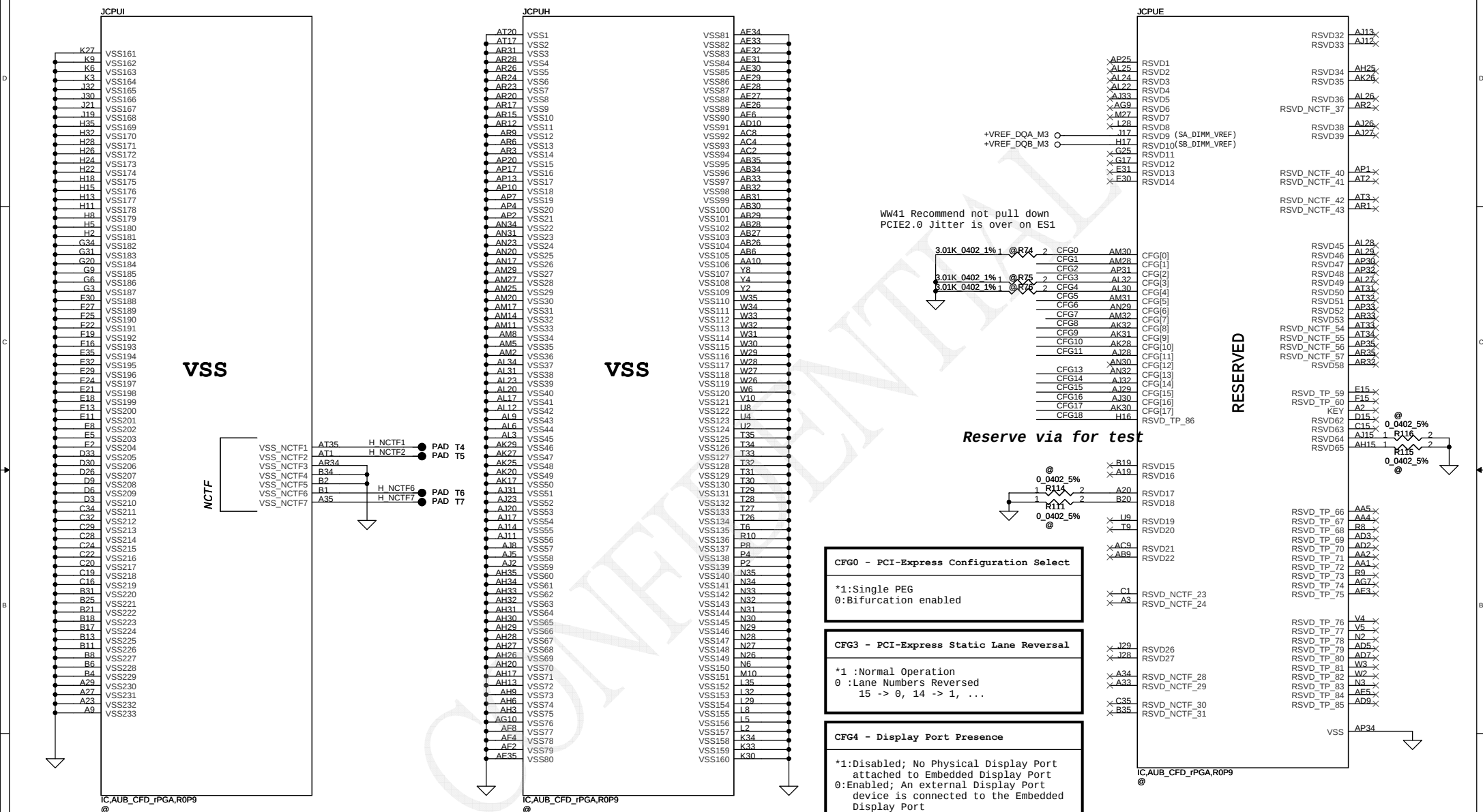
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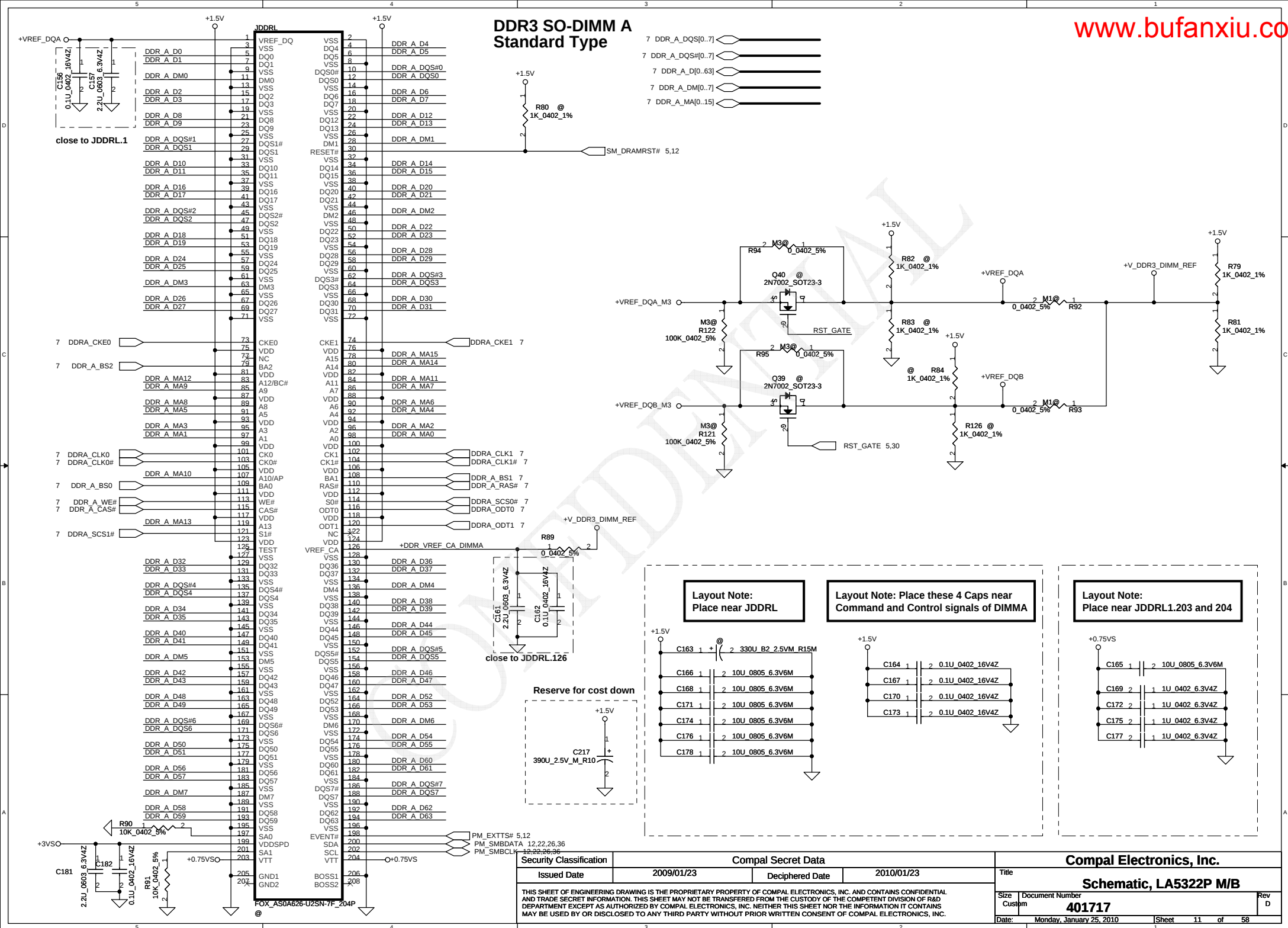




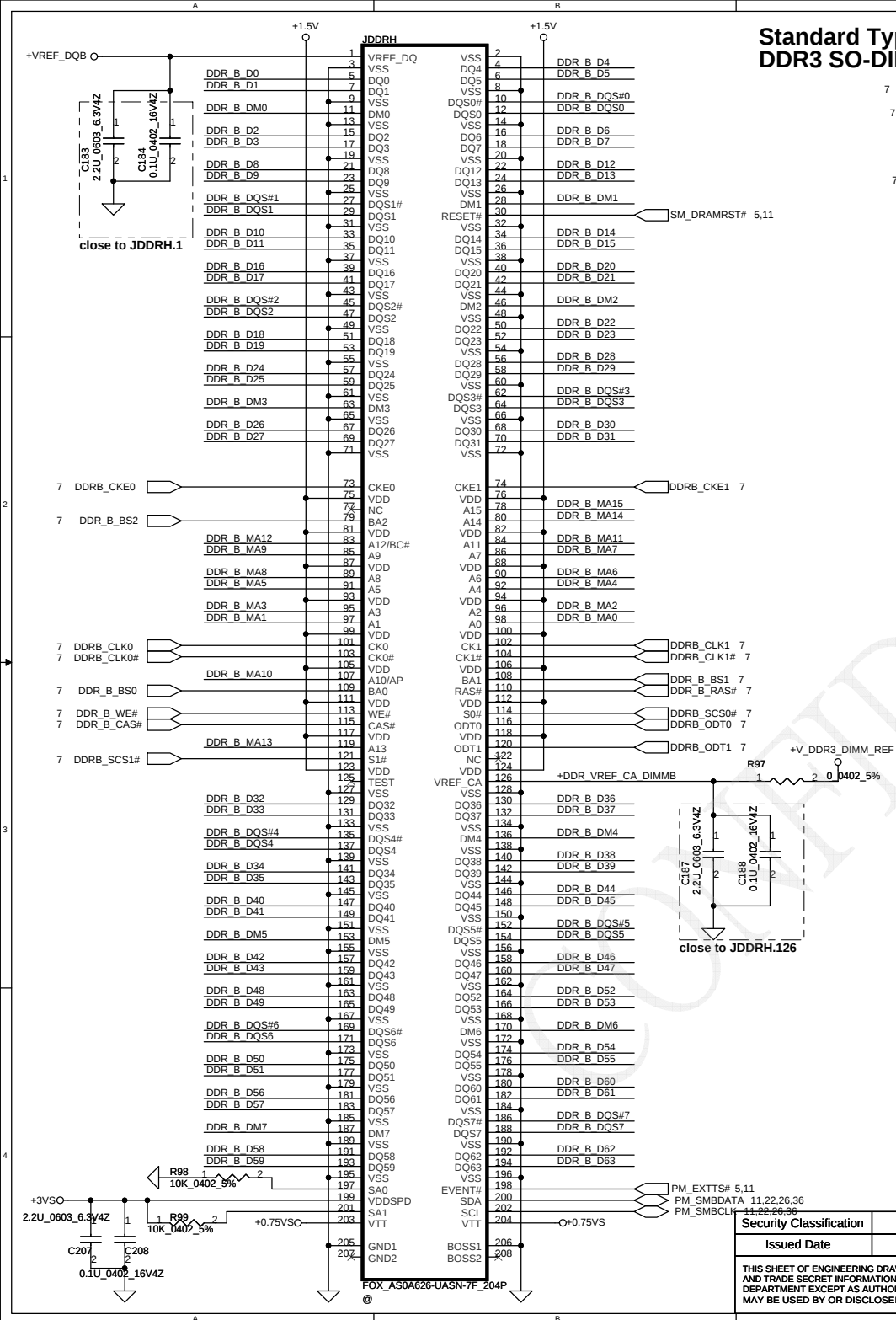


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| Size B                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Document Number          | 401717             |            | Rev D                    |    |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Monday, January 25, 2010 | Sheet              | 9          | of                       | 58 |

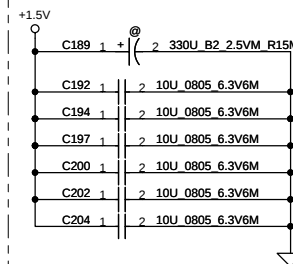




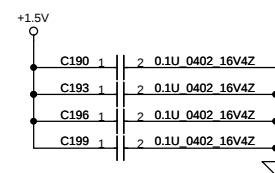
# Standard Type DDR3 SO-DIMM B



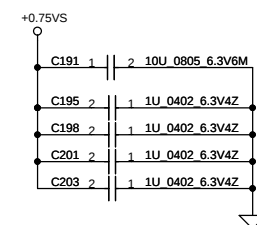
Layout Note:  
Place near JDDR.H



Layout Note: Place these 4 Caps near  
Command and Control signals of DIMMB

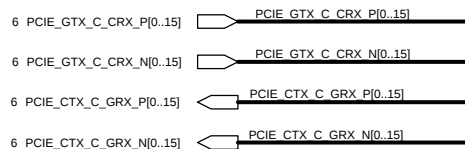


Layout Note:  
Place near JDDR.H.203 and 204



| Security Classification |  |                          |  | Compal Secret Data |  |            |  | Compal Electronics, Inc. |  |    |  |
|-------------------------|--|--------------------------|--|--------------------|--|------------|--|--------------------------|--|----|--|
| Issued Date             |  | 2009/01/23               |  | Deciphered Date    |  | 2010/01/23 |  | Title                    |  |    |  |
|                         |  |                          |  |                    |  |            |  | Schematic, LA5322P M/B   |  |    |  |
| Size                    |  | Document Number          |  |                    |  |            |  | Rev                      |  | D  |  |
| Custom                  |  | 401717                   |  |                    |  |            |  |                          |  |    |  |
| Date:                   |  | Monday, January 25, 2010 |  | Sheet              |  | 12         |  | of                       |  | 58 |  |

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## LANE Reversal

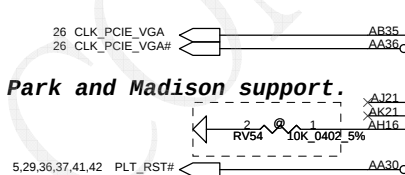
UV1A

|                    |      |            |
|--------------------|------|------------|
| PCIE_CTX_C_GRX_P15 | AA38 | PCIE_RX0P  |
| PCIE_CTX_C_GRX_N15 | Y37  | PCIE_RX0N  |
| PCIE_CTX_C_GRX_P14 | Y35  | PCIE_RX1P  |
| PCIE_CTX_C_GRX_N14 | W36  | PCIE_RX1N  |
| PCIE_CTX_C_GRX_P13 | W38  | PCIE_RX2P  |
| PCIE_CTX_C_GRX_N13 | V37  | PCIE_RX2N  |
| PCIE_CTX_C_GRX_P12 | V35  | PCIE_RX3P  |
| PCIE_CTX_C_GRX_N12 | U36  | PCIE_RX3N  |
| PCIE_CTX_C_GRX_P11 | U38  | PCIE_RX4P  |
| PCIE_CTX_C_GRX_N11 | T37  | PCIE_RX4N  |
| PCIE_CTX_C_GRX_P10 | T35  | PCIE_RX5P  |
| PCIE_CTX_C_GRX_N10 | R36  | PCIE_RX5N  |
| PCIE_CTX_C_GRX_P9  | R38  | PCIE_RX6P  |
| PCIE_CTX_C_GRX_N9  | P37  | PCIE_RX6N  |
| PCIE_CTX_C_GRX_P8  | P35  | PCIE_RX7P  |
| PCIE_CTX_C_GRX_N8  | N36  | PCIE_RX7N  |
| PCIE_CTX_C_GRX_P7  | N38  | PCIE_RX8P  |
| PCIE_CTX_C_GRX_N7  | M37  | PCIE_RX8N  |
| PCIE_CTX_C_GRX_P6  | M35  | PCIE_RX9P  |
| PCIE_CTX_C_GRX_N6  | L36  | PCIE_RX9N  |
| PCIE_CTX_C_GRX_P5  | L38  | PCIE_RX10P |
| PCIE_CTX_C_GRX_N5  | K37  | PCIE_RX10N |
| PCIE_CTX_C_GRX_P4  | K35  | PCIE_RX11P |
| PCIE_CTX_C_GRX_N4  | J36  | PCIE_RX11N |
| PCIE_CTX_C_GRX_P3  | J38  | PCIE_RX12P |
| PCIE_CTX_C_GRX_N3  | H37  | PCIE_RX12N |
| PCIE_CTX_C_GRX_P2  | H35  | PCIE_RX13P |
| PCIE_CTX_C_GRX_N2  | G36  | PCIE_RX13N |
| PCIE_CTX_C_GRX_P1  | G38  | PCIE_RX14P |
| PCIE_CTX_C_GRX_N1  | F37  | PCIE_RX14N |
| PCIE_CTX_C_GRX_P0  | F35  | PCIE_RX15P |
| PCIE_CTX_C_GRX_N0  | E36  | PCIE_RX15N |

## LANE Reversal

|            |     |                  |     |   |   |                 |                    |
|------------|-----|------------------|-----|---|---|-----------------|--------------------|
| PCIE_TX0P  | Y33 | PCIE GTX CRX P15 | C38 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX P15 |
| PCIE_TX0N  | Y32 | PCIE GTX CRX N15 | C22 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX N15 |
| PCIE_TX1P  | W33 | PCIE GTX CRX P14 | C37 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX P14 |
| PCIE_TX1N  | W32 | PCIE GTX CRX N14 | C21 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX N14 |
| PCIE_TX2P  | U33 | PCIE GTX CRX P13 | C36 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX P13 |
| PCIE_TX2N  | U32 | PCIE GTX CRX N13 | C20 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX N13 |
| PCIE_TX3P  | U30 | PCIE GTX CRX P12 | C35 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX P12 |
| PCIE_TX3N  | U29 | PCIE GTX CRX N12 | C19 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX N12 |
| PCIE_TX4P  | T33 | PCIE GTX CRX P11 | C34 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX P11 |
| PCIE_TX4N  | T32 | PCIE GTX CRX N11 | C18 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX N11 |
| PCIE_TX5P  | T30 | PCIE GTX CRX P10 | C33 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX P10 |
| PCIE_TX5N  | T29 | PCIE GTX CRX N10 | C17 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX N10 |
| PCIE_TX6P  | P33 | PCIE GTX CRX P9  | C32 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX P9  |
| PCIE_TX6N  | P32 | PCIE GTX CRX N9  | C16 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX N9  |
| PCIE_TX7P  | P30 | PCIE GTX CRX P8  | C31 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX P8  |
| PCIE_TX7N  | P29 | PCIE GTX CRX N8  | C15 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX N8  |
| PCIE_TX8P  | N33 | PCIE GTX CRX P7  | C30 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX P7  |
| PCIE_TX8N  | N32 | PCIE GTX CRX N7  | C14 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX N7  |
| PCIE_TX9P  | N30 | PCIE GTX CRX P6  | C29 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX P6  |
| PCIE_TX9N  | N29 | PCIE GTX CRX N6  | C13 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX N6  |
| PCIE_TX10P | L33 | PCIE GTX CRX P5  | C28 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX P5  |
| PCIE_TX10N | L32 | PCIE GTX CRX N5  | C12 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX N5  |
| PCIE_TX11P | L30 | PCIE GTX CRX P4  | C27 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX P4  |
| PCIE_TX11N | L29 | PCIE GTX CRX N4  | C11 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX N4  |
| PCIE_TX12P | K33 | PCIE GTX CRX P3  | C26 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX P3  |
| PCIE_TX12N | K32 | PCIE GTX CRX N3  | C10 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX N3  |
| PCIE_TX13P | J33 | PCIE GTX CRX P2  | C25 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX P2  |
| PCIE_TX13N | J32 | PCIE GTX CRX N2  | C9  | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX N2  |
| PCIE_TX14P | K30 | PCIE GTX CRX P1  | C24 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX P1  |
| PCIE_TX14N | K29 | PCIE GTX CRX N1  | C8  | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX N1  |
| PCIE_TX15P | H33 | PCIE GTX CRX P0  | C23 | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX P0  |
| PCIE_TX15N | H32 | PCIE GTX CRX N0  | C7  | 1 | 2 | 0.1U 0402 16V7K | PCIE GTX C CRX N0  |

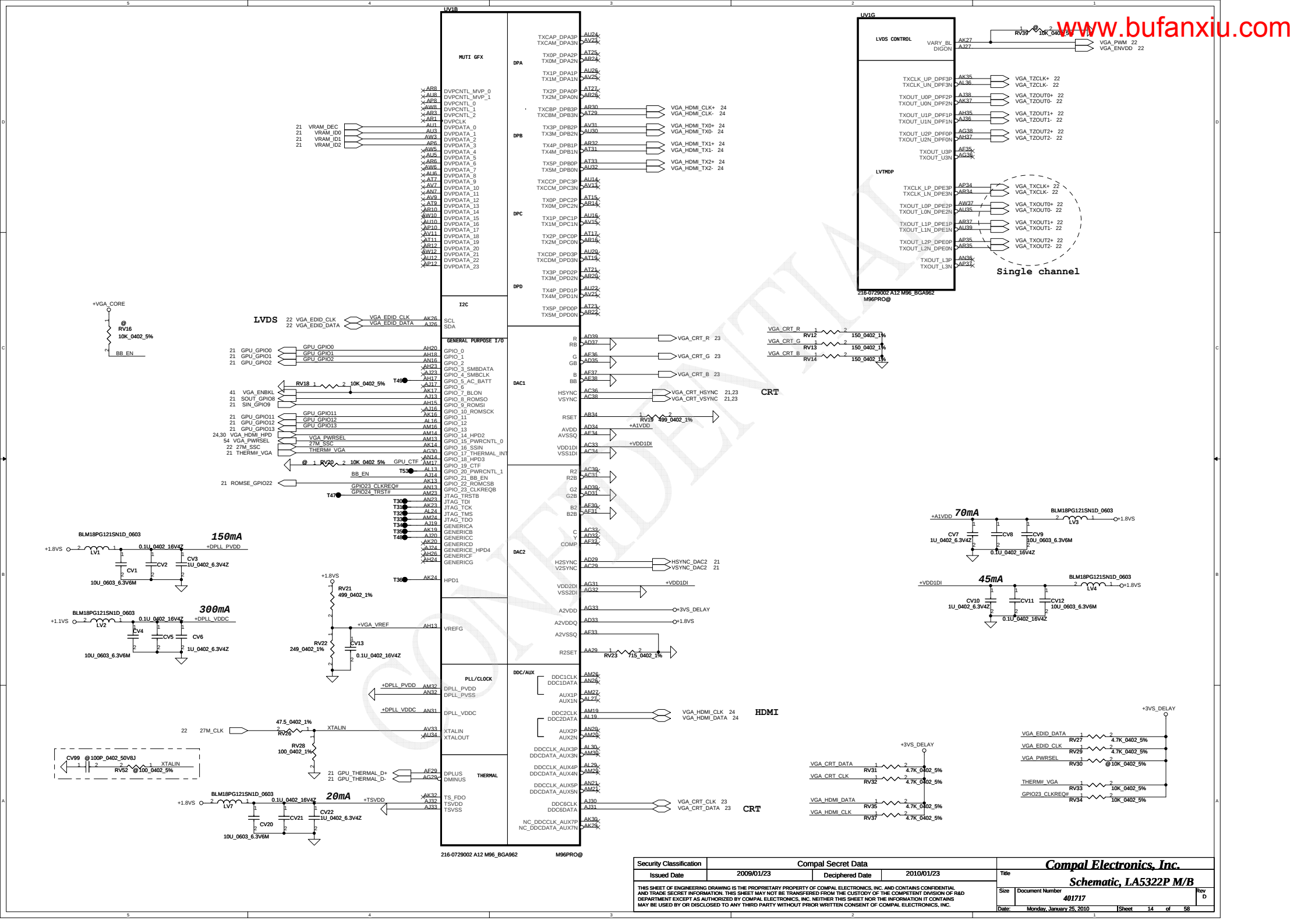
## PCI EXPRESS INTERFACE

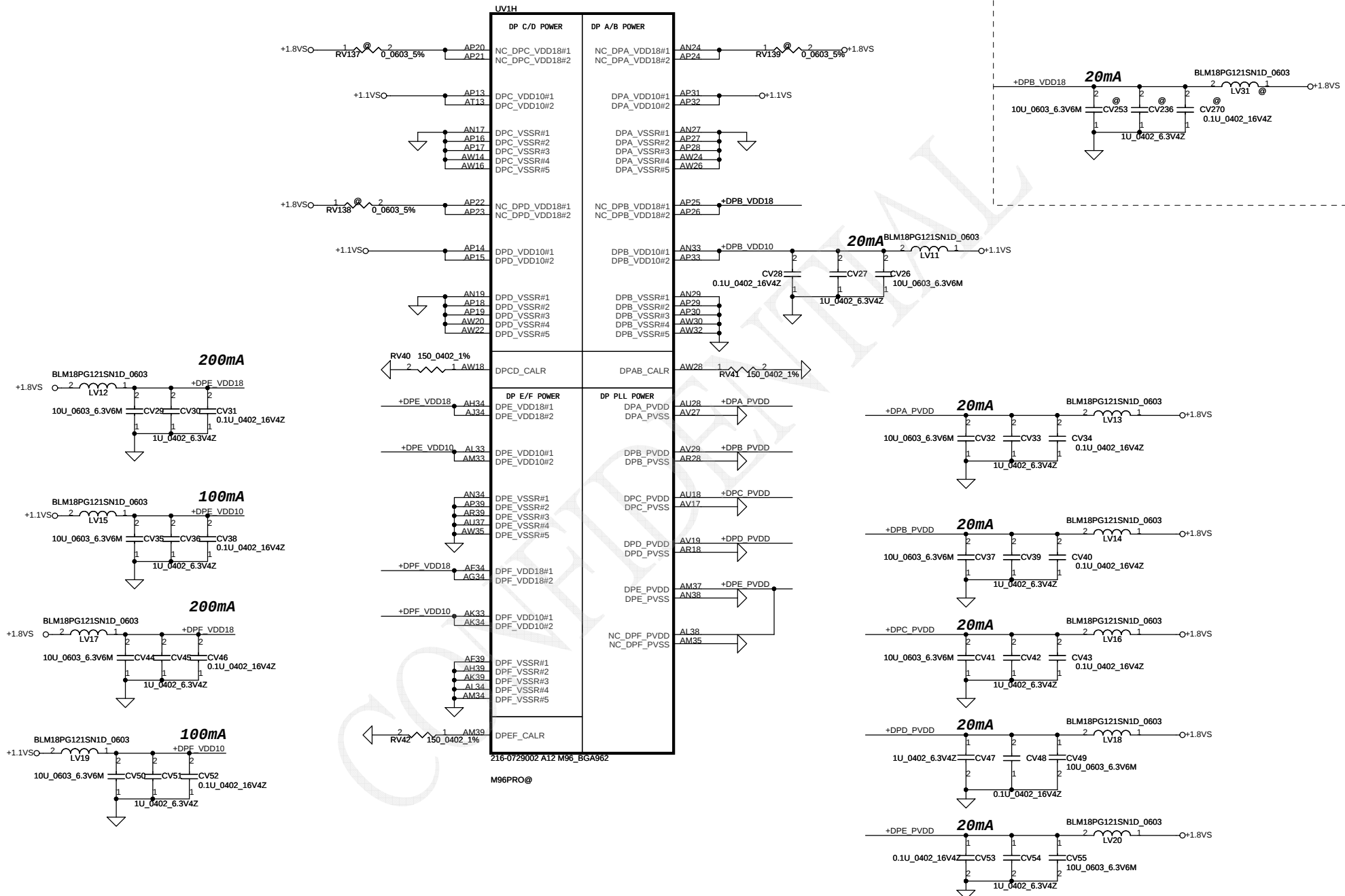


216-0729002 A12 M96\_BGA062

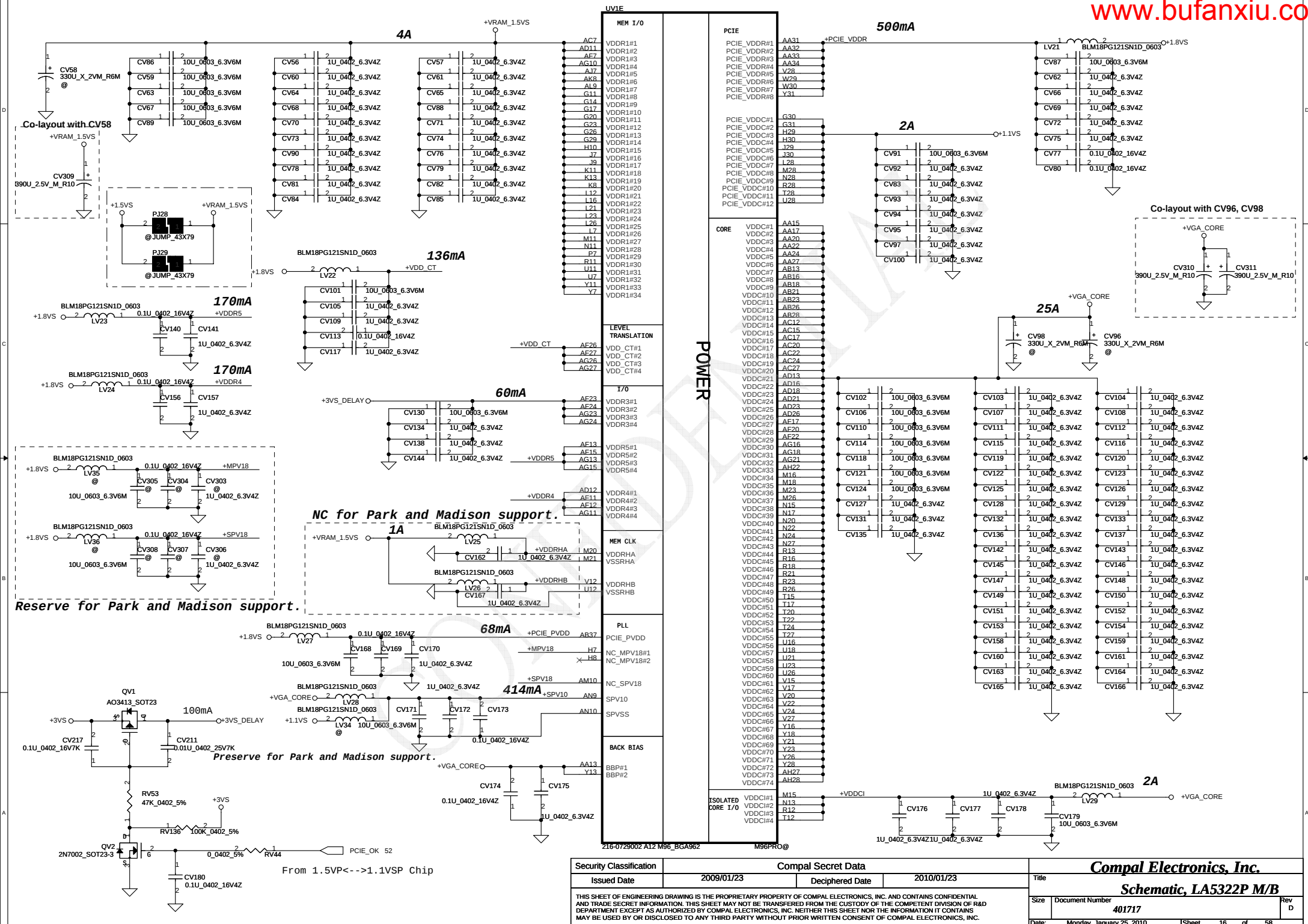
M96PRO@

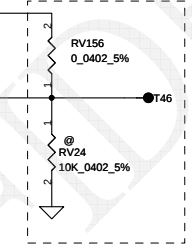
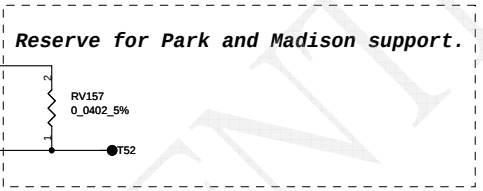
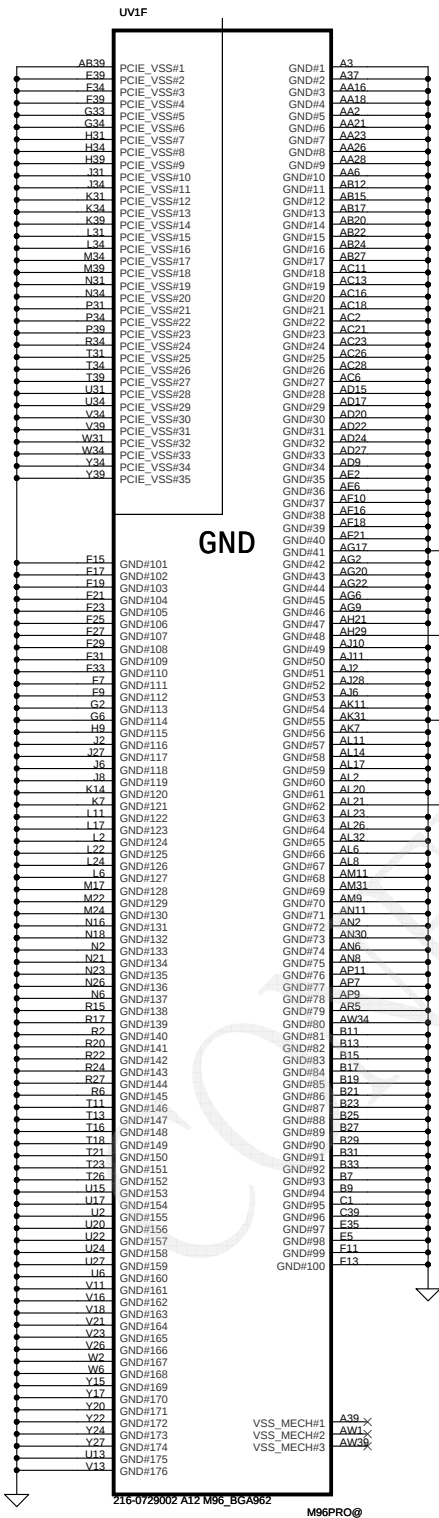
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                          |            |                          |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------|------------|--------------------------|--|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data       |            | Compal Electronics, Inc. |  |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | Document Number          |            | Rev D                    |  |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | Monday, January 25, 2010 |            | Sheet 13 of 58           |  |





| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                 |
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| Date: Monday, January 25, 2010                                                                                                                                                                                                                                                                                                                                                                                                                                |            | Sheet 15 of 58     |            |                          |                 |





Reserve for Park and Madison support.

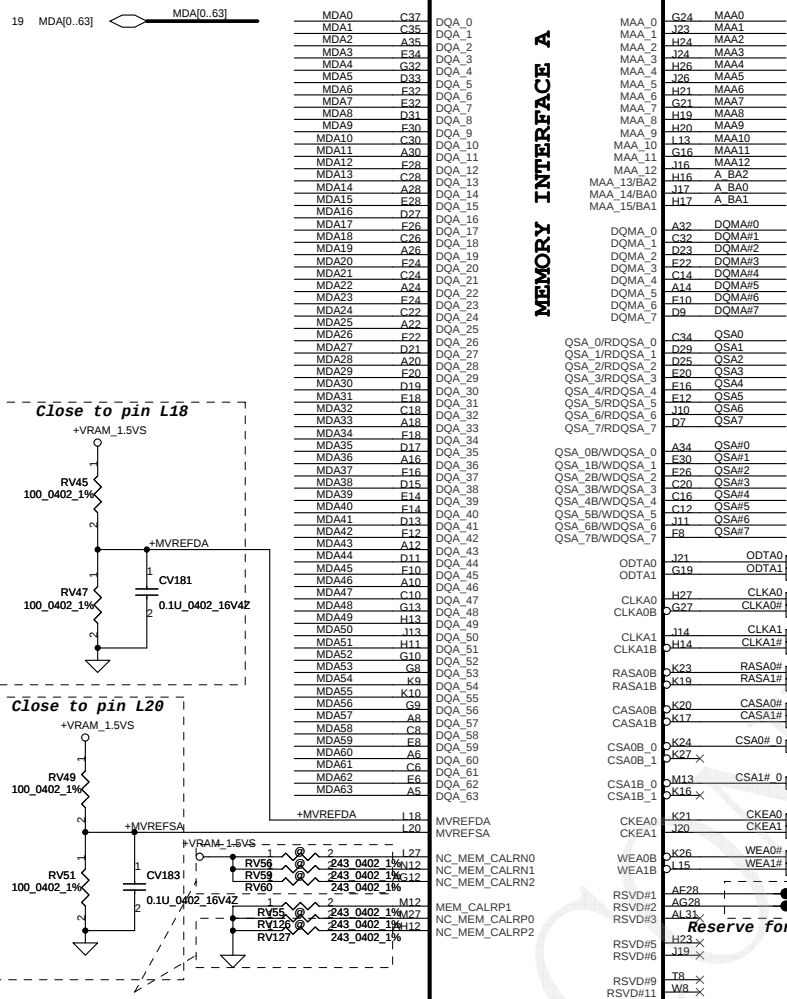
| Security Classification |  |            |  | Compal Secret Data |  | Compal Electronics, Inc. |  |                                |
|-------------------------|--|------------|--|--------------------|--|--------------------------|--|--------------------------------|
| Issued Date             |  | 2009/01/23 |  | Deciphered Date    |  | 2010/01/23               |  | Title                          |
|                         |  |            |  |                    |  |                          |  | Schematic, LA5322P M/B         |
|                         |  |            |  |                    |  |                          |  | 401717                         |
|                         |  |            |  |                    |  |                          |  | Rev D                          |
|                         |  |            |  |                    |  |                          |  | Date: Monday, January 25, 2010 |
|                         |  |            |  |                    |  |                          |  | Sheet 17 of 58                 |

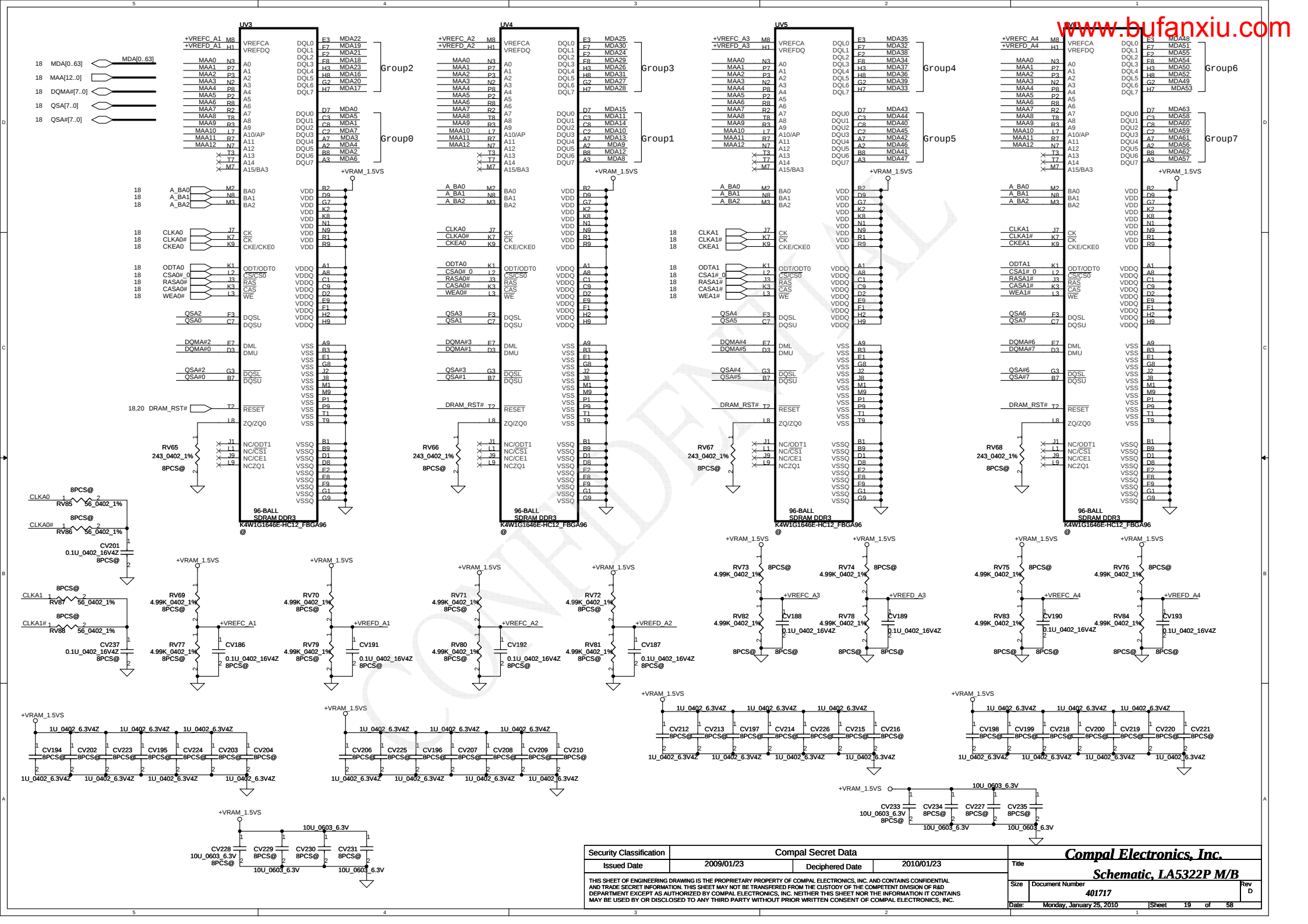
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M92-M2 uses memory group B only

## MEMORY INTERFACE A

UVIC





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Security Classification

| Issued Date        | 2009/01/23 | Deciphered Date | 2010/01/23 |
|--------------------|------------|-----------------|------------|
| Compal Secret Data |            |                 |            |

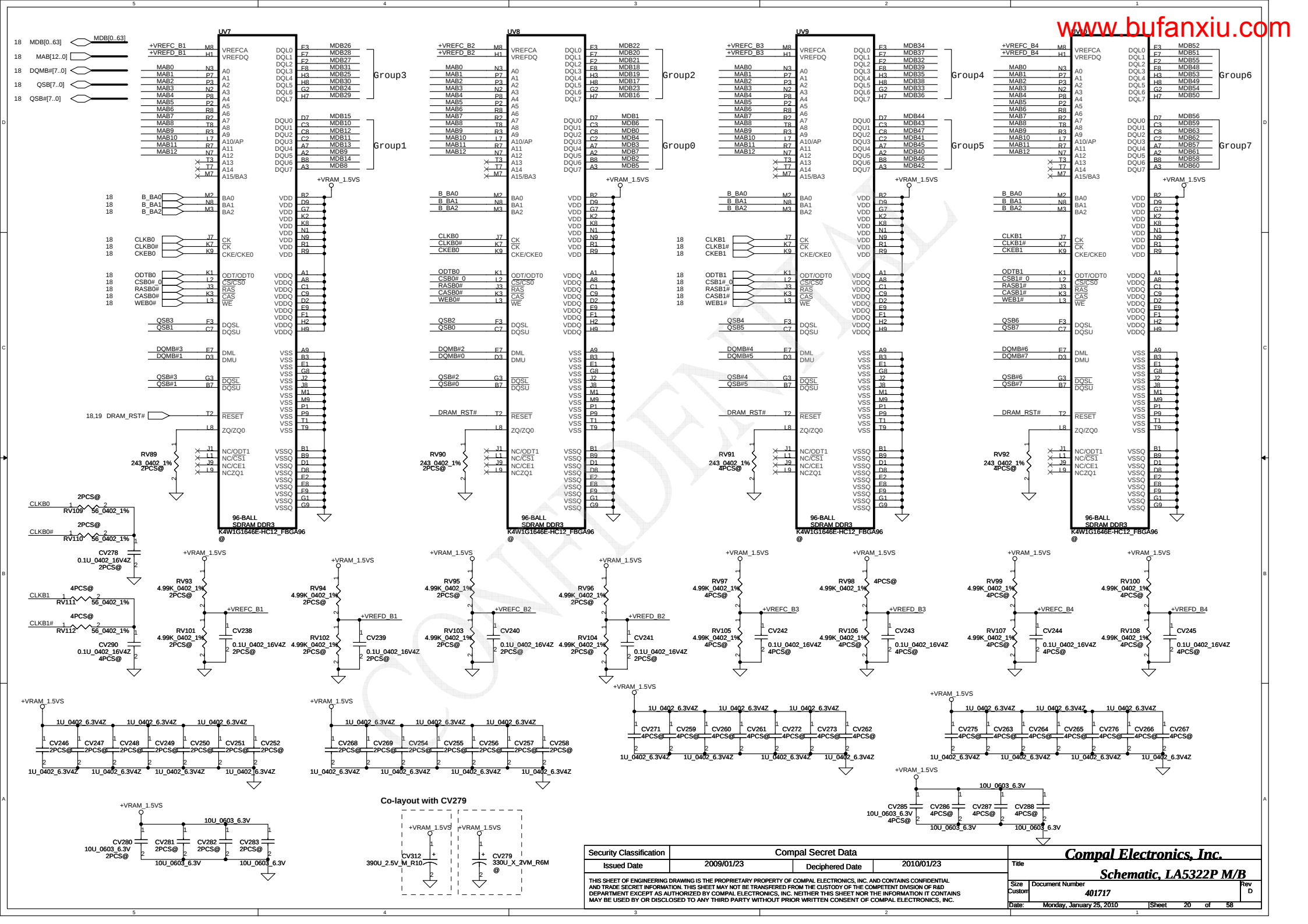
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Compal Electronics, Inc.  
Schematic, LA5322P M/B

Rev D

Monday, January 25, 2010

Sheet 19 of 58



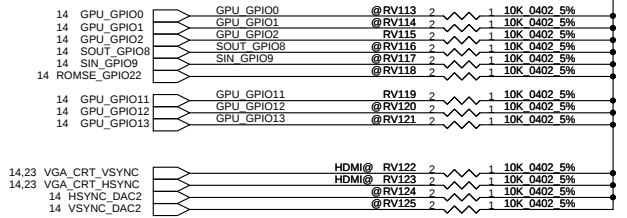
The schematic diagram illustrates the electrical layout of the LA5322P M/B board. It features several integrated circuits (ICs) and passive components (resistors, capacitors) connected in a complex network. The components are organized into sections labeled UV7, UV8, UV9, and UV10, each containing a group of components. The diagram includes a security classification table at the bottom right and a title block at the bottom left.

| Security Classification |            | Compal Secret Data |            |
|-------------------------|------------|--------------------|------------|
| Issued Date             | 2009/01/23 | Deciphered Date    | 2010/01/23 |

**Compal Electronics, Inc.**  
**Schematic, LA5322P M/B**

Size: 401717  
 Date: Monday, January 25, 2010  
 Sheet: 20 of 58

## STRAPS



## CONFIGURATION STRAPS

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

| STRAPS               | PIN            | DESCRIPTION OF DEFAULT SETTINGS                                                                                                                                                 | RECOMMENDED SETTINGS |
|----------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| TX_PWRS_ENB          | GPIO0          | PCIE FULL TX OUTPUT SWING                                                                                                                                                       | 0                    |
| TX_DEEMPH_EN         | GPIO1          | PCIE TRANSMITTER DE-EMPHASIS ENABLED                                                                                                                                            | 0                    |
| BIF_GEN2_EN_A        | GPIO2          | PCIE GNE2 ENABLED                                                                                                                                                               | 1                    |
| BIF_CLK_PM_EN        | GPIO8          | BIF_CLK_PM_EN                                                                                                                                                                   | 0                    |
| BIF_VGA_DIS          | GPIO9          | VGA Controller ENABLED                                                                                                                                                          | 0 (Enable)           |
| BIOS_ROM_EN          | GPIO_22_ROMCSB | Enable External BIOS device                                                                                                                                                     | 0                    |
| ROMIDCFG(2:0)        | GPIO[13:11]    | ROM Configurations                                                                                                                                                              | 0 0 1                |
| VIP_DEVICE_STRAP_ENA | VSYNC_DAC2     | IGNORE VIP DEVICE STRAPS                                                                                                                                                        | 0                    |
| AUD[1]<br>AUD[0]     | HSYNC<br>VSYNC | AUD[1] AUD[0]<br>0 0 No audio function<br>0 1 Audio for DisplayPort and HDMI if dongle is detected<br>1 0 Audio for DisplayPort only<br>1 1 Audio for both DisplayPort and HDMI | 1 1                  |
| RSVD                 | HSYNC_DAC2     |                                                                                                                                                                                 | 0                    |
| RSVD                 | GENERICC       |                                                                                                                                                                                 | 0                    |

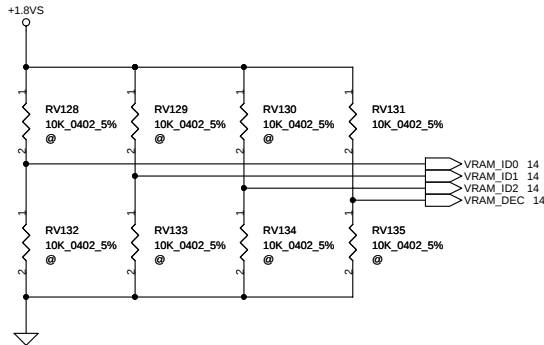
## AMD RESERVED CONFIGURATION STRAPS

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

HSYNC\_DAC2 GENERICC

PULLUP PADS ARE NOT REQUIRED FOR THESE STRAPS BUT IF THESE GPIOs ARE USED, THEY MUST NOT CONFLICT DURING RESET

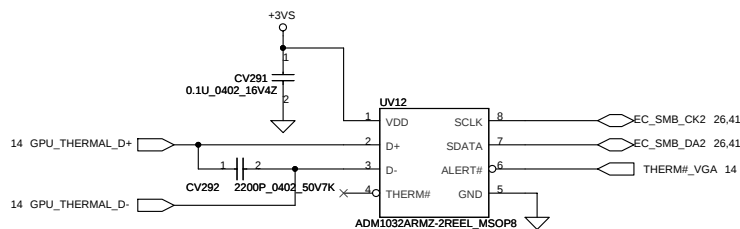
GPIO\_28\_TDO GPIO21\_BB\_EN



| DDR3     |   |
|----------|---|
| VRAM_DEC | 1 |

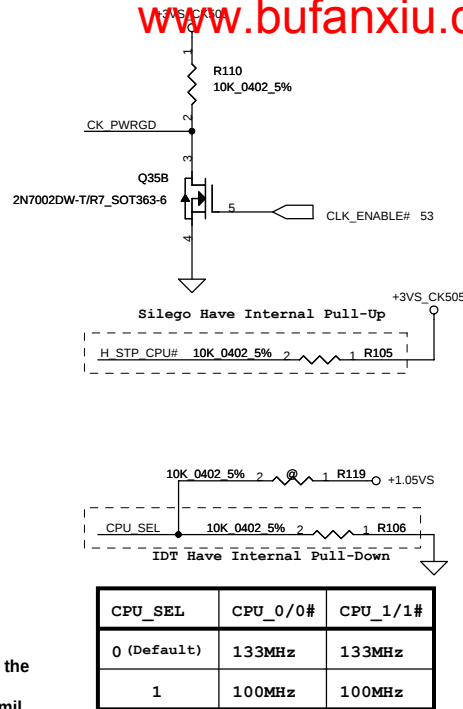
| STRAPS       | PIN             | GPU       | VRAM size        | Vendor Part Number# | Compal Part Number# | VRAM_ID 2,1,0 |
|--------------|-----------------|-----------|------------------|---------------------|---------------------|---------------|
| VRAM_ID[2:0] | DVPDATA (3,2,1) | M92-M2 XT | 512M 64Mx16 (x4) | HYN H5TQ1G63BFR-12C | SA000032400         | 0 0 0         |
|              |                 | M96-M2    | 1G 64Mx16 (x8)   | HYN H5TQ1G63BFR-12C | SA000032400         | 0 0 1         |
|              |                 | M92-M2 XT | 256M 64Mx16 (x2) | HYN H5TQ1G63BFR-12C | SA000032400         | 0 1 0         |
|              |                 | M96-M2    | 1G 64Mx16 (x8)   | SAM K4W1G1646E-HC12 | SA000035700         | 0 1 1         |
|              |                 | M92-M2 XT | 512M 64Mx16 (x4) | SAM K4W1G1646E-HC12 | SA000035700         | 1 0 0         |
|              |                 | M92-M2 XT | 256M 64Mx16 (x2) | SAM K4W1G1646E-HC12 | SA000035700         | 1 0 1         |

## External VGA Thermal Sensor



| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                          |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date:                    | Monday, January 25, 2010 | Sheet 21 of 58 |

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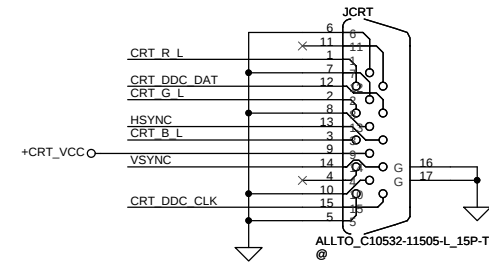
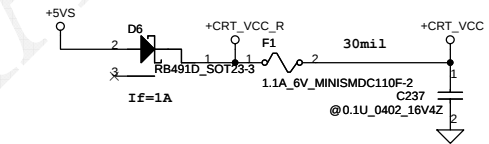
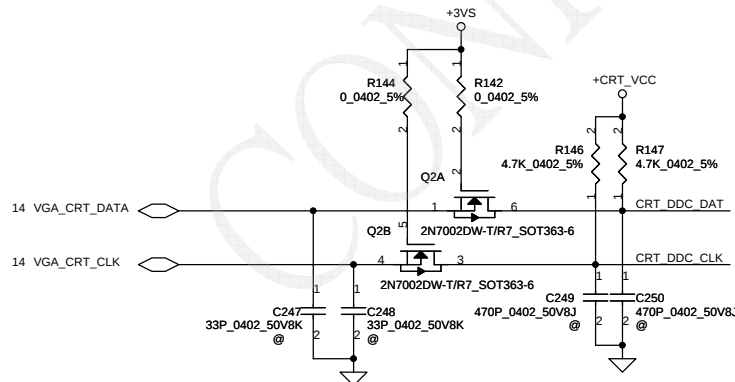
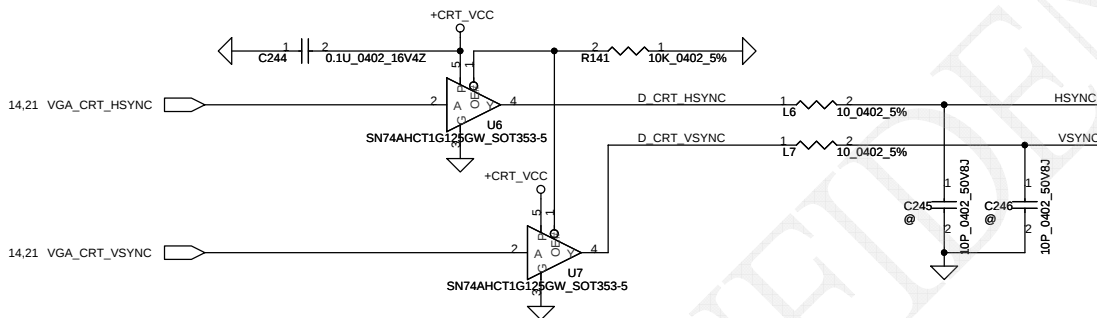
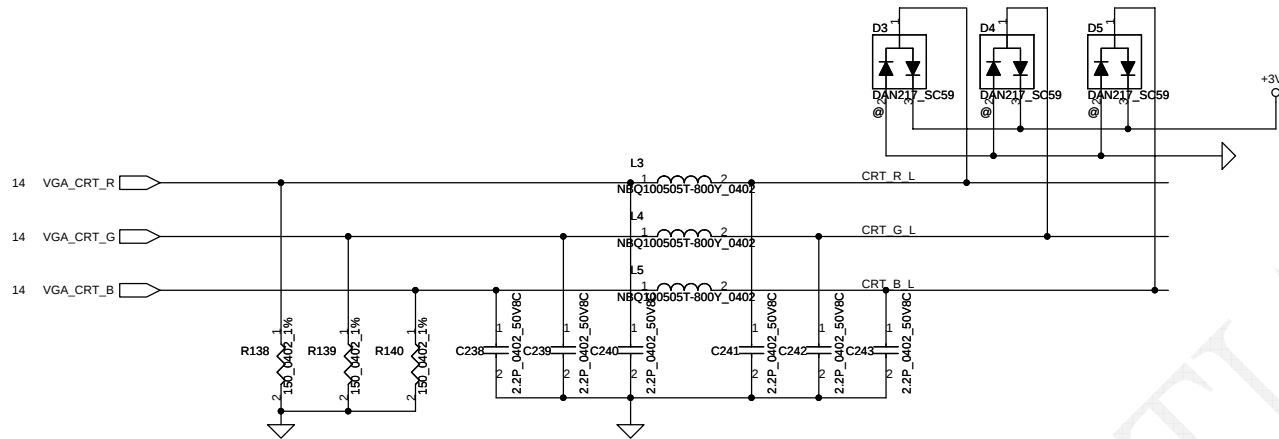


| CPU_SEL     | CPU_0/0# | CPU_1/1# |
|-------------|----------|----------|
| 0 (Default) | 133MHz   | 133MHz   |
| 1           | 100MHz   | 100MHz   |

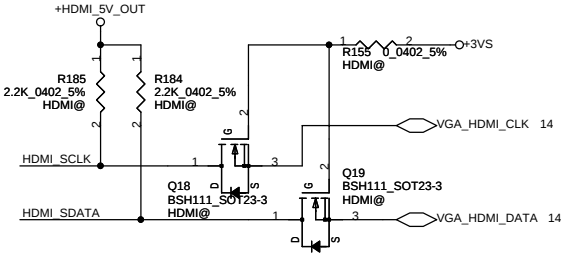
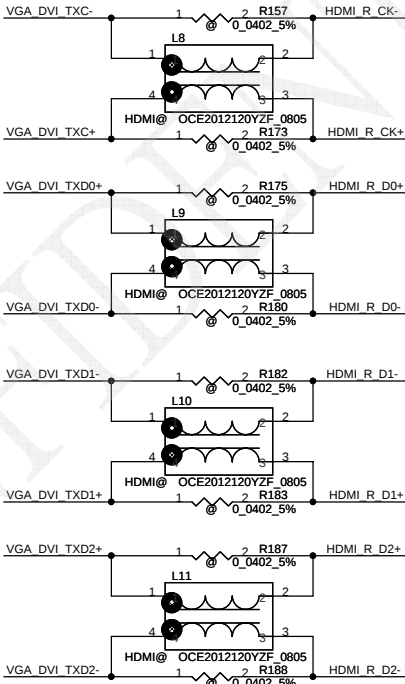
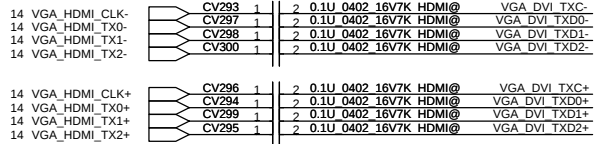
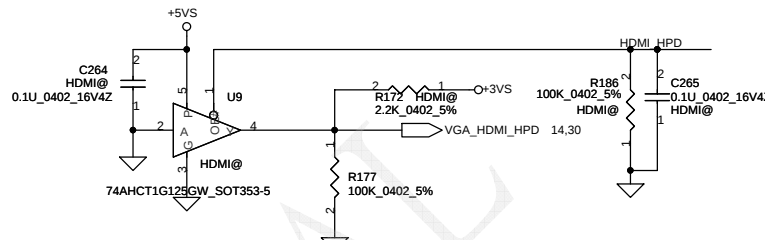
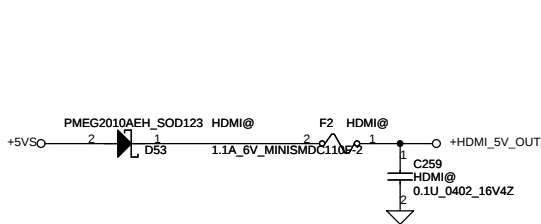
Routing the trace at least 10mil

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                                |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Custom                         | D              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Document Number                |                |
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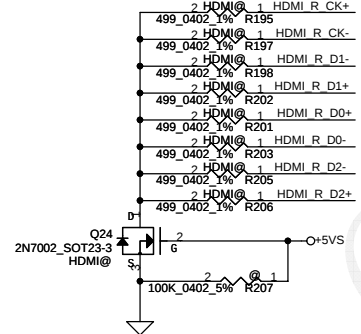
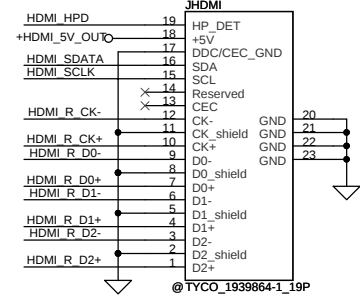
# CRT CONNECTOR



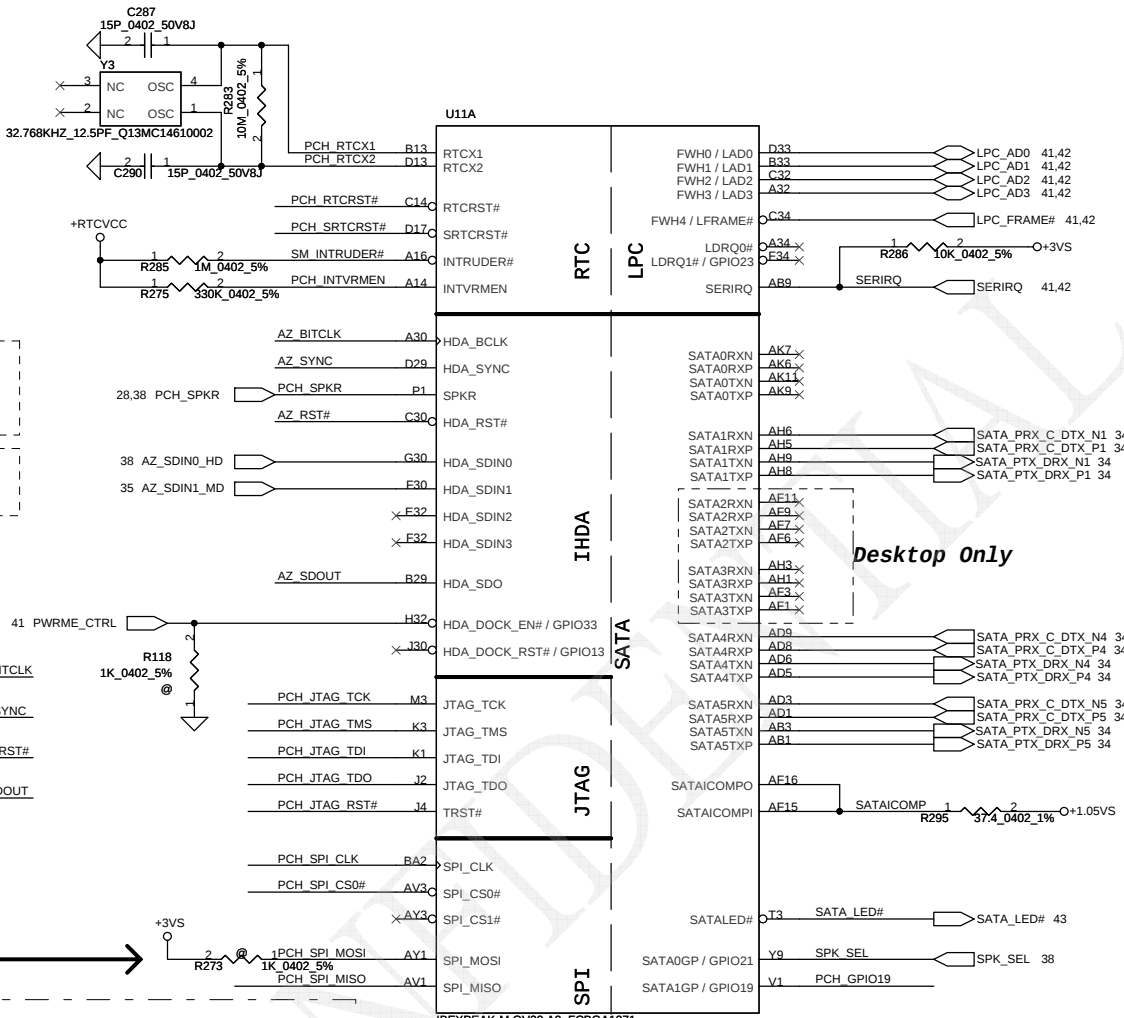
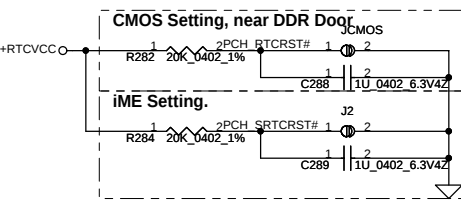
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                          |
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HDMI Connector



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                          |            |                          |  |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | Document Number          |            | Rev D                    |  |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | Monday, January 25, 2010 |            | Sheet 24 of 58           |  |



**Integrated SUS 1.05V VRM Enable**

|              |                                                         |
|--------------|---------------------------------------------------------|
| PCH_INTVRMEN | High - Enable Internal VRs (must be always pulled high) |
|--------------|---------------------------------------------------------|

**HDA\_SYNC**

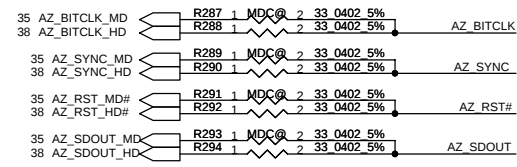
This signal has a weak internal pull down.  
H=>On Die PLL is supplied by 1.5V  
L=>On Die PLL is supplied by 1.8V

**HDA\_SDO**

This signal has a weak internal pull down.  
This signal can't PU

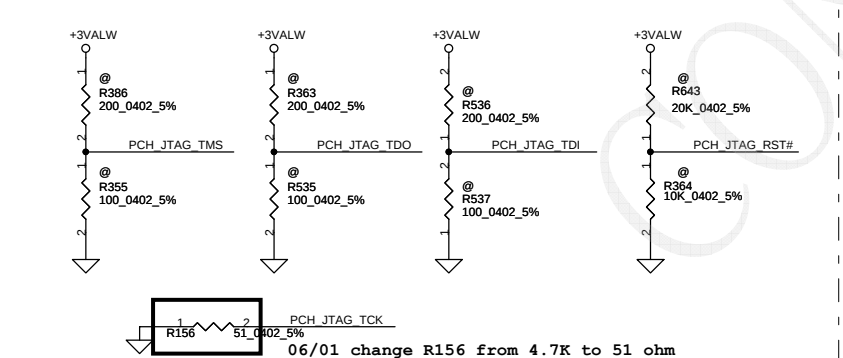
**Flash Descriptor Security Override**

|              |                                    |
|--------------|------------------------------------|
| HDA_DOCK_EN# | Low = Enabled<br>High = Disabled * |
|--------------|------------------------------------|



**ITPM Enabled Internal: Pull down 20k**

|          |                                            |
|----------|--------------------------------------------|
| SPI_MOSI | High = Enabled<br>Low = Disabled (Default) |
|----------|--------------------------------------------|



| PCH Pin       | RefDes | PCH JTAG Enable |        | PCH JTAG Disable (Default) |            |
|---------------|--------|-----------------|--------|----------------------------|------------|
|               |        | ES1             | ES2    | ES1                        | ES2        |
| PCH_JTAG_TDO  | R358   | No Install      | 280ohm | No Install                 | No Install |
| PCH_JTAG_TMS  | R355   | No Install      | 180ohm | No Install                 | No Install |
| PCH_JTAG_TDI  | R354   | 180ohm          | 180ohm | No Install                 | No Install |
| PCH_JTAG_TDO  | R356   | 280ohm          | 280ohm | 28Kohm                     | No Install |
| PCH_JTAG_TDI  | R537   | 180ohm          | 180ohm | 18Kohm                     | No Install |
| PCH_JTAG_TCK  | R156   | 51ohm           | 51ohm  | 51ohm                      | 51ohm      |
| PCH_JTAG_RST# | R643   | 28Kohm          | 28Kohm | No Install                 | No Install |
| PCH_JTAG_RST# | R353   | 18Kohm          | 18Kohm | No Install                 | No Install |

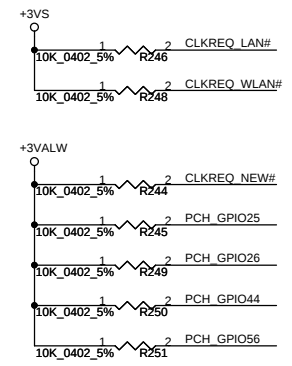
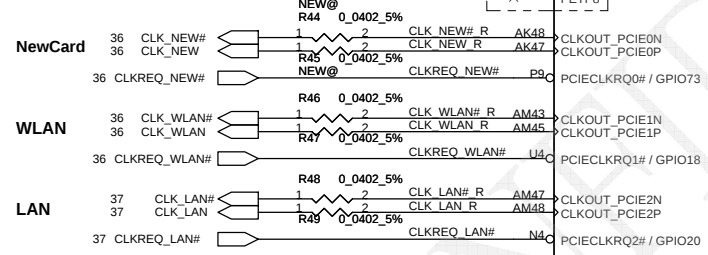
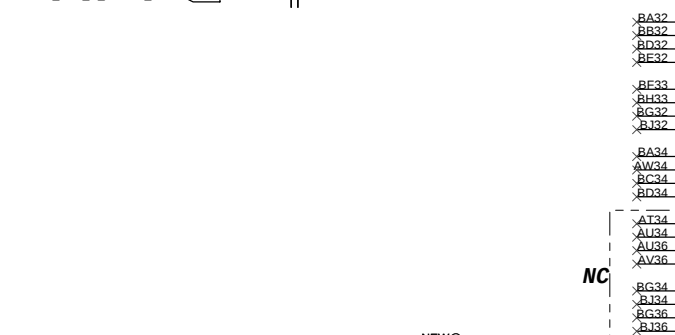
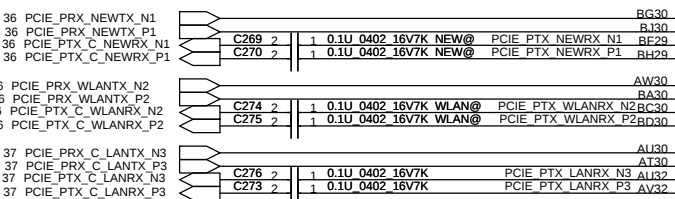
06/01 change R156 from 4.7K to 51 ohm

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                    |            |                          |                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|------------|--------------------------|------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          | Compal Secret Data |            | Compal Electronics, Inc. |                        |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/01/23               | Deciphered Date    | 2010/01/23 | Title                    | Schematic, LA5322P M/B |
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| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Monday, January 25, 2010 | Sheet              | 25         | of                       | 58                     |

For NewCard

For WLAN

For LAN



U11B

PCI-E\*

SMBUS

Controller Link

PEG

From CLK BUFFER

From CLK BUFFER

From CLK BUFFER

From CLK BUFFER

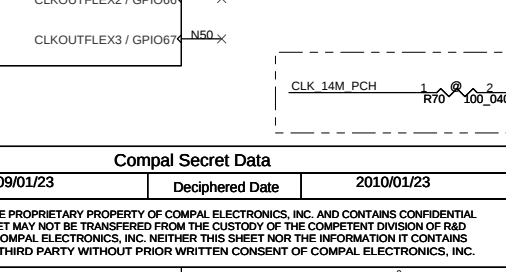
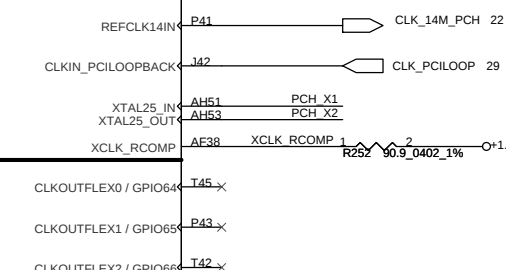
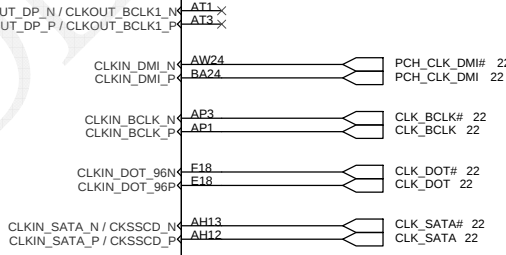
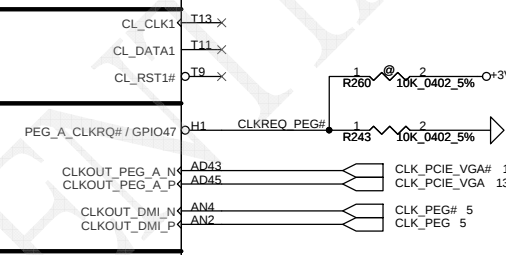
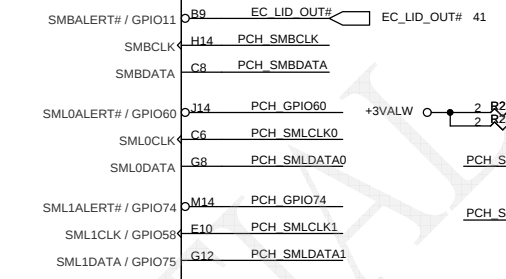
From CLK BUFFER

From CLK BUFFER

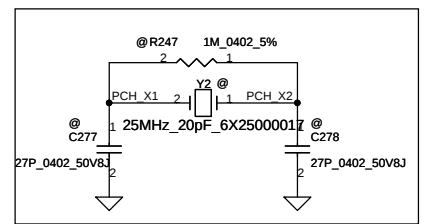
From CLK BUFFER

From CLK BUFFER

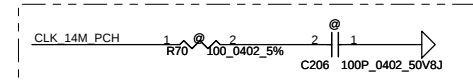
From CLK BUFFER



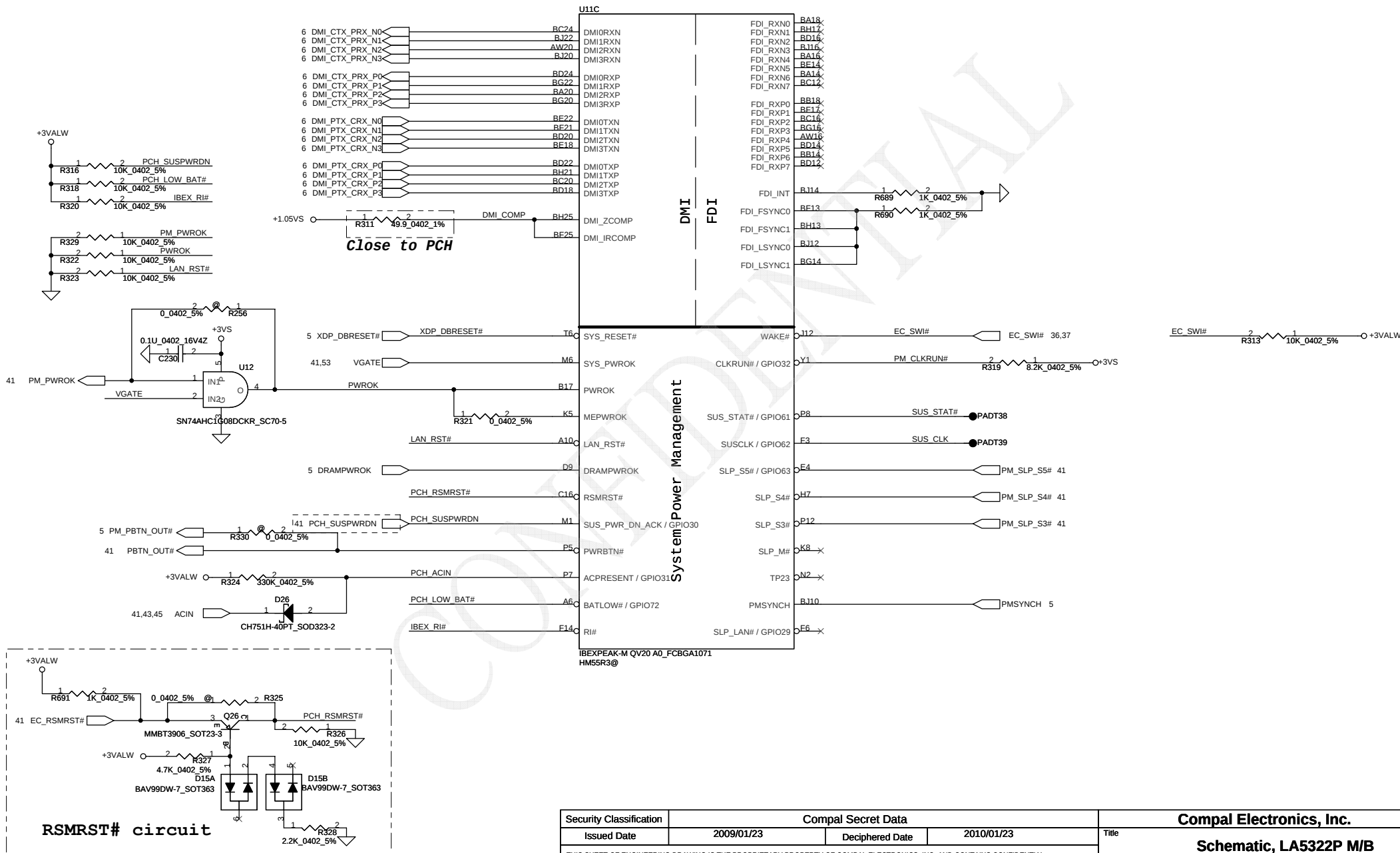
FROM CLK GEN FOR: 133/100/96/14.318 MHZ



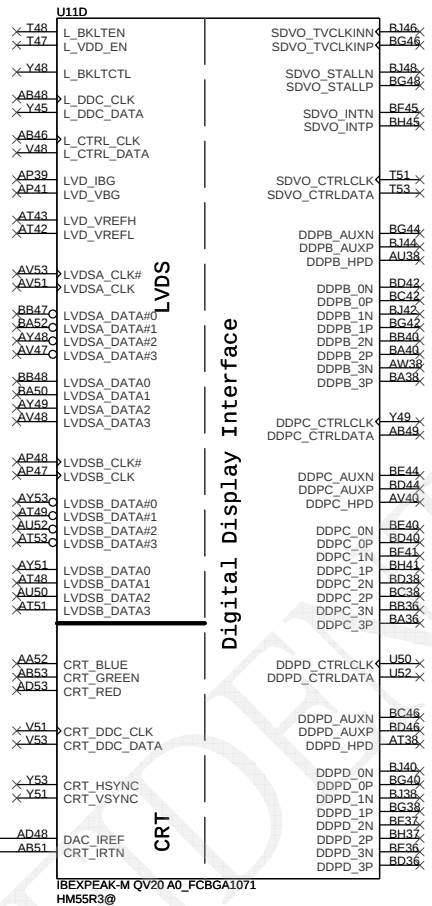
Note: Stuff 0 ohm if 25MHz crystal un-stuff



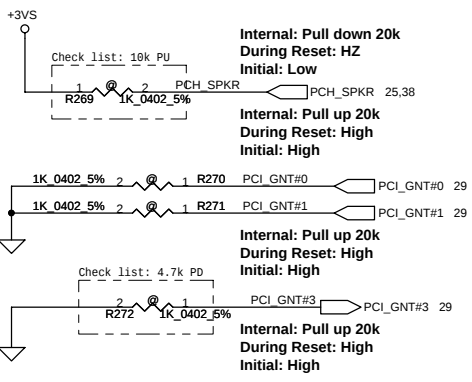
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|--------------------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/01/23 | Deciphered Date    | 2010/01/23 | Title                    | Schematic, LA5322P M/B   |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 26 of 58                 |



| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          | Compal Secret Data |            | Compal Electronics, Inc. |    |
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| Size B                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Document Number          | 401717             |            | Rev D                    |    |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Monday, January 25, 2010 | Sheet              | 27         | of                       | 58 |



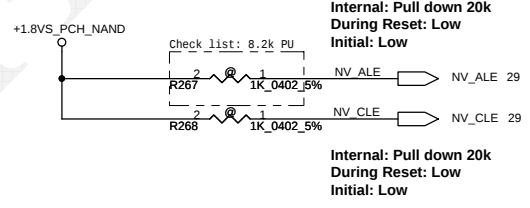
PCH Strap Pin



| NO REBOOT Strap |              |              |
|-----------------|--------------|--------------|
| PCH_SPKR        | Low= Disable | High= Enable |

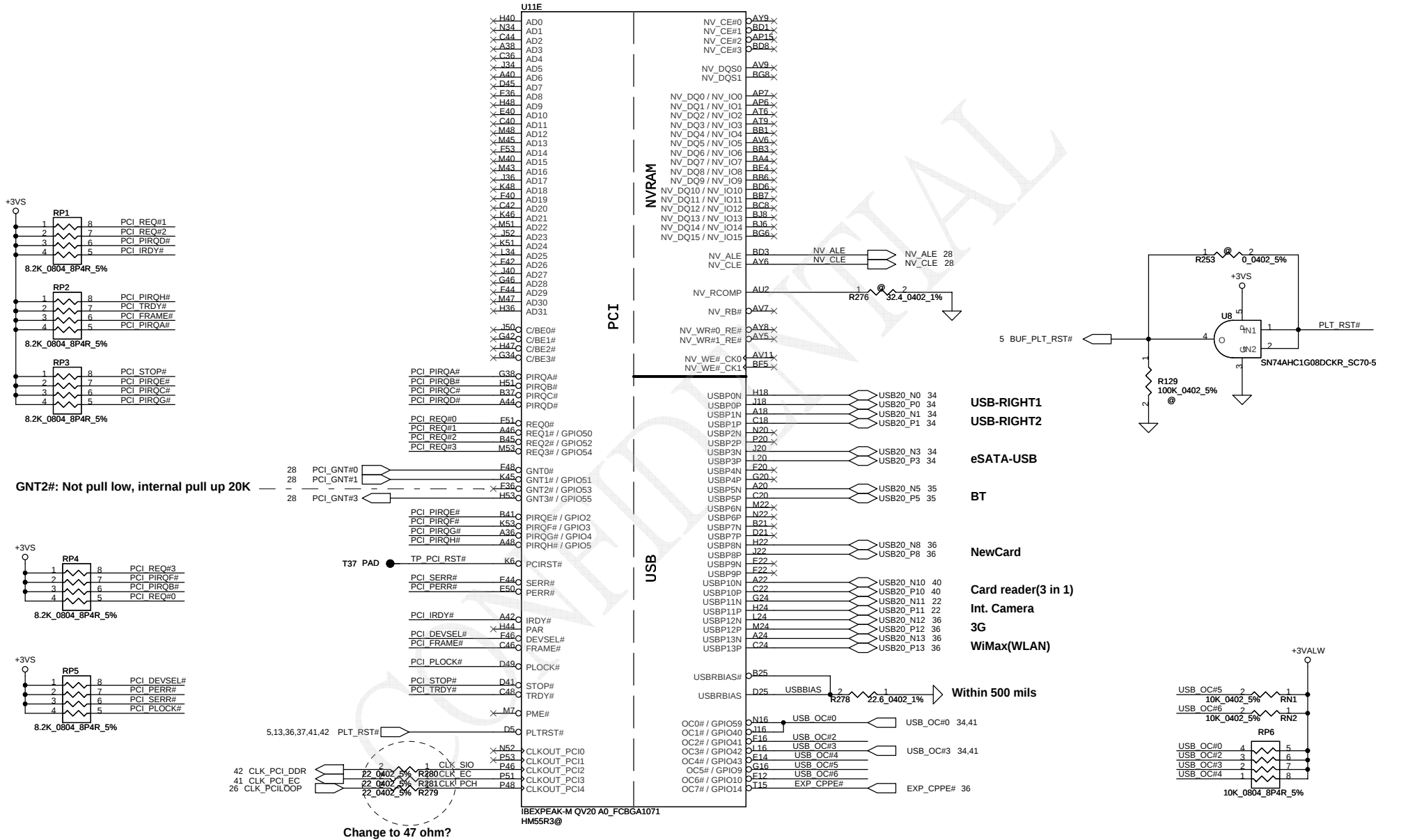
| Boot BIOS Strap |           |                    |
|-----------------|-----------|--------------------|
| PCI_GNT#1       | PCI_GNT#0 | Boot BIOS Loaction |
| 0               | 0         | LPC (Default)      |
| 0               | 1         | Reserved (NAND)    |
| 1               | 0         | PCI                |
| 1               | 1         | SPI                |

| A16 Swap Override Strap |                                                                  |
|-------------------------|------------------------------------------------------------------|
| PCI_GNT#3               | Low= A16 swap override Enable<br>High= A16 swap override Disable |



| Danbury Technology Enabled |                                            |
|----------------------------|--------------------------------------------|
| NV_ALE                     | High = Enabled<br>Low = Disabled (Default) |

| DMI Termination Voltage |                                               |
|-------------------------|-----------------------------------------------|
| NV_CLE                  | Low= Set to Vss (Default)<br>High= Set to Vcc |

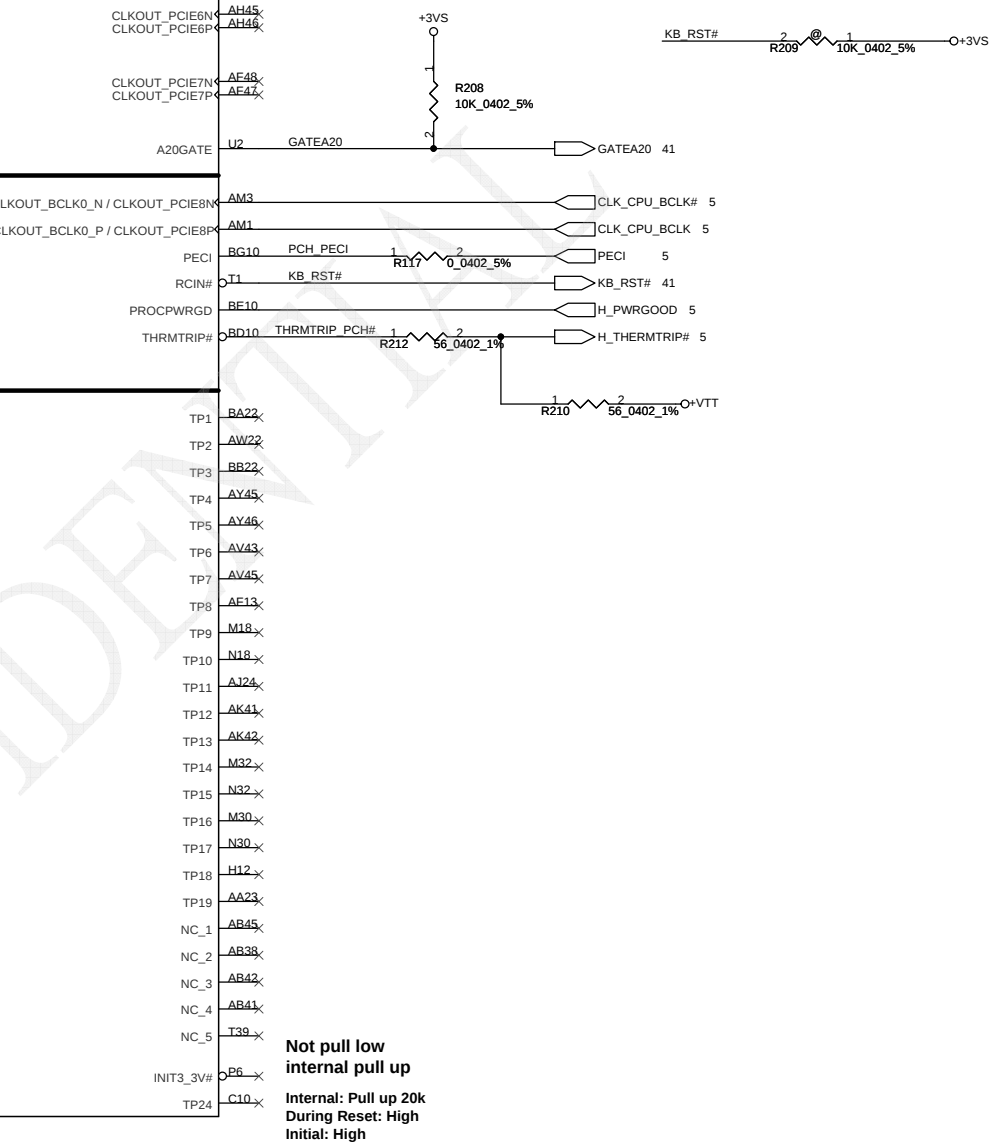
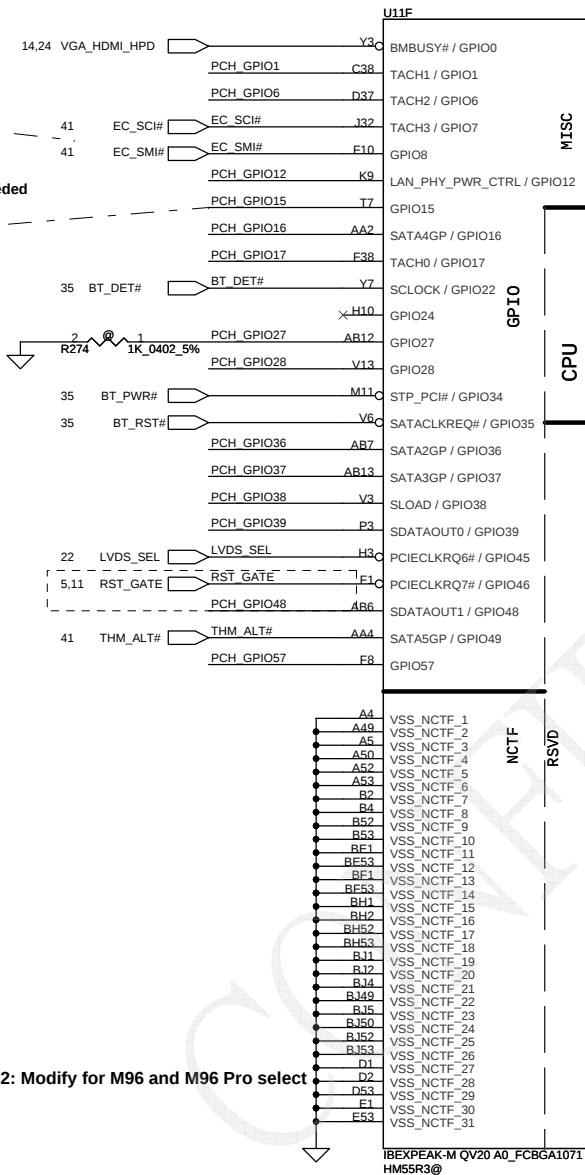
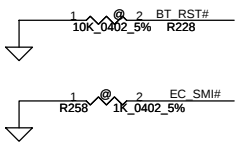
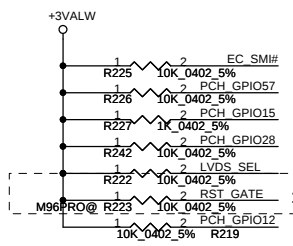
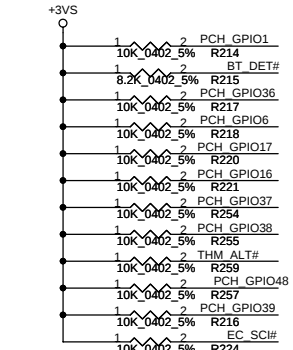


**GPIO8**  
Not pull down  
Internal: Pull up 20k  
During Reset: High  
Initial: High

**GPIO15**  
a Strong pull up may be needed for GPIO Functionality  
Internal: Pull down 20k  
During Reset: Low  
Initial: Low

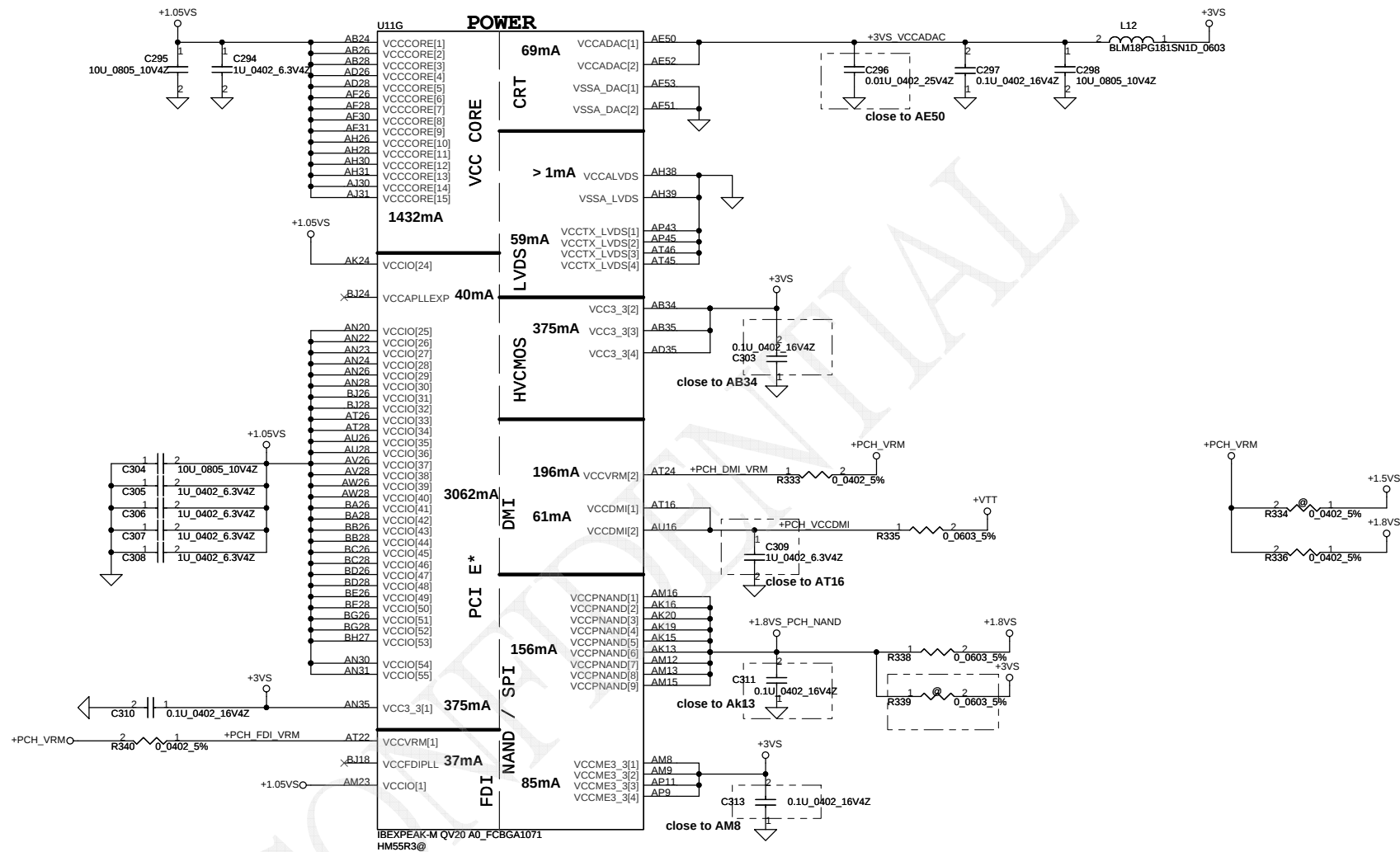
**On-Die PLL VR**

**PCH\_GPIO27**    High = Enabled (Default)  
                    Low = Disabled



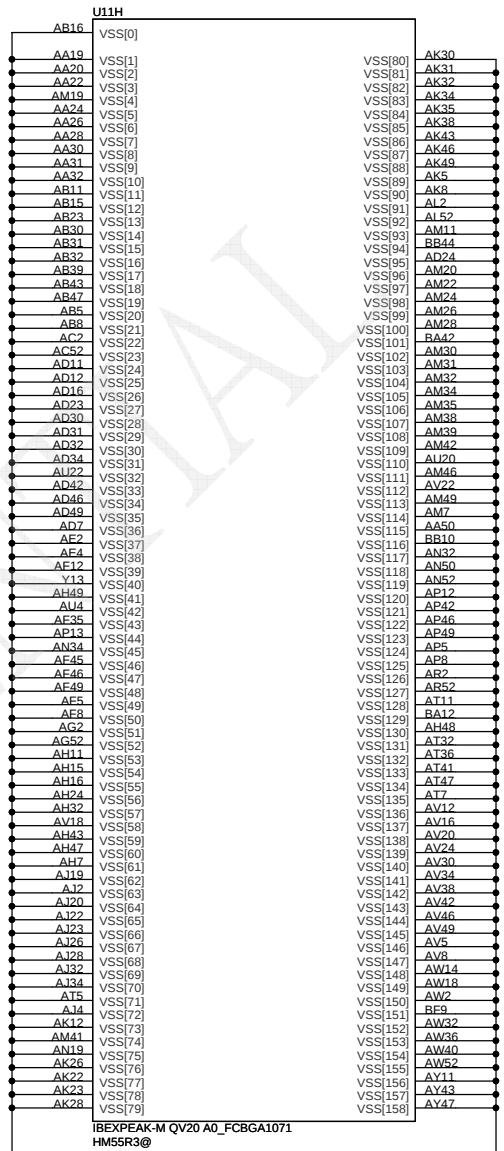
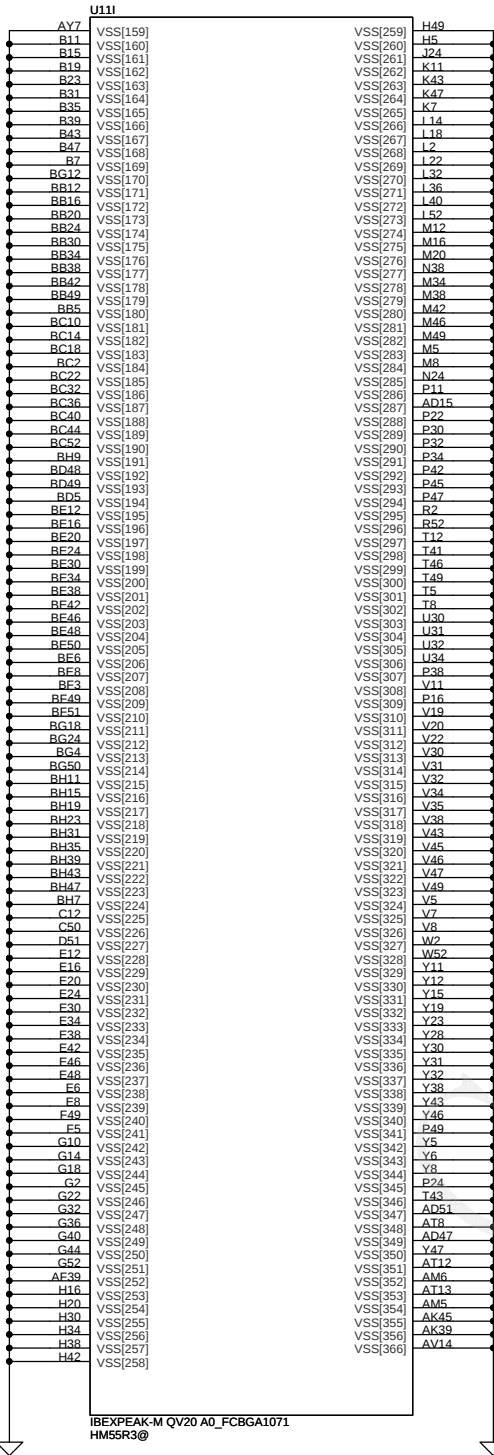
Not pull low  
internal pull up  
Internal: Pull up 20k  
During Reset: High  
Initial: High

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |                    |            |                                |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------|------------|--------------------------------|--|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 | Compal Secret Data |            | Compal Electronics, Inc.       |  |
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| Size B                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Document Number | 401717             | Rev D      | Date: Monday, January 25, 2010 |  |
| Sheet                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 | 30                 | of         | 58                             |  |



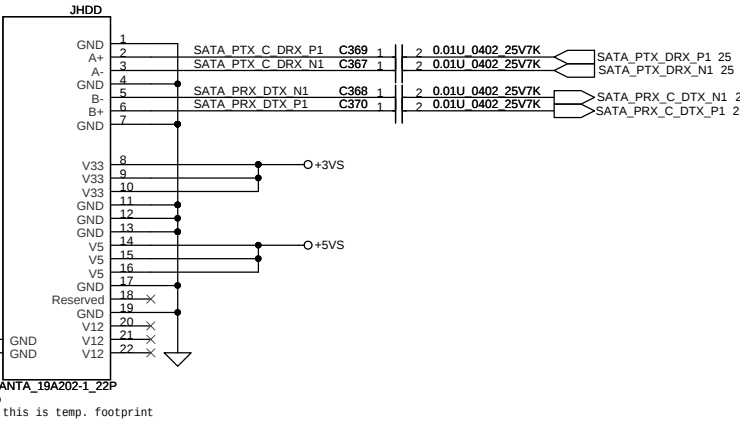
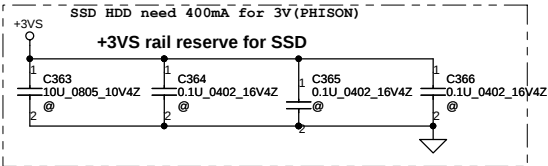
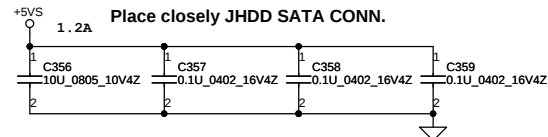
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                    |            |                          |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|------------|--------------------------|--|
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Monday, January 25, 2010 | Sheet              | 31         | of 58                    |  |



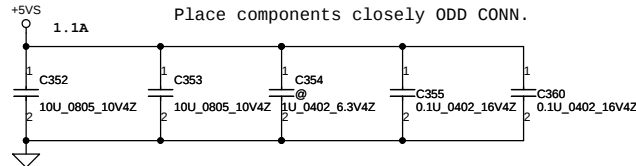


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                    |            |                          |    |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number          | Rev                |            | D                        |    |
| Custom                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 401717                   |                    |            |                          |    |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Monday, January 25, 2010 | Sheet              | 33         | of                       | 58 |

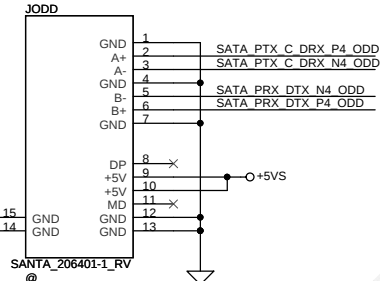
## SATA HDD Conn.



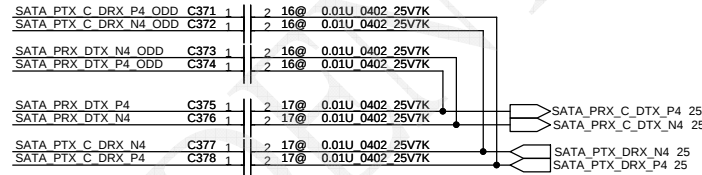
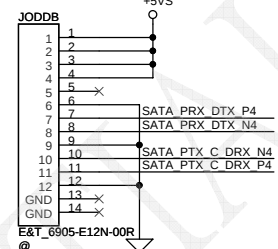
## SATA ODD Conn



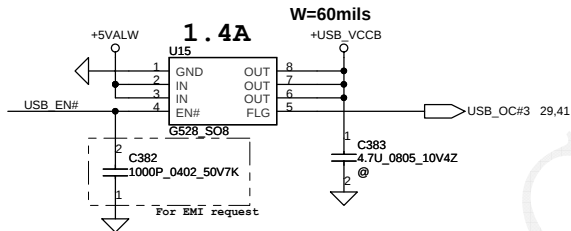
for 16" use



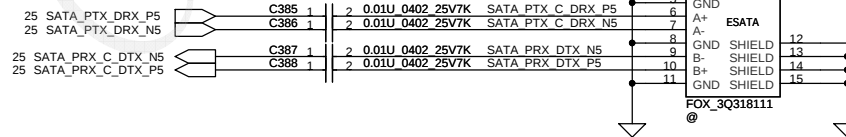
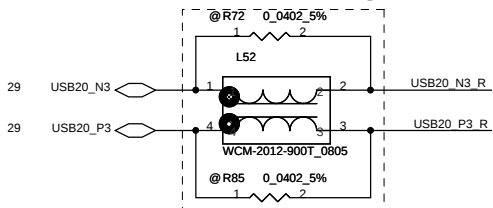
for 17" expansion using



## eSATA/USB

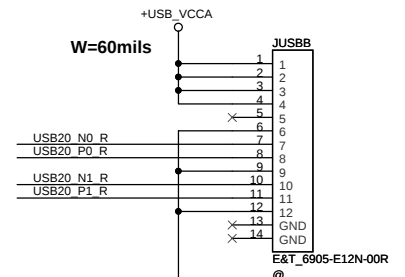
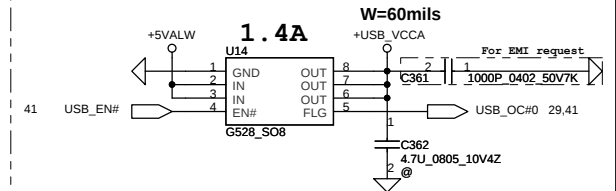


**Reserve for EMI request**

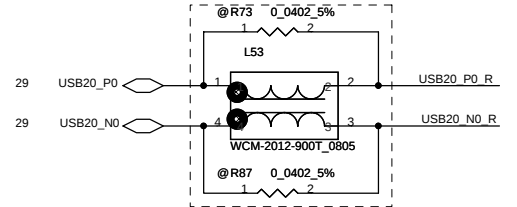


## USB Board

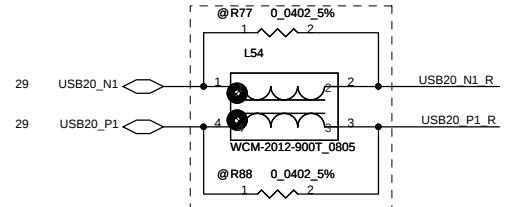
[www.bufanxiu.com](http://www.bufanxiu.com)



**Reserve for EMI request**



**Reserve for EMI request**



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                        |                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|------------------------|--------------------------|
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                  | 34 of 58                 |

MDC 1.5 Conn.

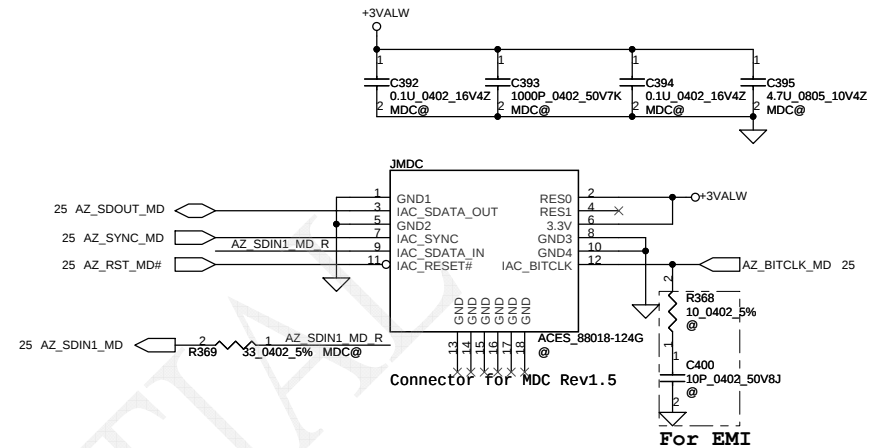


Diagram showing the pinout for the ACES\_88170-3400 component. The component is a 34-pin package. The pinout is as follows:

| Pin | Signal    |
|-----|-----------|
| 34  | JKB34     |
| 33  | KSO16     |
| 32  | KSO17     |
| 31  | KSO17     |
| 30  | KSO2      |
| 29  | KSO1      |
| 28  | KSO0      |
| 27  | KSO4      |
| 26  | KSO3      |
| 25  | KSO5      |
| 24  | KSO14     |
| 23  | KSO6      |
| 22  | KSO7      |
| 21  | KSO13     |
| 20  | KSO8      |
| 19  | KSO9      |
| 18  | KSO10     |
| 17  | KSO11     |
| 16  | KSO12     |
| 15  | KSO15     |
| 14  | KSI7      |
| 13  | KSI2      |
| 12  | KSI3      |
| 11  | KSI4      |
| 10  | KSI0      |
| 9   | KSI5      |
| 8   | KSI6      |
| 7   | KSI1      |
| 6   | JKB4      |
| 5   | CAPS_LED# |
| 4   | NUM_LED#  |
| 3   | NUM_LED#  |
| 2   | NUM_LED#  |
| 1   | NUM_LED#  |

Diagram showing the pinout for the ACES\_88170-3400 component. The component is a 34-pin package. The pinout is as follows:

| Pin | Signal    |
|-----|-----------|
| 34  | JKB34     |
| 33  | KSO16     |
| 32  | KSO17     |
| 31  | KSO17     |
| 30  | KSO2      |
| 29  | KSO1      |
| 28  | KSO0      |
| 27  | KSO4      |
| 26  | KSO3      |
| 25  | KSO5      |
| 24  | KSO14     |
| 23  | KSO6      |
| 22  | KSO7      |
| 21  | KSO13     |
| 20  | KSO8      |
| 19  | KSO9      |
| 18  | KSO10     |
| 17  | KSO11     |
| 16  | KSO12     |
| 15  | KSO15     |
| 14  | KSI7      |
| 13  | KSI2      |
| 12  | KSI3      |
| 11  | KSI4      |
| 10  | KSI0      |
| 9   | KSI5      |
| 8   | KSI6      |
| 7   | KSI1      |
| 6   | JKB4      |
| 5   | CAPS_LED# |
| 4   | NUM_LED#  |
| 3   | NUM_LED#  |
| 2   | NUM_LED#  |
| 1   | NUM_LED#  |

| please close to JKBI |      |                 |
|----------------------|------|-----------------|
| KSO16                | C401 | 100P_0402_50VBJ |
| KSO17                | C402 | 100P_0402_50VBJ |
| KSO2                 | C404 | 100P_0402_50VBJ |
| KSO1                 | C405 | 100P_0402_50VBJ |
| KSO0                 | C406 | 100P_0402_50VBJ |
| KSO4                 | C407 | 100P_0402_50VBJ |
| KSO3                 | C408 | 100P_0402_50VBJ |
| KSO5                 | C409 | 100P_0402_50VBJ |
| KSO14                | C410 | 100P_0402_50VBJ |
| KSO6                 | C411 | 100P_0402_50VBJ |
| KSO7                 | C412 | 100P_0402_50VBJ |
| KSO13                | C413 | 100P_0402_50VBJ |
| KSO8                 | C415 | 100P_0402_50VBJ |
| KSO9                 | C416 | 100P_0402_50VBJ |
| KSO10                | C417 | 100P_0402_50VBJ |
| KSO11                | C418 | 100P_0402_50VBJ |
| KSO12                | C419 | 100P_0402_50VBJ |
| KSO15                | C420 | 100P_0402_50VBJ |
| KS17                 | C421 | 100P_0402_50VBJ |
| KS12                 | C422 | 100P_0402_50VBJ |
| KS13                 | C423 | 100P_0402_50VBJ |
| KS14                 | C424 | 100P_0402_50VBJ |
| KS10                 | C425 | 100P_0402_50VBJ |
| KS15                 | C427 | 100P_0402_50VBJ |
| KS16                 | C429 | 100P_0402_50VBJ |
| KS11                 | C431 | 100P_0402_50VBJ |
| CAPS LED#            | C433 | 100P_0402_50VBJ |
| NUM LED#             | C435 | 100P_0402_50VBJ |

41 TP\_CLK  
41 TP\_DATA

+5VSO

1 2 3 4 5 6

JTOUCH  
ACES 85201-04051  
®

2 3

D19 @  
PJDL005 SOT23-3

**JPOWER**

| Pin | Signal       | Value |
|-----|--------------|-------|
| 1   | ON/OFFBTN#_R | 43    |
| 2   | KS00         | 41    |
| 3   | KS1          | 41    |
| 4   | KS3          | 41    |
| 5   | KS5          | 41    |
| 6   | KS12         | 41    |
| 7   |              |       |
| 8   |              |       |
| 9   |              |       |
| 10  |              |       |
| 11  | GND          |       |
| 12  | GND          |       |

ACES\_85201-1005N

@

|              |      |   |                  |
|--------------|------|---|------------------|
| ON/OFFBTN# R | C426 | 1 | @220P 0402 50V7K |
| KS11         | C428 | 1 | @220P 0402 50V7K |
| KS13         | C430 | 1 | @220P 0402 50V7K |
| KS15         | C432 | 1 | @220P 0402 50V7K |
| KS12         | C434 | 1 | @220P 0402 50V7K |

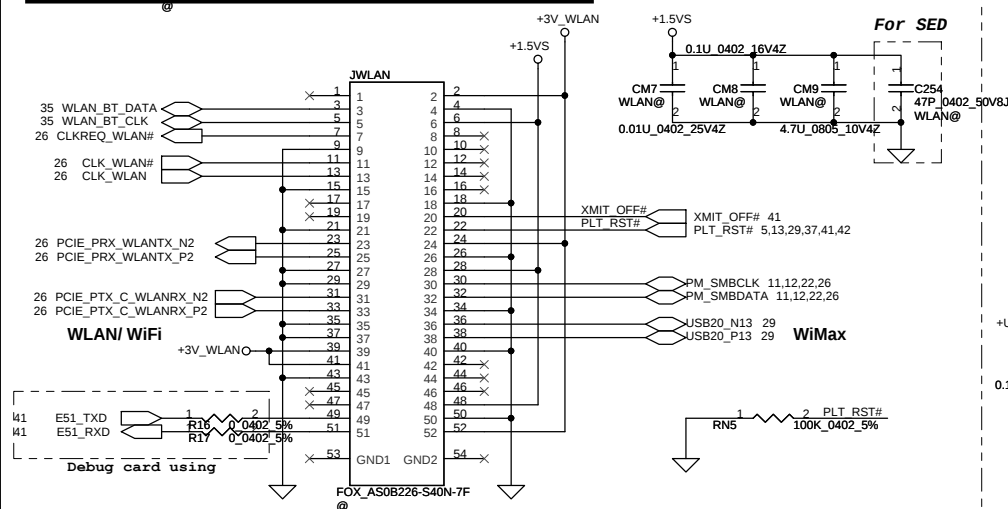
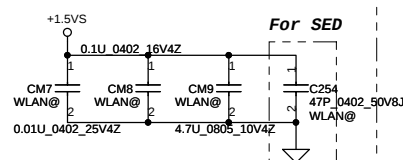
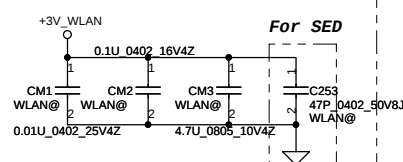
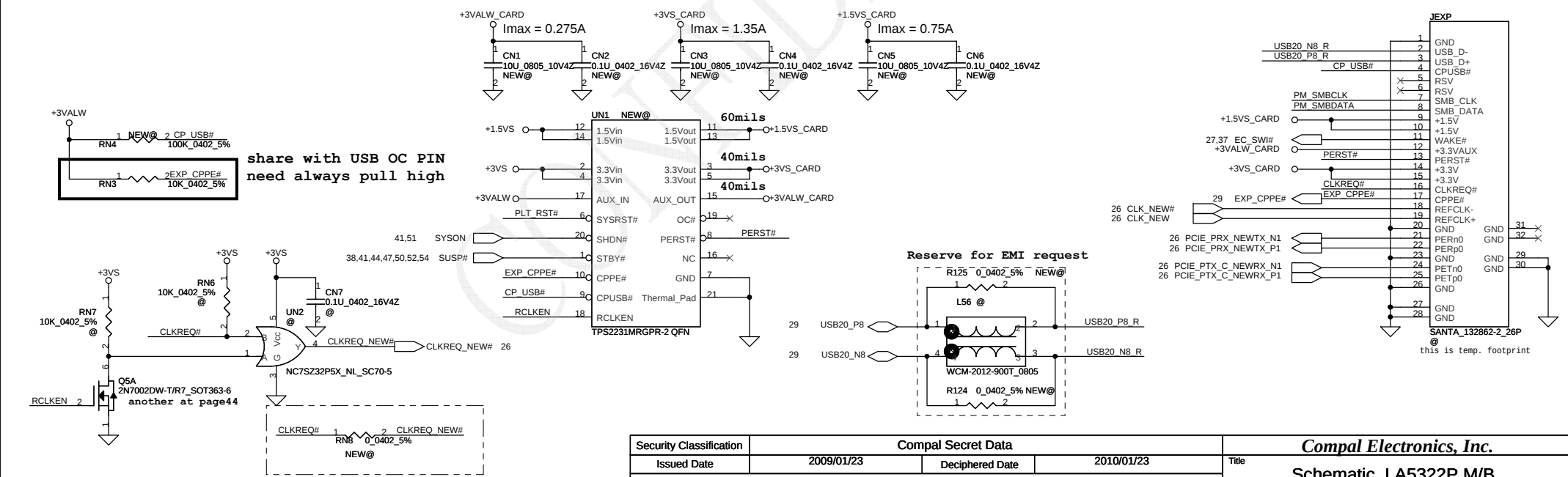
**For EMI**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |                 |                                 |  |                        |                          |  |       |       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|-----------------|---------------------------------|--|------------------------|--------------------------|--|-------|-------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Compal Secret Data |                 | <b>Compal Electronics, Inc.</b> |  |                        |                          |  |       |       |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | 2009/01/23         | Deciphered Date | 2010/01/23                      |  | Title                  |                          |  |       |       |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |                 |                                 |  | Size                   | Document Number          |  |       | Rev D |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |                 |                                 |  |                        | 401717                   |  |       |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |                 |                                 |  | Date:                  | Monday, January 25, 2010 |  | Sheet | 35    |

PJ27  
 +3VALW 2 1  
 JUMP\_43X79  
 @  
 PJ26  
 +3V\_S0 2 1  
 JUMP\_43X79  
 +3V\_WLAN

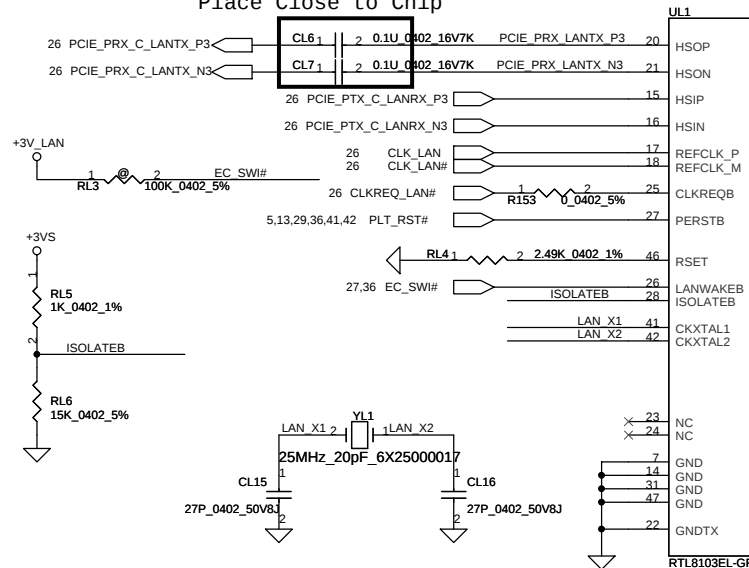
Short PJ27 for Wimax

Short PJ26 for WLAN

[illegible]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                                        |                                  |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|----------------------------------------|----------------------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | <b>Compal Electronics, Inc.</b>        |                                  |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/01/23 | Deciphered Date    | 2010/01/23 | Title<br><b>Schematic, LA5322P M/B</b> |                                  |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                                  | Monday, January 25, 2010         | Sheet 36 of 58 |

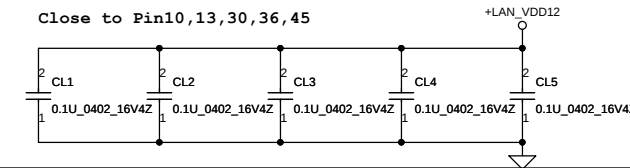
Place Close to Chip



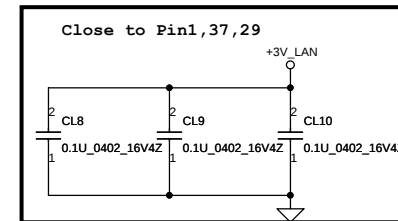
RTL8103EL-GR

RTL8103EL-GR\_LQFP48\_7X7

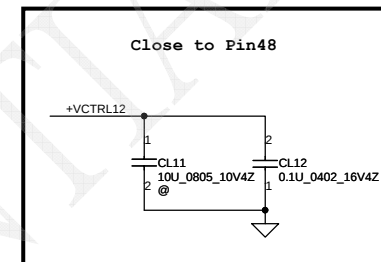
Close to Pin10,13,30,36,45



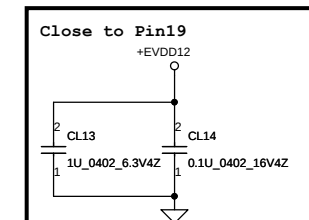
Close to Pin1,37,29



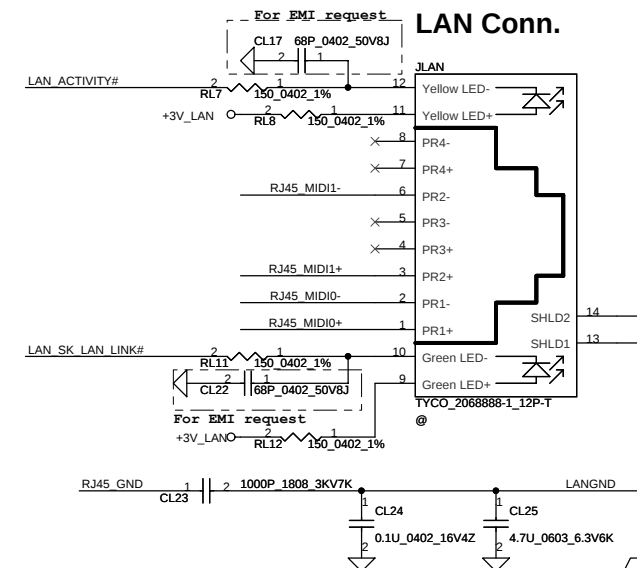
Close to Pin48



Close to Pin19

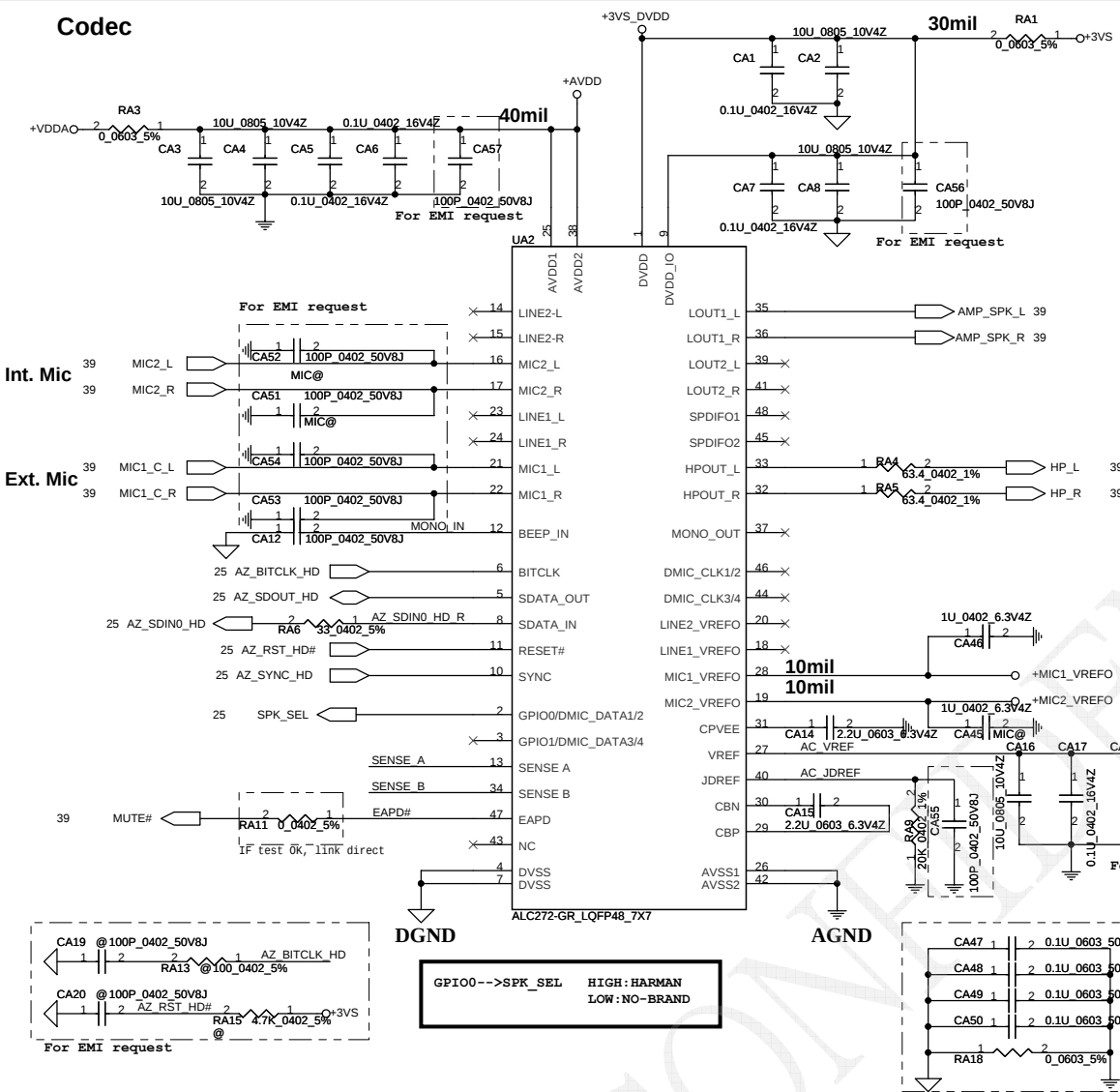


LAN Conn.

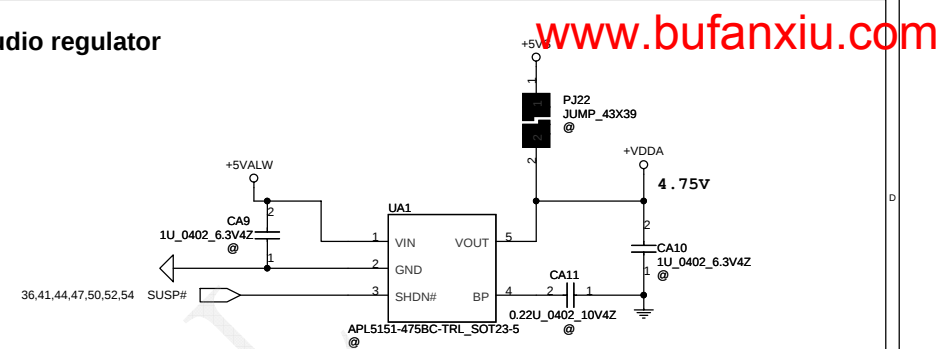


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                    |            |                          |    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|------------|--------------------------|----|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          | Compal Secret Data |            | Compal Electronics, Inc. |    |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/01/23               | Deciphered Date    | 2010/01/23 | Title                    |    |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Custom                   | Document Number    | 401717     | Rev                      | D  |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Monday, January 25, 2010 | Sheet              | 37         | of                       | 58 |

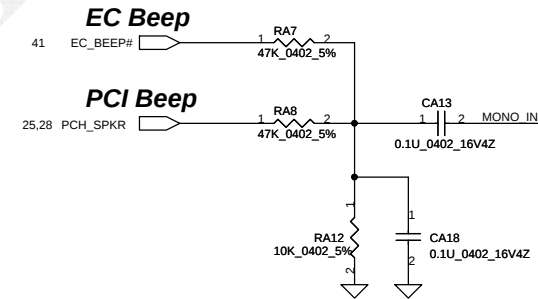
## Codec



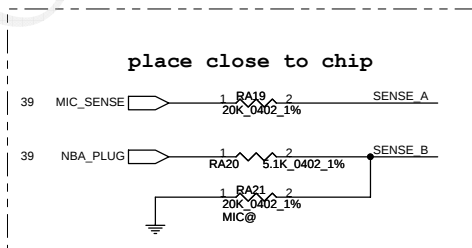
## Audio regulator



## Beep sound

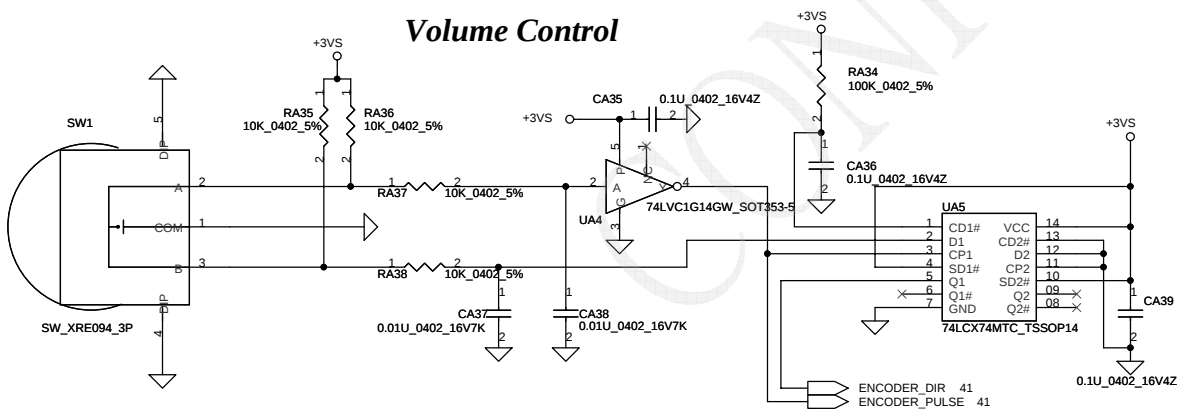
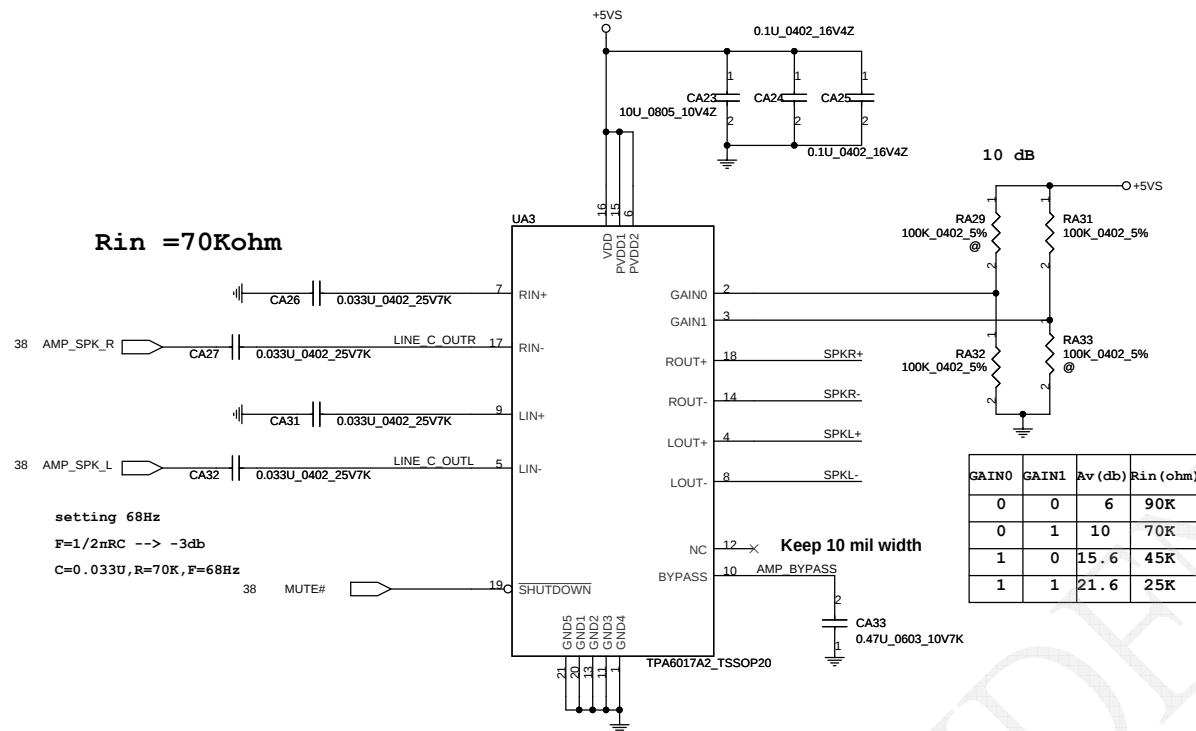


| Sense Pin | Impedance | Codec Signals       | Function      |
|-----------|-----------|---------------------|---------------|
| SENSE A   | 39.2K     | PORT-A (PIN 39, 41) |               |
|           | 20K       | PORT-B (PIN 21, 22) | Ext. MIC      |
|           | 10K       | PORT-C (PIN 23, 24) |               |
|           | 5.1K      | PORT-D (PIN 35, 36) | SPK out       |
| SENSE B   | 39.2K     | PORT-E (PIN 14, 15) |               |
|           | 20K       | PORT-F (PIN 16, 17) | Int. MIC      |
|           | 10K       | PORT-H (PIN 37)     |               |
|           | 5.1K      | PORT-I (PIN 32, 33) | Headphone out |



| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                          |
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| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/01/23 | Deciphered Date    | 2010/01/23 | Title                    | Schematic, LA5322P M/B   |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 38 of 58                 |

# TPA6017 Medium Range Amplifier



## Ext. Mic

## Int. Mic

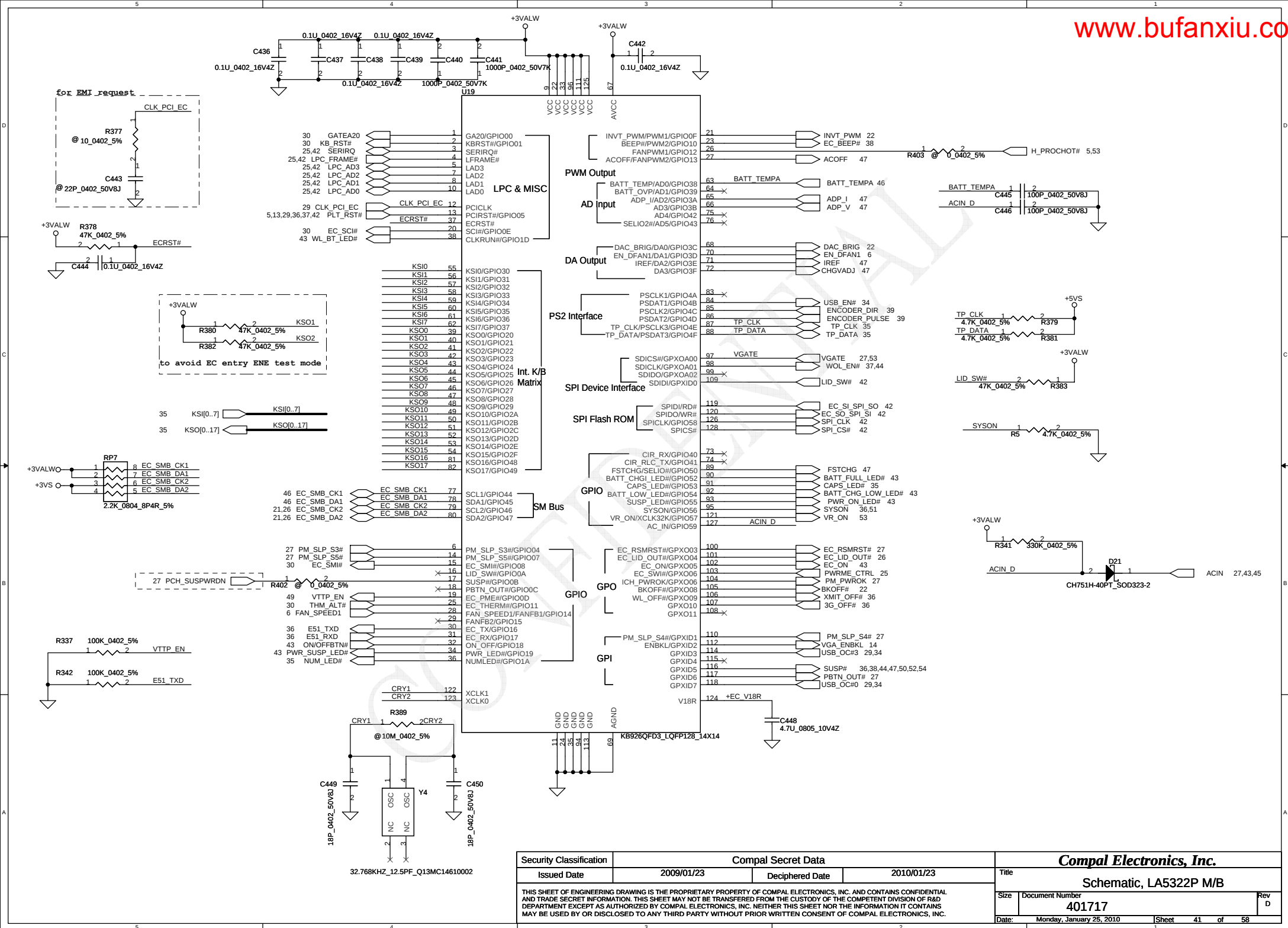
## Speaker Connector

## HeadPhone/LINE Out JACK

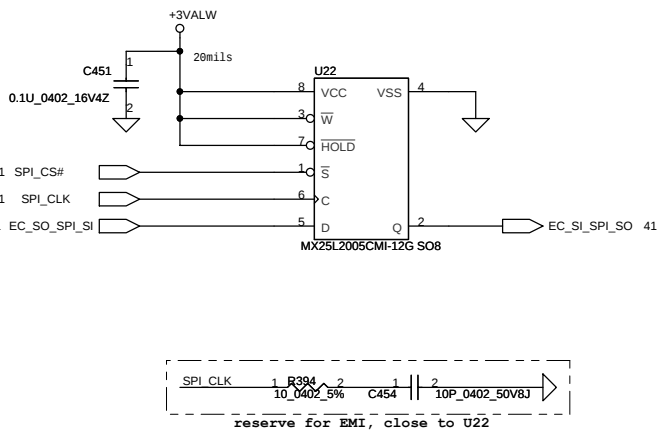
## Ext.MIC/LINE IN JACK

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                          |                          |                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------|--------------------------|------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                          | Compal Electronics, Inc. |                        |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/01/23         | Deciphered Date          | 2010/01/23               | Title                  |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    | Document Number          |                          | Rev D                  |
| 401717                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    | 401717                   |                          |                        |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    | Monday, January 25, 2010 |                          | Sheet 39 of 58         |

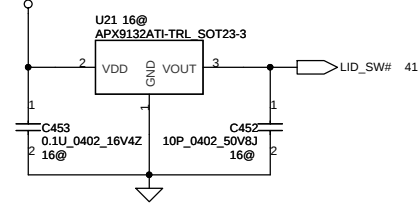




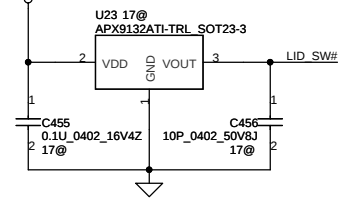
SPI Flash (256KB)  
Socket: SP07000F500 & SP07000H900



Lid SW  
It's for 16" using

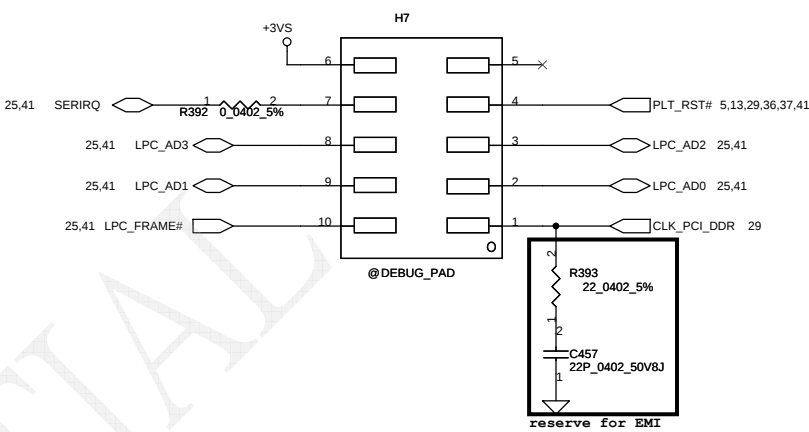


It's for 17" using



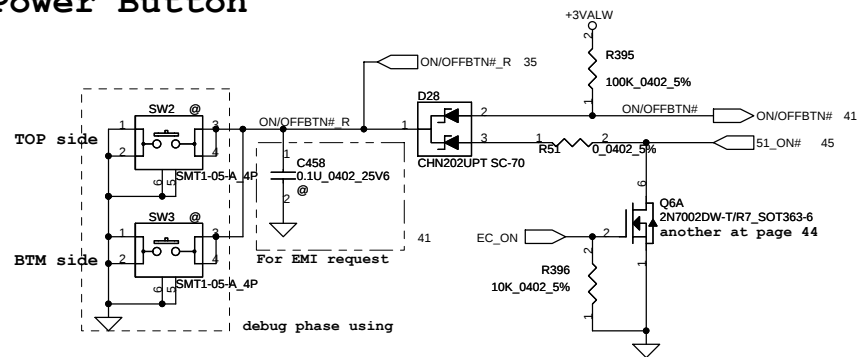
LPC Debug Port  
Please place the PAD under DDR DIMM.

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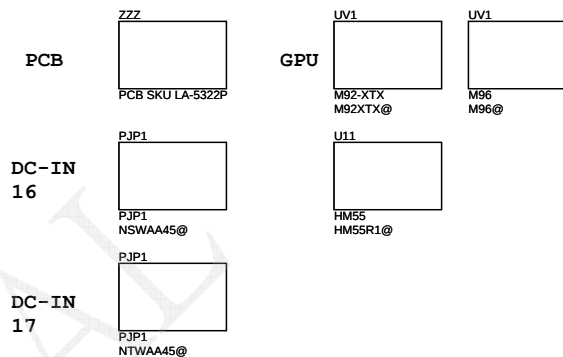
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |                        |                          |       |    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|--|-----------------|--|--------------------------|--|------------------------|--------------------------|-------|----|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Compal Secret Data |  |                 |  | Compal Electronics, Inc. |  |                        |                          |       |    |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | 2009/01/23         |  | Deciphered Date |  | 2010/01/23               |  | Title                  |                          |       |    |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  | Size                   | Document Number          | Rev D |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  | 401717                 |                          |       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  | Date:                  | Monday, January 25, 2010 | Sheet | 42 |

## Power Button



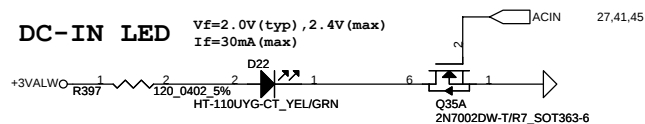
## ISPD

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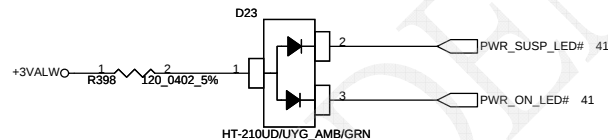


## DC-IN LED

Vf=2.0V (typ) , 2.4V (max)  
If=30mA (max)

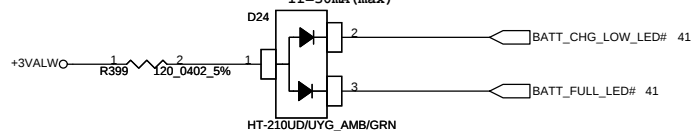


## POWER/SUSPEND LED

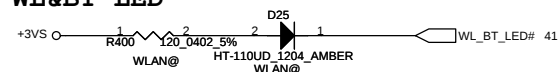


## BATT CHARGE/FULL LED

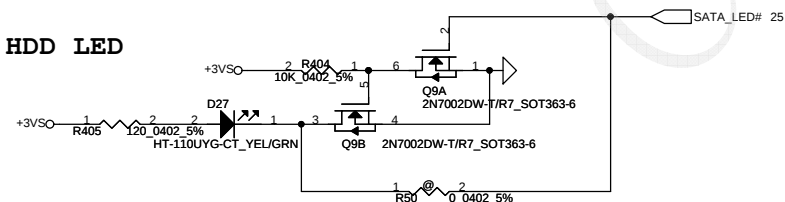
Vf=1.9V (typ) , 2.4V (max) for amber  
Vf=2.0V (typ) , 2.4V (max) for green  
If=30mA (max)



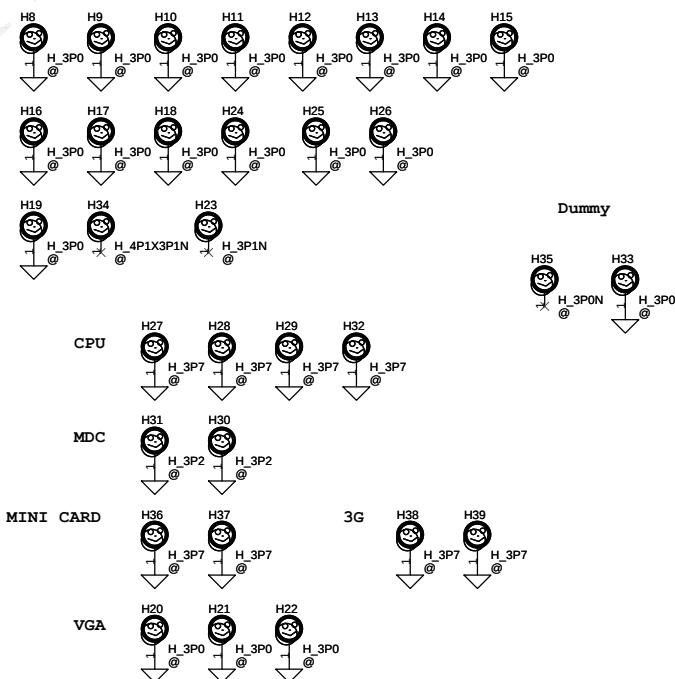
## WL&BT LED



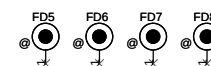
## HDD LED



## Screw Hole

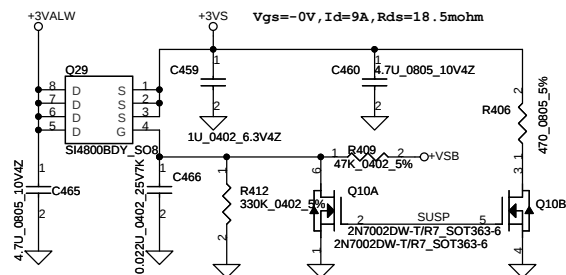


## PCB Federal Mark PAD

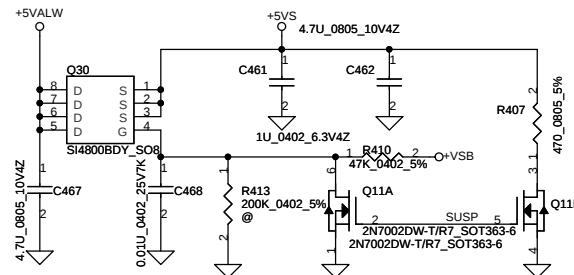


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                          |  |                          |  |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Compal Secret Data       |  | Compal Electronics, Inc. |  |
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| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Monday, January 25, 2010 |  | Sheet 43 of 58           |  |

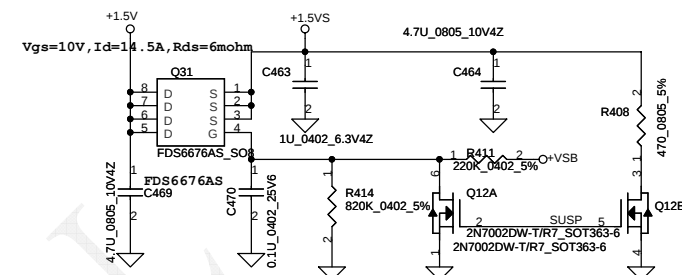
### +3VALW TO +3VS



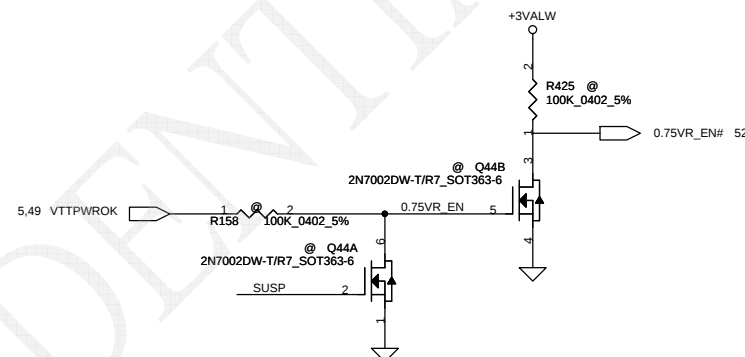
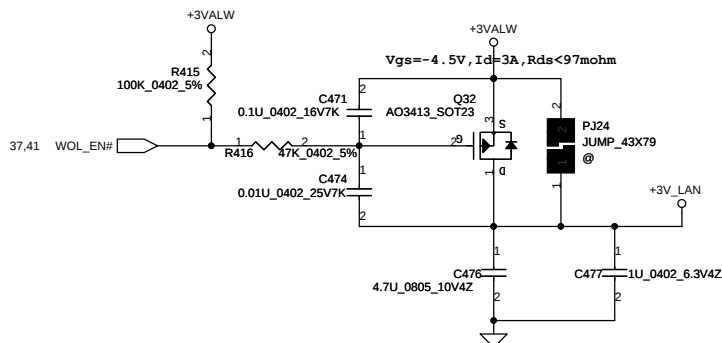
### +5VALW TO +5VS



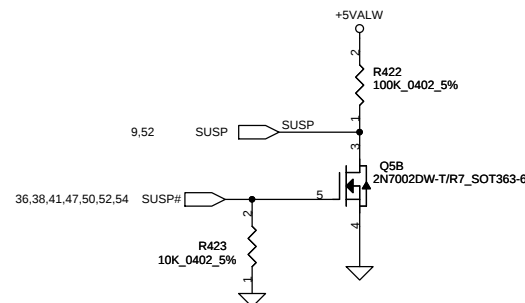
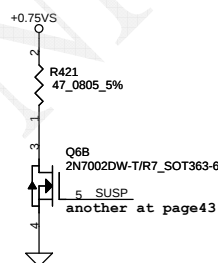
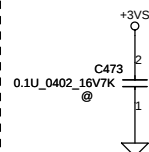
### +1.5V to +1.5VS



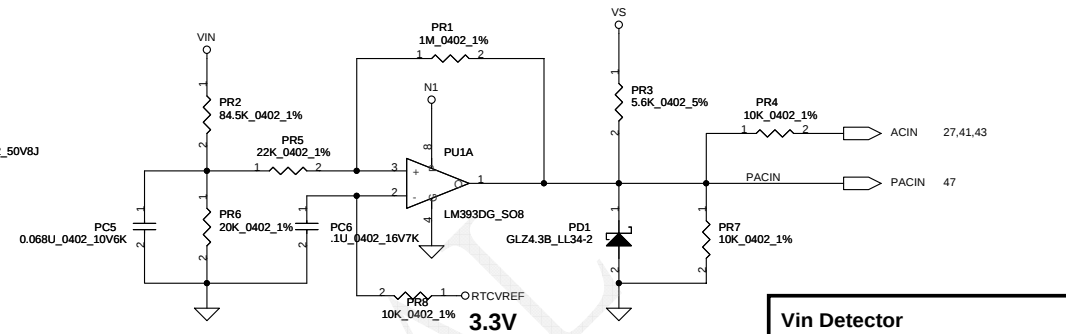
### +3VALW TO +3V\_LAN



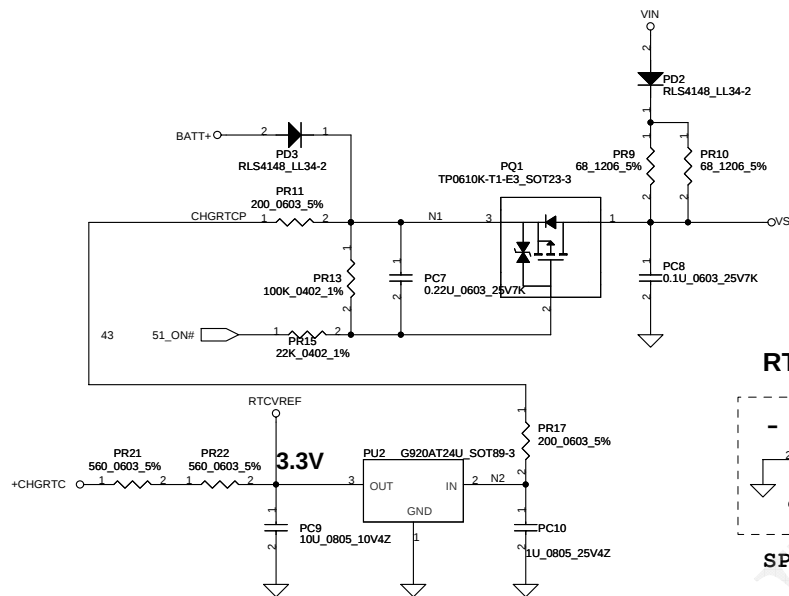
### Reserve for EMI request

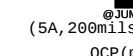


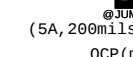
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                          |            |                          |  |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data       |            | Compal Electronics, Inc. |  |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | Document Number          |            | Rev D                    |  |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | Monday, January 25, 2010 |            | Sheet 44 of 58           |  |

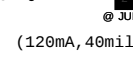


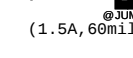
|      |        |        |        |
|------|--------|--------|--------|
| High | 18.384 | 17.901 | 17.430 |
| Low  | 17.728 | 17.257 | 16.976 |

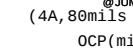


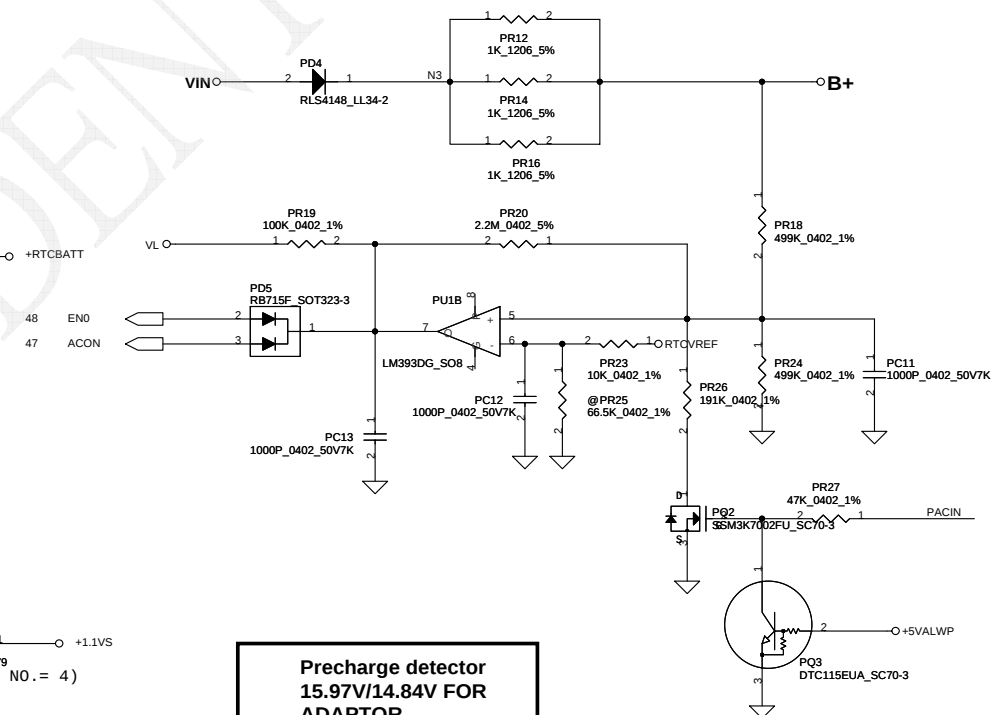
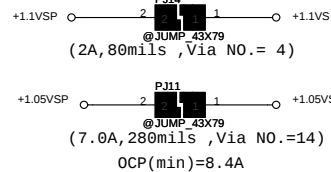
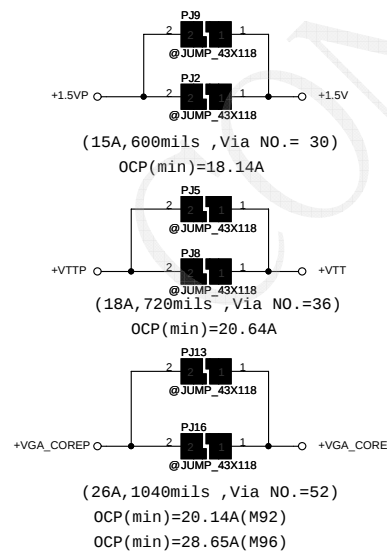

  
 +3VALWP — 2 1 — +3VALW
   
 @JUMP\_43X118
   
 (5A, 200mils, Via NO.= 10)
   
 OCP(min)=7.7A


  
 +5VALWP — 2 1 — +5VALW
   
 @JUMP\_43X118
   
 (5A, 200mils, Via NO.= 10)
   
 OCP(min)=7.9A


  
 +VSBP — 2 1 — +VSB
   
 @JUMP\_43X39
   
 (120mA, 40mils, Via NO.= 1)

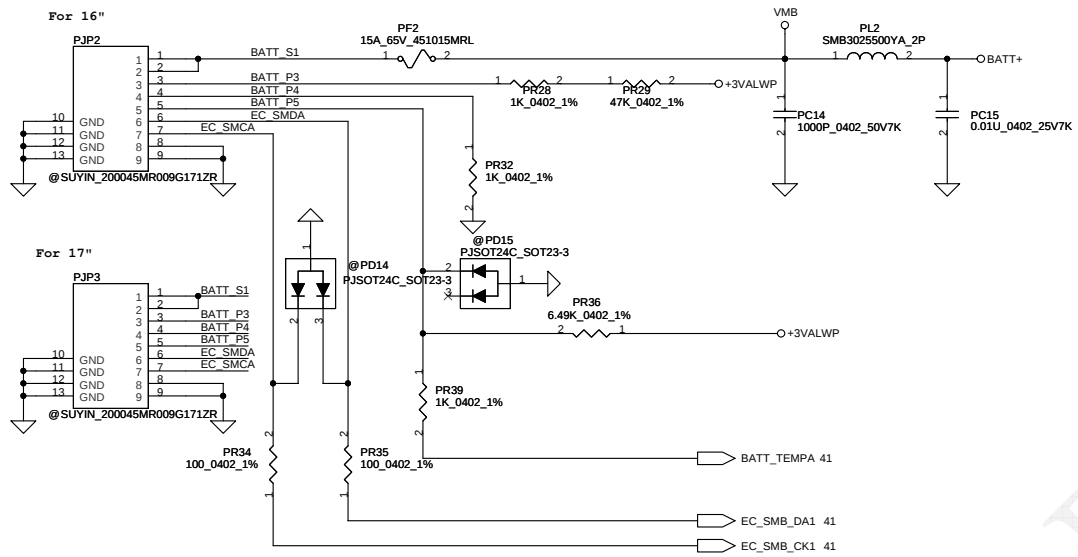

  
 +0.75VSP — 2 1 — +0.75VS
   
 @JUMP\_43X79
   
 (1.5A, 60mils, Via NO.= 4)


  
 +1.8VSP — 2 1 — +1.8VS
   
 @JUMP\_43X79
   
 (4A, 80mils, Via NO.= 8)
   
 OCP(min)=6.9A

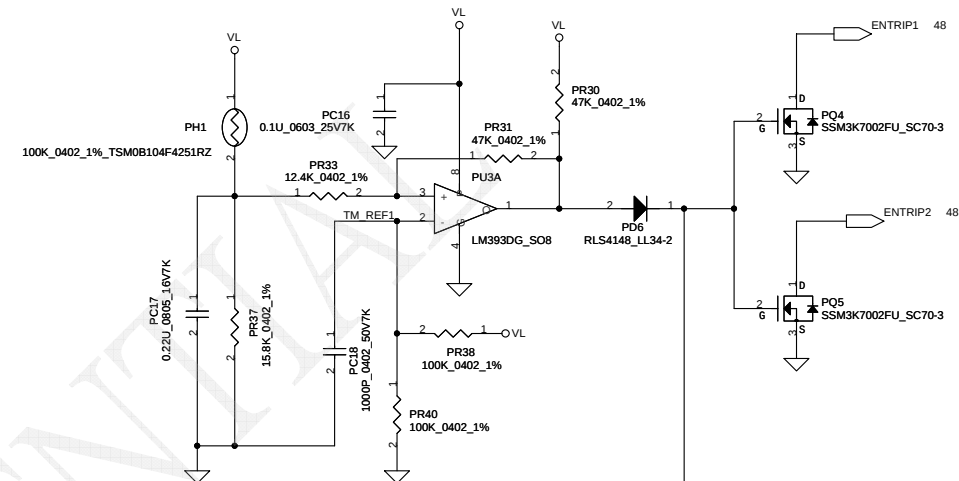


**Precharge detector  
15.97V/14.84V FOR  
ADAPTOR**

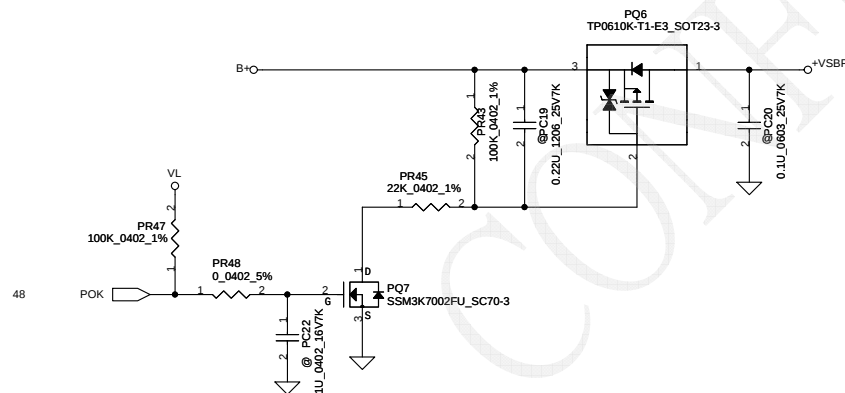
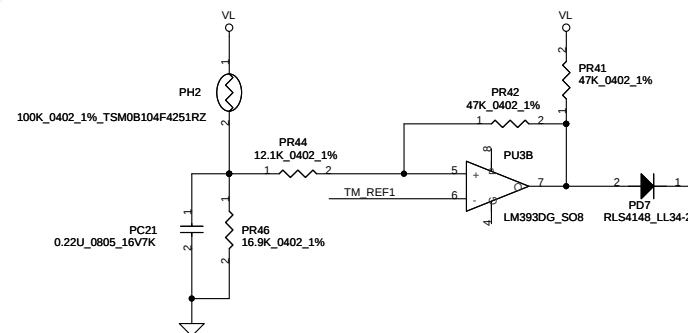
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                                 |                           |  |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|---------------------------------|---------------------------|--|----------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc.        |                           |  |          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/01/23 | Deciphered Date    | 2010/01/23 | Title<br>Schematic, LA5322P M/B |                           |  |          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                           | Monday, January 25, 2010  |  | Sheet    |



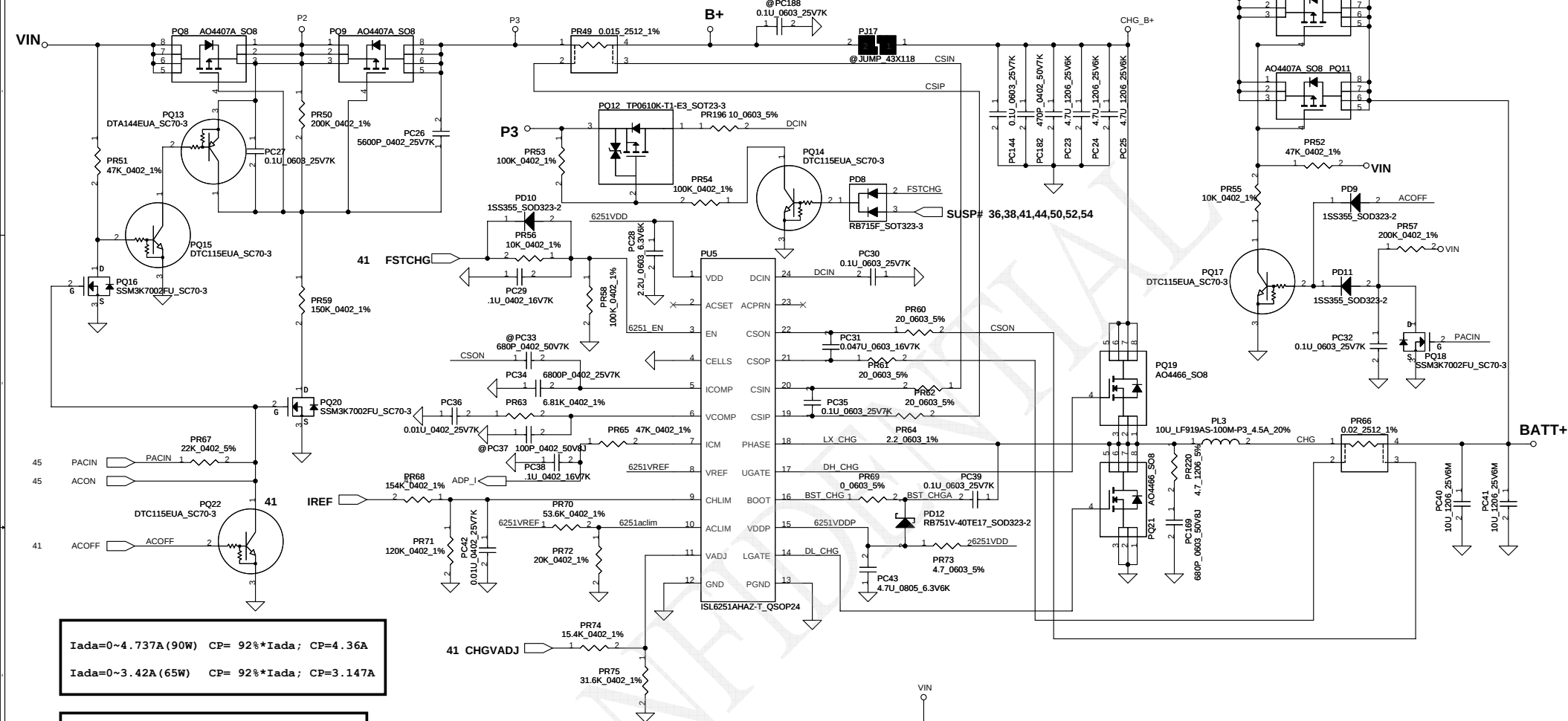
PH1 under CPU botten side :  
CPU thermal protection at 92 degree C  
Recovery at 56 degree C



PH2 near main Battery CONN :  
BAT. thermal protection at 90 degree C  
Recovery at 55 degree C



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                    |            |                          |       |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number          | 401717             |            |                          | Rev D |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Monday, January 25, 2010 | Sheet              | 46         | of                       | 58    |

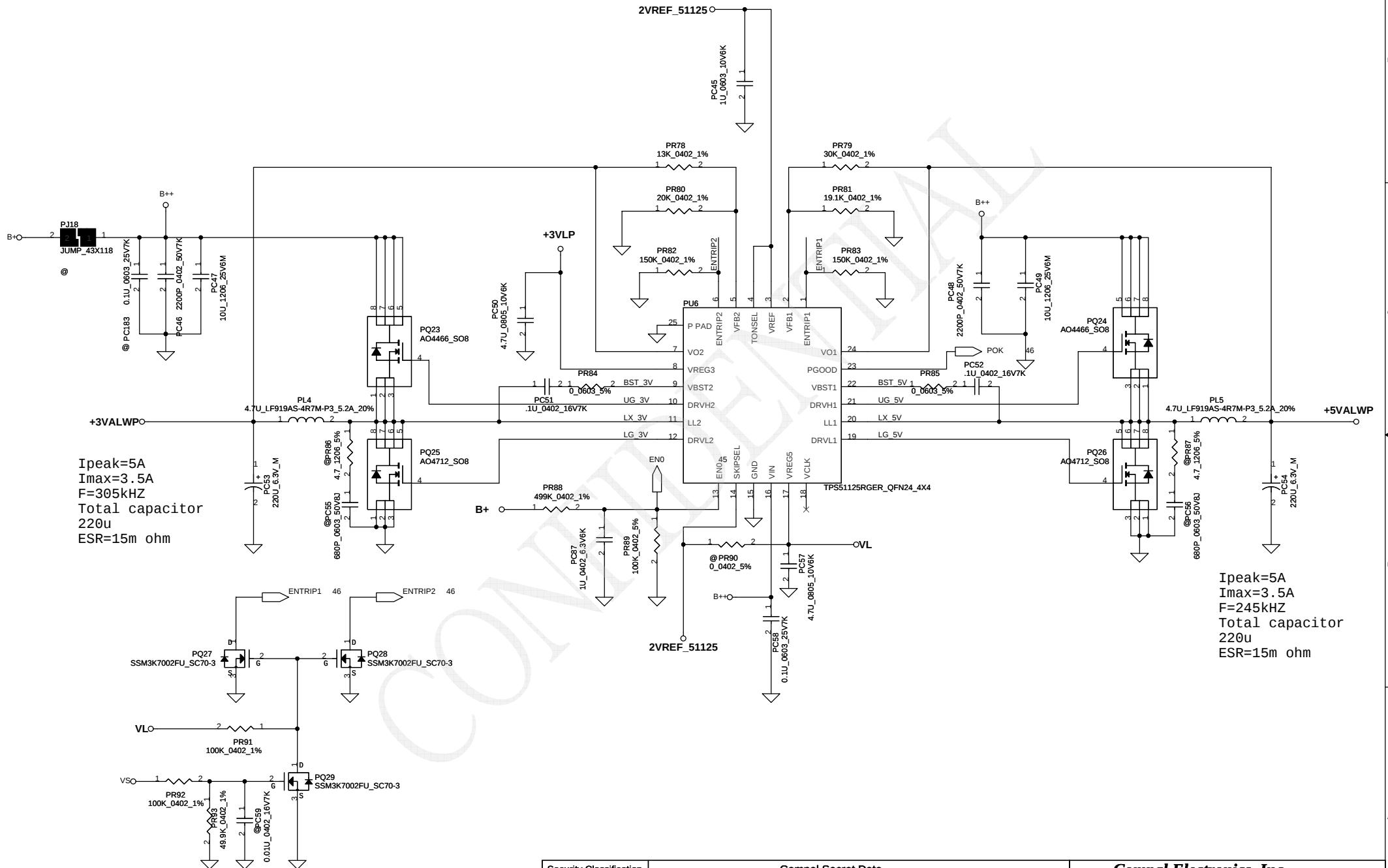


| CELLS       | VDD | GND | Float |
|-------------|-----|-----|-------|
| CELL number | 4   | 3   | 2     |

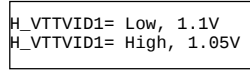
| Security Classification | Compal Secret Data |                 |
|-------------------------|--------------------|-----------------|
| Issued Date             | 2009/01/23         | Deciphered Date |
|                         |                    | 2010/01/23      |

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|--------------------------|--------------------------|--------|----------|
| Title                    |                          |        |          |
| Schematic, LA5322P M/B   |                          |        |          |
| Size                     | Document Number          | 401717 | Rev D    |
| Date:                    | Monday, January 25, 2010 | Sheet  | 47 of 58 |



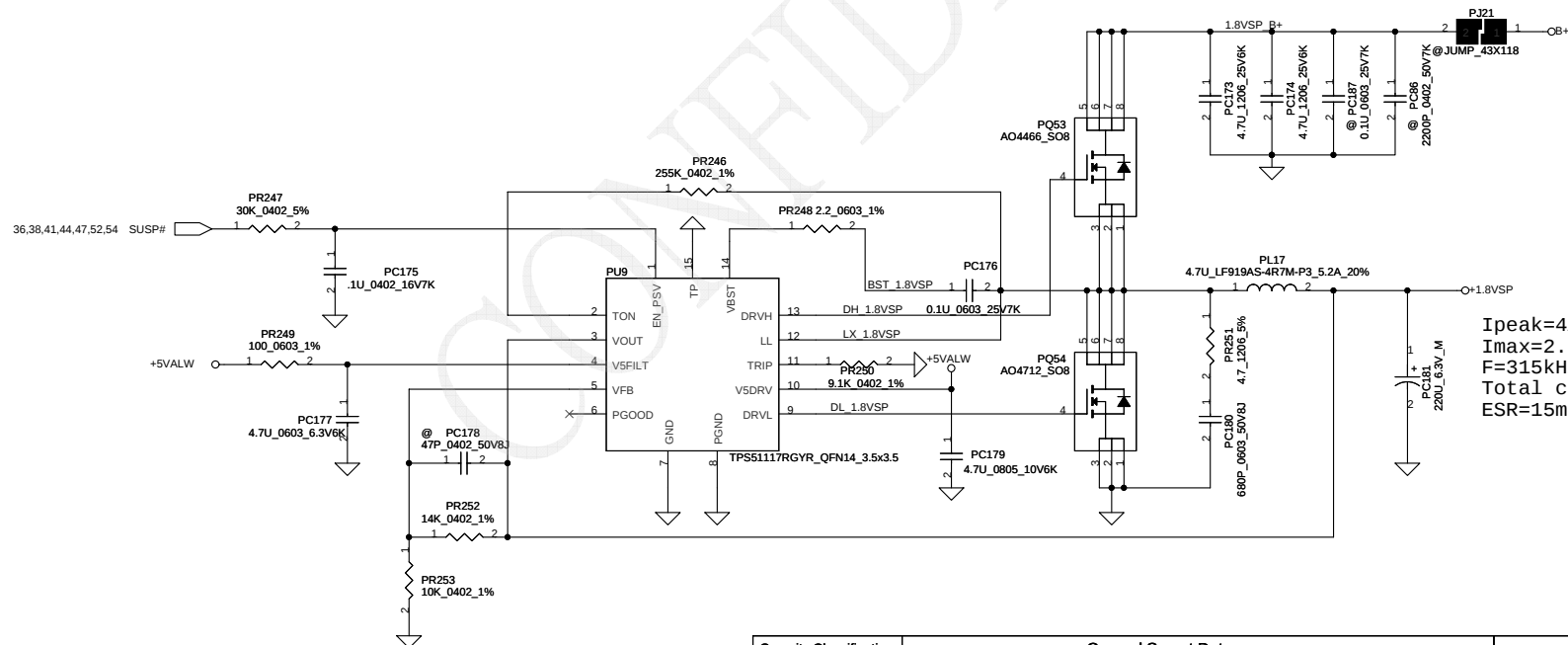
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Size                     | Document Number          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 48 of 58                 |



**Material Note:**  
330uF/ 6mohm, number are 3,  
power x1, HW x2

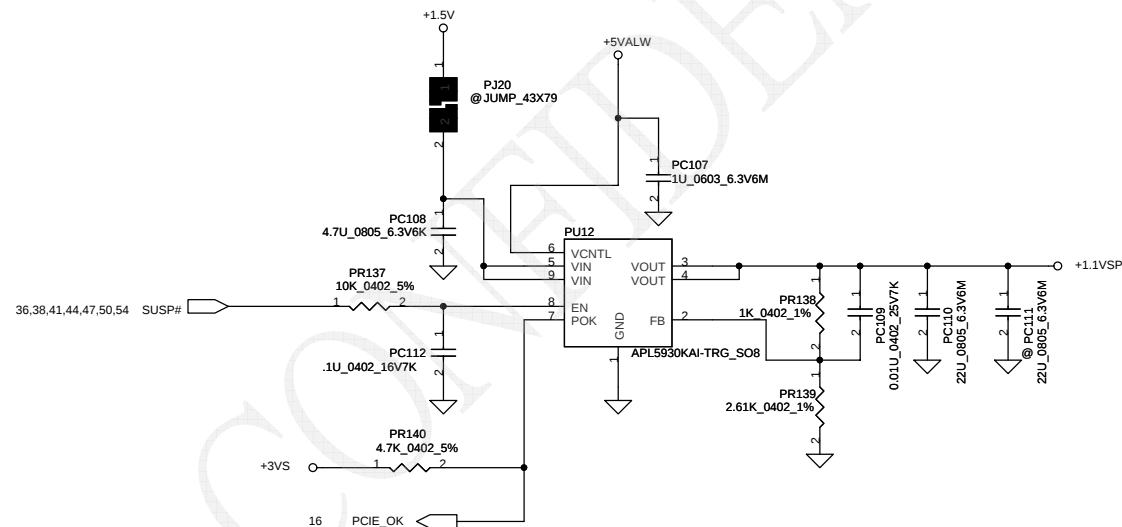
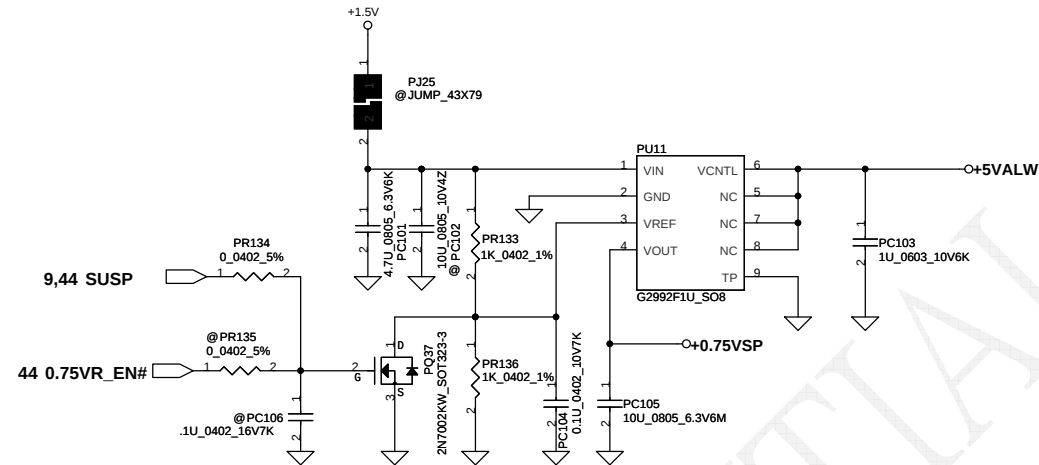


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| Date: Monday, January 25, 2010                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                 |            | Sheet 49 of 58                  |                        |       |

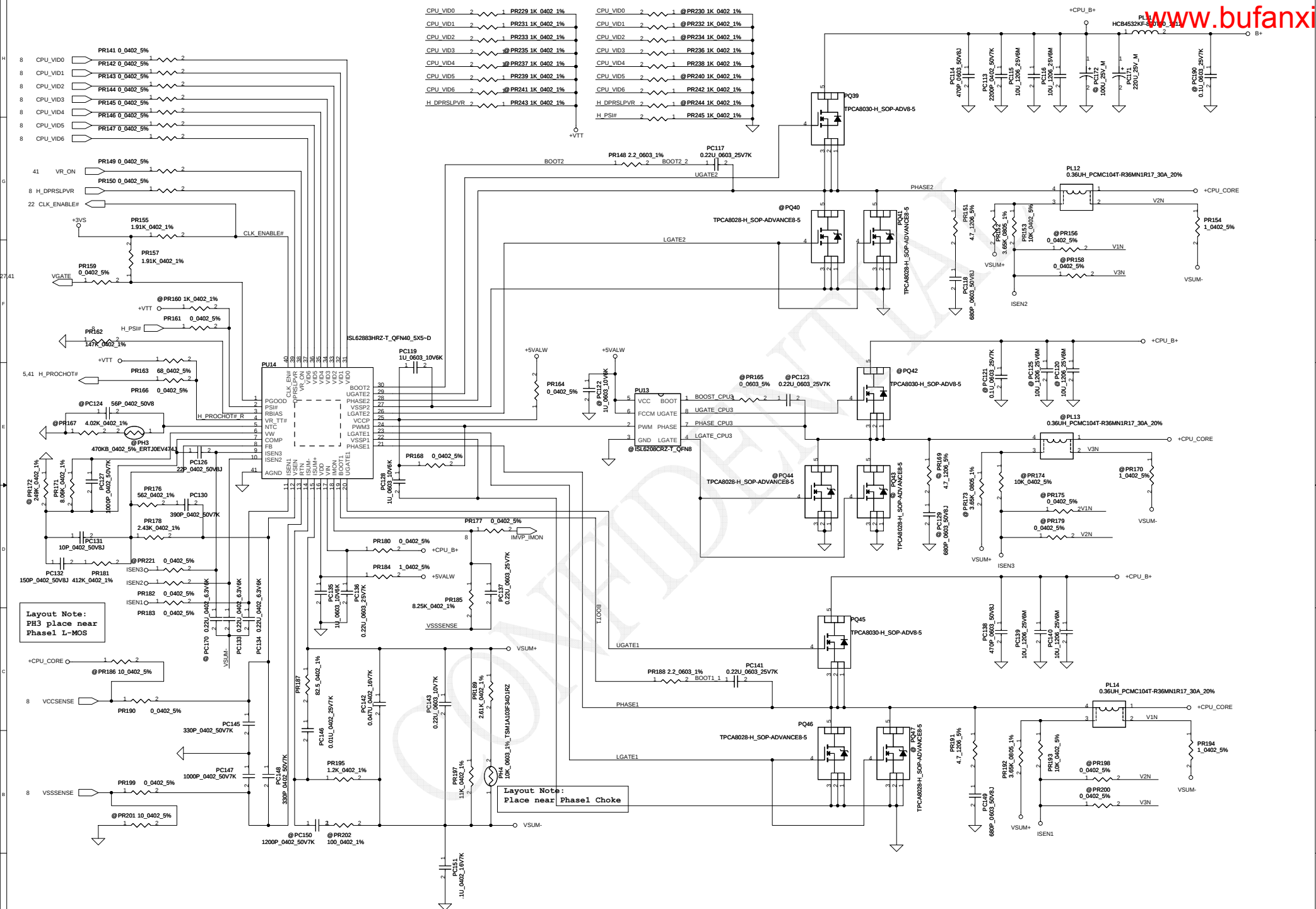


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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                           | Monday, January 25, 2010  |  | Sheet 50 of 58 |

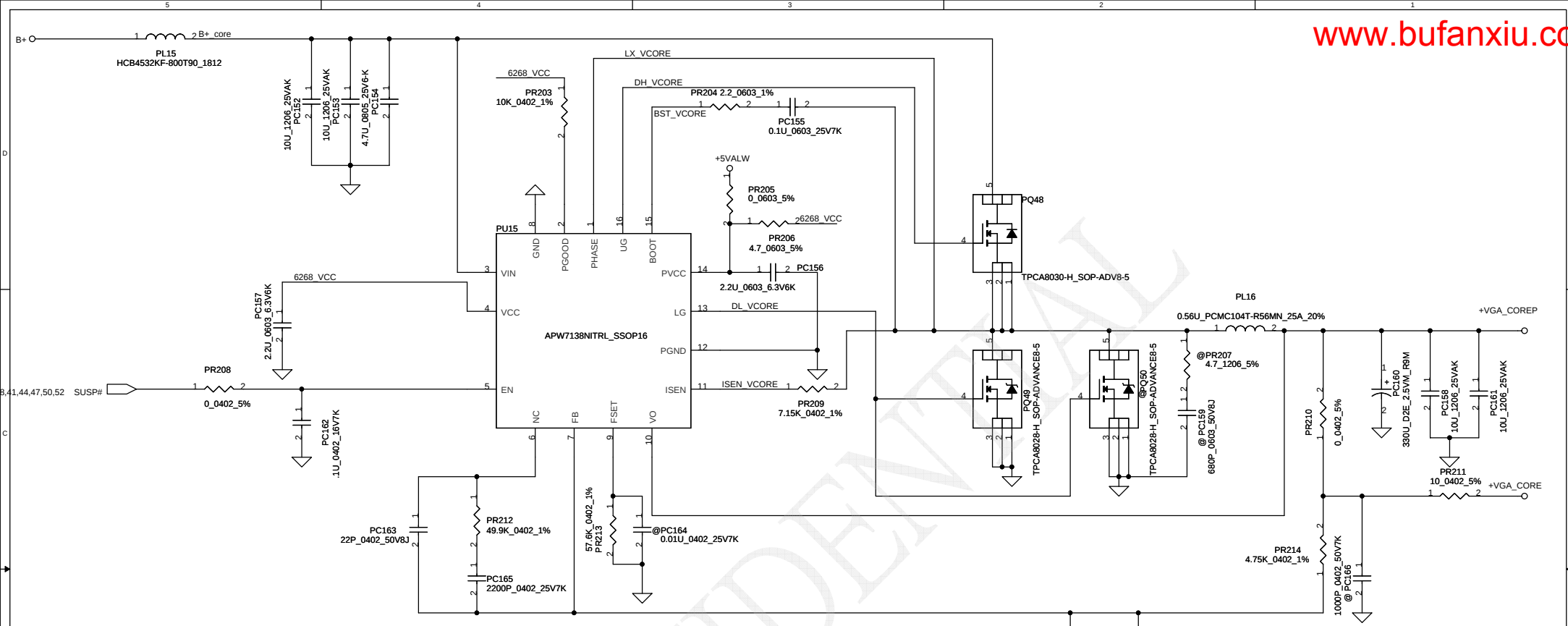
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Custom                                 | 401717                   | D              |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                                  | Monday, January 25, 2010 | Sheet 51 of 58 |  |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                    |            |                          |          |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          | Compal Secret Data |            | Compal Electronics, Inc. |          |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number          |                    |            | 401717                   | Rev D    |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Monday, January 25, 2010 |                    |            | Sheet                    | 52 of 58 |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                 |                          |                        |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data       |                 | Compal Electronics, Inc. |                        |
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| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Monday, January 25, 2010 | Sheet           | 53                       | of 58                  |



$VFB(0.6) = V_{out} \cdot R_{bottom} / (R_{top} + R_{bottom})$

$FSW = 1 / (75E-12 \cdot 57.6K) = 231.48KHz$

|                  | M96                                            | M92                                          |
|------------------|------------------------------------------------|----------------------------------------------|
| VGA_PWSELECT     | Core Voltage Level                             | Core Voltage Level                           |
| High             | 0.98 V                                         | 0.98 V                                       |
| Low              | 1.1 V                                          | 1.2 V                                        |
| resistor setting | PR214 = 4.75K<br>PR218 = 7.5K<br>PR215 = 23.7K | PR214 = 4.75K<br>PR218 = 7.5K<br>PR215 = 13K |

| M96                                        | M92                                        |
|--------------------------------------------|--------------------------------------------|
| Imax=18.23A<br>Ipeak=26.05A<br>Iocp=28.65A | Imax=12.81A<br>Ipeak=18.30A<br>Iocp=20.14A |
| PR209=7.15K<br>PQ50=unpop                  | PR209=5.36K<br>PQ50=unpop                  |

PIR (Product Improve Record)

NSWAA LA-5322P SCHEMATIC CHANGE LIST  
REVISION CHANGE: 0.1 TO 0.2

| NO   | DATE   | PAGE | MODIFICATION LIST                                      | PURPOSE                             |
|------|--------|------|--------------------------------------------------------|-------------------------------------|
| 3/25 | 31, 32 | DEL  | L14, C302, L15, C312, L16, C314, C315, L19, C339, C340 | DG1.5: these pins have internal VRM |

NSWAA LA-5322P SCHEMATIC CHANGE LIST  
REVISION CHANGE: 0.2 TO 0.3

| NO   | DATE                | PAGE    | MODIFICATION LIST                                                                                                                                                                                                   | PURPOSE                                              |
|------|---------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| 6/29 | 11                  | Add     | R92, R93                                                                                                                                                                                                            | To support M1 mode                                   |
| 6/29 | 27                  | Change  | R324 from 10K to 330K                                                                                                                                                                                               | To solve ACIN LED issue                              |
| 7/02 | 30                  | Change  | BT_PWR# from GPIO0 to GPIO34, add<br>VGA_HDMI_HPD on GPIO0.                                                                                                                                                         | For common design with NSKAA                         |
| 7/02 | 35                  | DEL     | JCAM (R431, R432, C403, R371, R373, R374, R375, L20)                                                                                                                                                                | CAM cable combine with LVDS                          |
| 7/02 | 22                  | DEL     | R387                                                                                                                                                                                                                | Remove +5VALW power to camera                        |
| 7/02 | 40                  | DEL     | YC1, CC10, CC12                                                                                                                                                                                                     | Remove 12MHz crystal to cardreader                   |
| 7/02 | 40                  | DEL     | RC2                                                                                                                                                                                                                 | Remove +3VALW to cardreader                          |
| 7/02 | 15-18               | Add     | LV31, CV253, CV236, CV270, LV35, LV36, CV303, CV304,<br>CV305, CV306, CV307, CV308, LV34, RV157, RV156, RV24, RV56<br>RV59, RV60, RV126, RV127                                                                      | Reserve for support Park/Madsion                     |
| 7/03 | 22                  | Add     | R120, R401                                                                                                                                                                                                          | Reserve +1.5VS to clk gen for low power clk gen test |
| 7/03 | 22, 30              | Add     | R154                                                                                                                                                                                                                | Reserve LVDS_SEL on PCH GPIO45                       |
| 7/03 | 30, 41              | Connect | PCH GPIO33 to EC pin 103 as PWRME_CTRL<br>Change 3G_OFF# from EC pin 103 to pin 107                                                                                                                                 | To reflash ME BIOS                                   |
| 7/17 | 43                  | Add     | R50 on SATA_LED#                                                                                                                                                                                                    | Reserve for cost down plan                           |
| 7/17 | 29                  | DEL     | R277, D12, Connect USB_OC#3_D to USB_OC#3                                                                                                                                                                           |                                                      |
| 7/17 | 27, 41, 43          | DEL     | R384, D14. Add R331                                                                                                                                                                                                 | Modify ACIN circuit                                  |
| 7/17 | 22, 43              | Change  | Q7, Q34 to Dual Q35                                                                                                                                                                                                 | For cost down                                        |
| 7/20 | 5, 9, 11,<br>30, 44 | Add     | Q41, R19, R123, R22, D54, U10, R33, R52, Q33, R424, R417,<br>C179, Q46, C472, R417, R418, C205, C186, C185, C180, PJ30, PJ31,<br>R80, Q44, R425, R158, Q39, Q40, R94, R95, R122, R121<br>Add RST_GATE on PCH GPIO46 | Reserve S3 power reduction circuit                   |
| 7/27 | 41                  | Add     | R5                                                                                                                                                                                                                  | To solve SYSON glitch issue                          |
| 7/27 | 30, 41              | Connect | PCH GPIO49 to EC pin25 as THM_ALT#                                                                                                                                                                                  | Reserve for test                                     |
| 7/27 | 8, 9, 11,<br>16, 20 | Add     | C144, C159, C218, C216, C217, CV309, CV310, CV311, CV312                                                                                                                                                            | For cost down                                        |
| 7/30 | 9, 44               | Add     | C160, C256, C257, C258, C473, C475                                                                                                                                                                                  | For EMI request                                      |
| 7/30 | 25, 42              | Change  | U13 to 8MB, U22 to 1MB                                                                                                                                                                                              | For SW and EC request                                |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                                |                        |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  | Schematic, LA5322P M/B         |                        |
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PIR (Product Improve Record)

NSWAA LA-5322P SCHEMATIC CHANGE LIST  
REVISION CHANGE: 0.3 TO 0.4

| NO   | DATE | PAGE  | MODIFICATION LIST                         | PURPOSE                     |
|------|------|-------|-------------------------------------------|-----------------------------|
| 8/19 |      | 14,22 | Add R159,R160 for VGA BKL control         | Reserve for deep green test |
| 9/1  |      |       | Change +3VL to +3VALW, DEL PJ12           | .                           |
| 9/1  |      | 25,42 | Change EC ROM to 256KB and PCH ROM to 4MB | For PVT test                |
| 9/1  |      | 34    | Add L52,R72,R85,L53,R73,R87,L54,R77,R88   | For EMI request             |
| 9/9  |      | 37    | Connect WOL_EN# to LAN IC                 | For PVT test                |

NSWAA LA-5322P SCHEMATIC CHANGE LIST  
REVISION CHANGE: 0.4 TO 1.0

| NO    | DATE | PAGE | MODIFICATION LIST                | PURPOSE                             |
|-------|------|------|----------------------------------|-------------------------------------|
| 9/30  |      | 25   | Change C287,C290 from 18p to 15p | To fine tune RTC timing             |
| 9/30  |      | 5    | Change R22 from 10k to 1k        | Modify S3 circuit                   |
| 10/28 |      | 5    | Reserve C301,C384,C389           | Reserve for S3 power saving circuit |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                          |                 |                          |                        |                 |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------|-----------------|--------------------------|------------------------|-----------------|-----|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Compal Secret Data       |                 | Compal Electronics, Inc. |                        |                 |     |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                          |                 |                          | Size                   | Document Number | Rev |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                          |                 |                          | Custom                 | 401717          | D   |
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|-----|----------------------------|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| EVT | P47-PWR_CHARGER            | Change PR65 100 to 47k                                                                                                       | For CPU throtting setting (2009/05/20)                                    |
| EVT | P48-PWR_3VALWP/5VALWP      | Change PR81 19.6k to 19.1k                                                                                                   | modify +5VALWP voltage to 5.14V (2009/05/20)                              |
| EVT | P49-PWR_+1.1V_VTTP         | Add PR290 100K, PR291 180K, PR292 10K, PR293 4.7K, PR294 100K, PC228 0.01U, PC229 0.1U, PQ55,PQ56                            | Add switching circuit for H_VTTSELECT function (2009/05/20)               |
| EVT | P49-PWR_+1.1V_VTTP         | Change PR94 10K to 3.4K<br>Add PR101 1K                                                                                      | Set VTTPWROK voltage level to 1.1V (2009/05/20)                           |
| EVT | P53-PWR_CPU_CORE           | Remove PR186,PR201 10 Ohm                                                                                                    | Modify CPU_CORE circuit (2009/05/27)                                      |
| EVT | P46-PWR_BATTERY CONN / OTP | Change PH1,PH2 0603 sizt to 0402 size                                                                                        | For cost down (2009/05/27)                                                |
| EVT | P50-PWR_1.05VSP/1.8VSP     | Change PR115,PR249 4220hm to 100 Ohm<br>Change PC79,PC177 1U to 4.7U                                                         | avoid 2nd source RT8209B can no power on (2009/06/05)                     |
| EVT | P52-PWR_0.75VSP/1.1VSP     | Change PU12 APL5913 to APL5930                                                                                               | For cost down (2009/06/05)                                                |
| EVT | P45-PWR_DCIN/DECTOR        | Remove DC301000F00                                                                                                           | Remove DC IN JACK((2009/06/05))                                           |
| EVT | P54-PWR_VGA_COREP          | Change PR210 10 Ohm to 0 Ohm<br>Change PR211 0 Ohm to 10 Ohm                                                                 | Change VGA_CORE sense from HW terminal to PWR (2009/06/05)                |
| EVT | P54-PWR_VGA_COREP          | Change PL16 0.36U to 0.56U                                                                                                   | Change CPU_CORE CHOKE to 0.56U(2009/06/05)                                |
| EVT | P50-PWR_1.05VSP/1.8VSP     | Change PR116 14.7k to 10k<br>Change PR250 15.4k to 9.1k                                                                      | Set 1.05V OCP to 8.54A(2009/06/05)<br>Set 1.8V OCP to 4.93A(2009/06/05)   |
| EVT | P51-PWR_1.5VP              | Change PR127 7.15k to 2.1k                                                                                                   | Set 1.5V OCP to 17A(2009/06/05)                                           |
| EVT | P49-PWR_+VTTP              | Change PR99 5.9k to 2.43k                                                                                                    | Change VTT OCP to 19.7A(2009/06/05)                                       |
| DVT | P50-PWR_1.05VSP/1.8VSP     | Add PC175 0.1U<br>Change PR247 0 to 30k                                                                                      | For power sequence(2009/07/07)                                            |
| DVT | P49-PWR_+VTTP              | Change PR99 2.43k to 4.99k                                                                                                   | Set OCP(2009/07/07)                                                       |
| DVT | P51-PWR_1.5VP              | Change PR127 2.1k to 4.7k                                                                                                    | Set OCP(2009/07/07)                                                       |
| DVT | P45-PWR_CPU_CORE           | PC133, PC134 SE083224Z80 to SE124224K80                                                                                      | PC133, PC134 tolerance Y5V to X5R(2009/0/07)                              |
| DVT | P50-PWR_1.05VSP/1.8VSP     | Change PC79, PC177 SE00000MAN0 to SE107475K80                                                                                | Change part number(2009/07/07)                                            |
| DVT | P41-PWR_3VALWP/5VALWP      | Add PC87 1U_0402_6.3V6K                                                                                                      | Avoid pre-charge can not finish(2009/07/07)                               |
| DVT | P41-PWR_3VALWP/5VALWP      | Add PC45 0.22U to 1U                                                                                                         | Prevent +3VALW/+5VALW can't boot up (2009/07/07)                          |
| DVT | P45-PWR_CPU_CORE           | Change PR229-PR245 and PR160 10k to 1k                                                                                       | Change VID, PSI# and DPRSLPVR select resistor from 10k to 1k (2009/07/17) |
| DVT | P45-PWR_CPU_CORE           | Change PR157 10k to 1.91k                                                                                                    | Change PG00D pull high resistor 10k to 1.91k(2009/07/17)                  |
| DVT | P45-PWR_CPU_CORE           | Remove PH3, PC124, PR167<br>Change PC133, PC134, PC170 pin 2 from GND to VSUM-<br>Change PR152, PR192 0402 size to 0805 size | Modify circuit for CPU_CORE(2009/07/17)                                   |
| DVT | P39-PWR_BATTERY CONN / OTP | Change +3VLP to +3VALWP                                                                                                      | Remove +3VLP power rail (2009/07/17)                                      |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                        |                 |                          |                                |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                 |            | <b>401717</b>                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                 | Date:      | Monday, January 25, 2010        |
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