

# Compal Confidential

## Schematics Document

INTEL AUBURNDALE with IBEX core logic

Cartier UMA

LA-4902P

2009-12-07

REV:1.0

|        |      |      |
|--------|------|------|
| 機<br>密 | 等級   | 硬體二部 |
|        | 產出人員 |      |
|        | 產出日期 |      |
|        | 解密日期 |      |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                          |                           |               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|---------------------------|---------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                           |               |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2008/09/15         | Deciphered Date | 2009/12/31 | Title                    | Cover Sheet               |               |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Custom                   | LA-4902P                  | 0.3           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date:                    | Monday, December 14, 2009 | Sheet 1 of 47 |

Page 33

( Docking )  
Page 30

ELECTRONICS, INC. NEITHER  
WITHOUT PRIOR WRITTEN

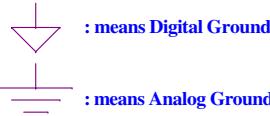
- (2) PS/2 Interfaces
- (2) USB 2.channels
- (2) SATA Channels
- (2) Display Port Channels
- (1) Serial Port
- (1) Parallel Port
- (1) Line In
- (1) Line Out
- (1) RJ45 (10/100/1000)
- (1) VGA
- (1) 2 LAN indicator LED's
- (1) Power Button
- (1) I2C interface

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                                                         |                              |               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|---------------------------------------------------------|------------------------------|---------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | <b>Compal Electronics, Inc.</b><br><b>Block Diagram</b> |                              |               |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2008/09/15 | Deciphered Date    | 2009/12/31 | Title                                                   |                              |               |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date                                                    | Wednesday, December 09, 2009 | Sheet 2 of 47 |

Voltage Rails ( O MEANS ON X MEANS OFF )

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

Symbol Note :



@ : means just reserve , no build  
CONN@ : means ME part.

Install below 45 level BOM structure for ver. 0.1

45@ : means just put it in the BOM of 45 level.

Install below 43 level BOM structure for ver. 0.1

DEBUG@ : means just build when PCIE port 80 CARD function enable. *Remove before MP*  
N10M@ : Install for N10M Graphic controller  
1098@ : Install for 1098 KBC controller

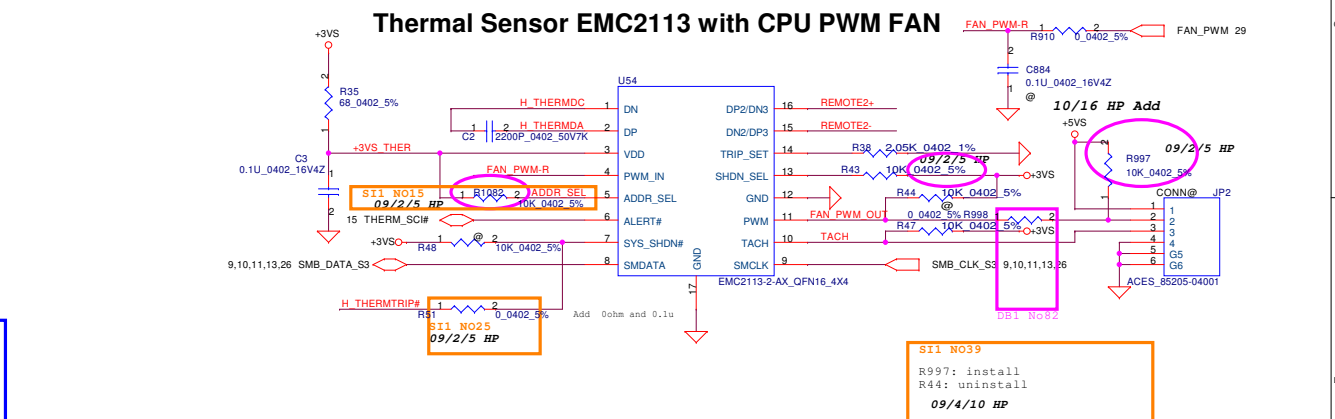
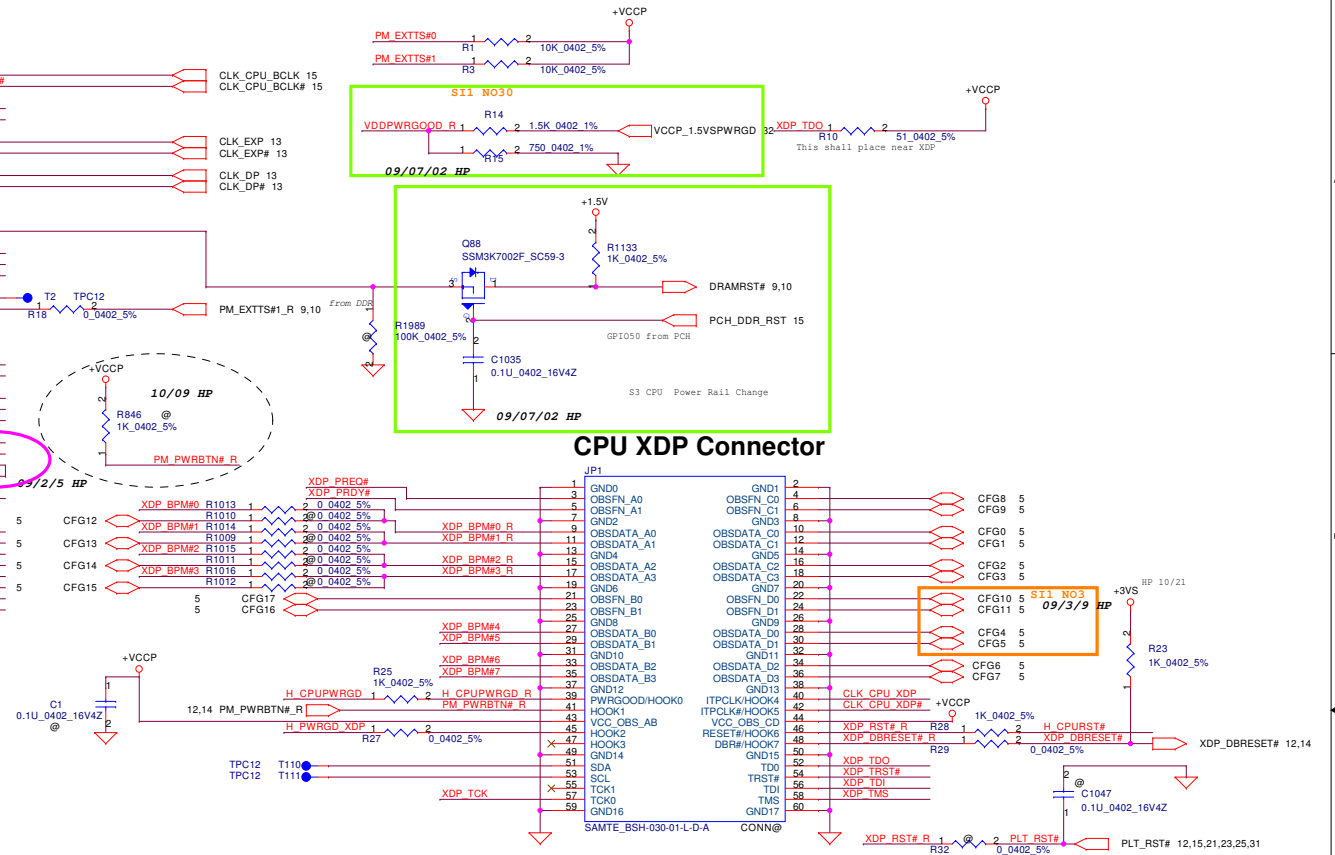
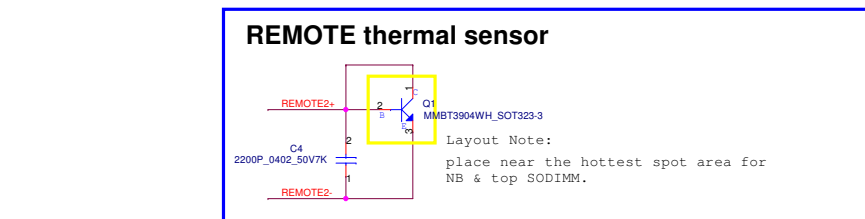
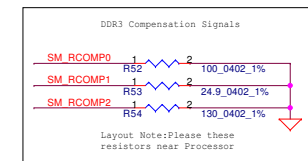
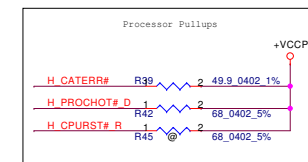
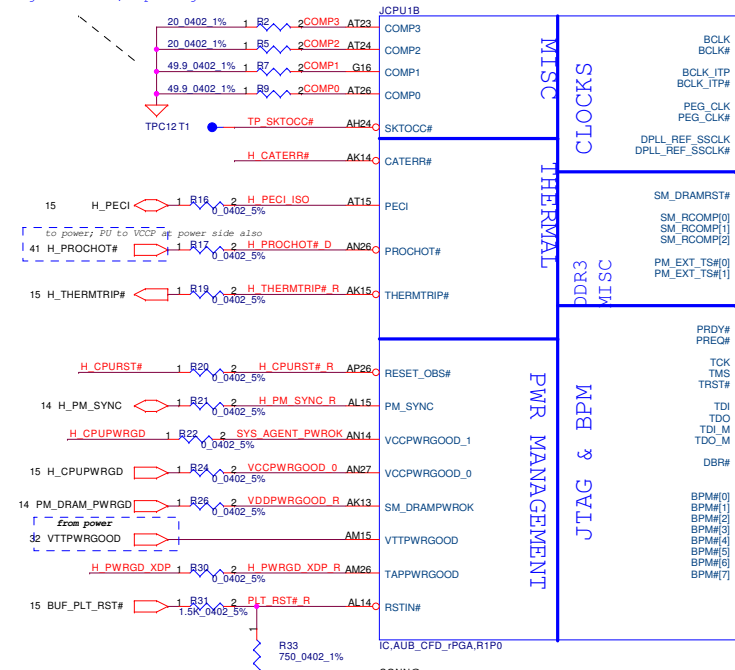
Reserve below BOM structure for ver. 0.1

1091@ : Install for 1091 KBC controller

SMBUS Control Table

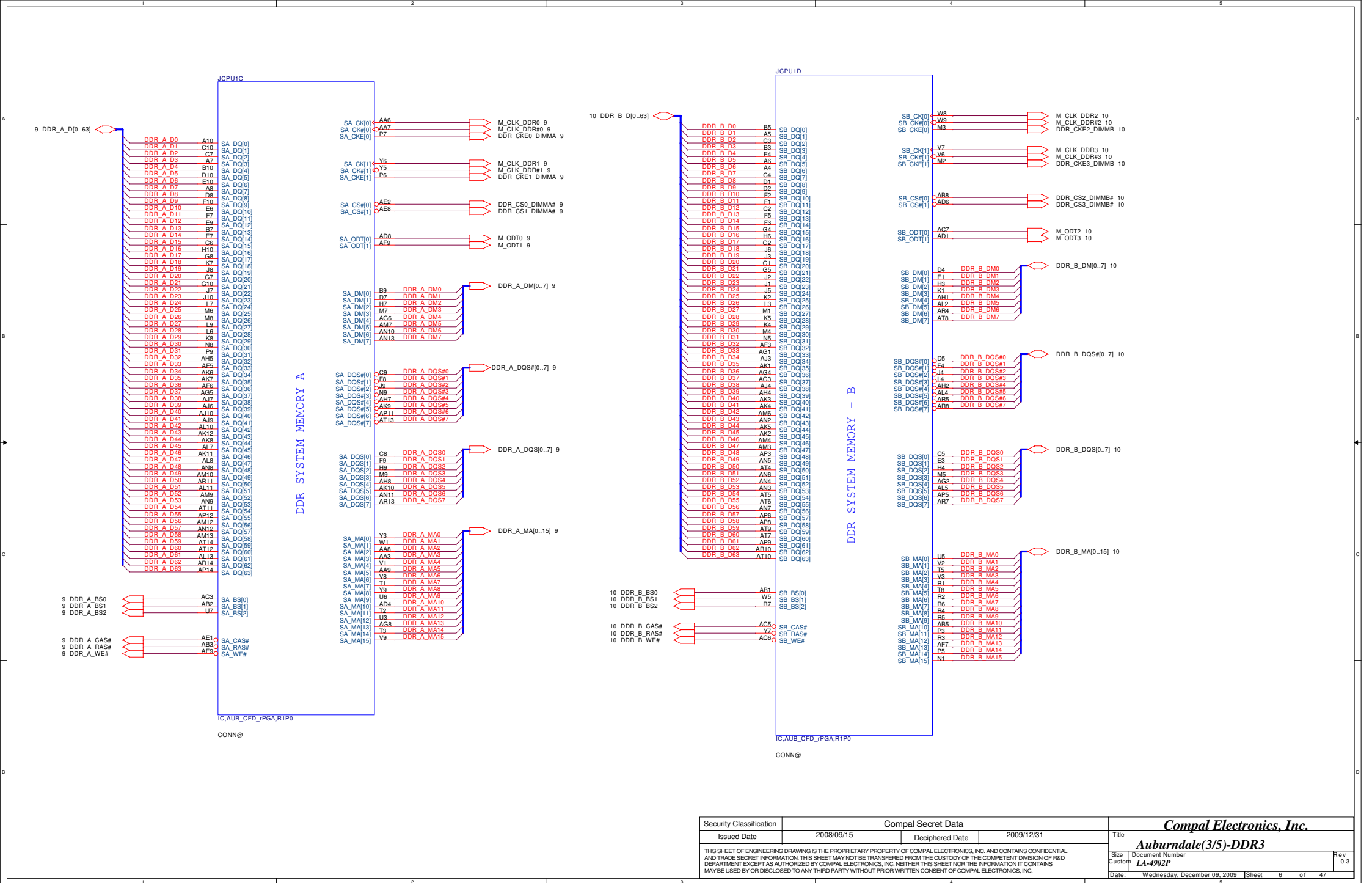
|                          | SOURCE   | BATT | XDP | SODIMM | CLK CHIP | MINI CARD | DOCK | NIC | THERMAL SENSOR | G-SENSOR |
|--------------------------|----------|------|-----|--------|----------|-----------|------|-----|----------------|----------|
| SMB_EC_CK1<br>SMB_EC_DA1 | SMSC1098 | V    | X   | X      | X        | X         | X    | X   | X              | X        |
| SMBCLK<br>SMBDATA        | Calpella | X    | V   | V      | V        | V         | V    | X   | X              | V        |
| SML0CLK<br>SML0DATA      | Calpella | X    | X   | X      | X        | X         | X    | V   | X              | X        |
| SML1CLK<br>SML1DATA      | Calpella | X    | X   | X      | X        | X         | X    | X   | V              | V        |

Layout rule : 10mil width trace  
length < 0.5", spacing 20mil

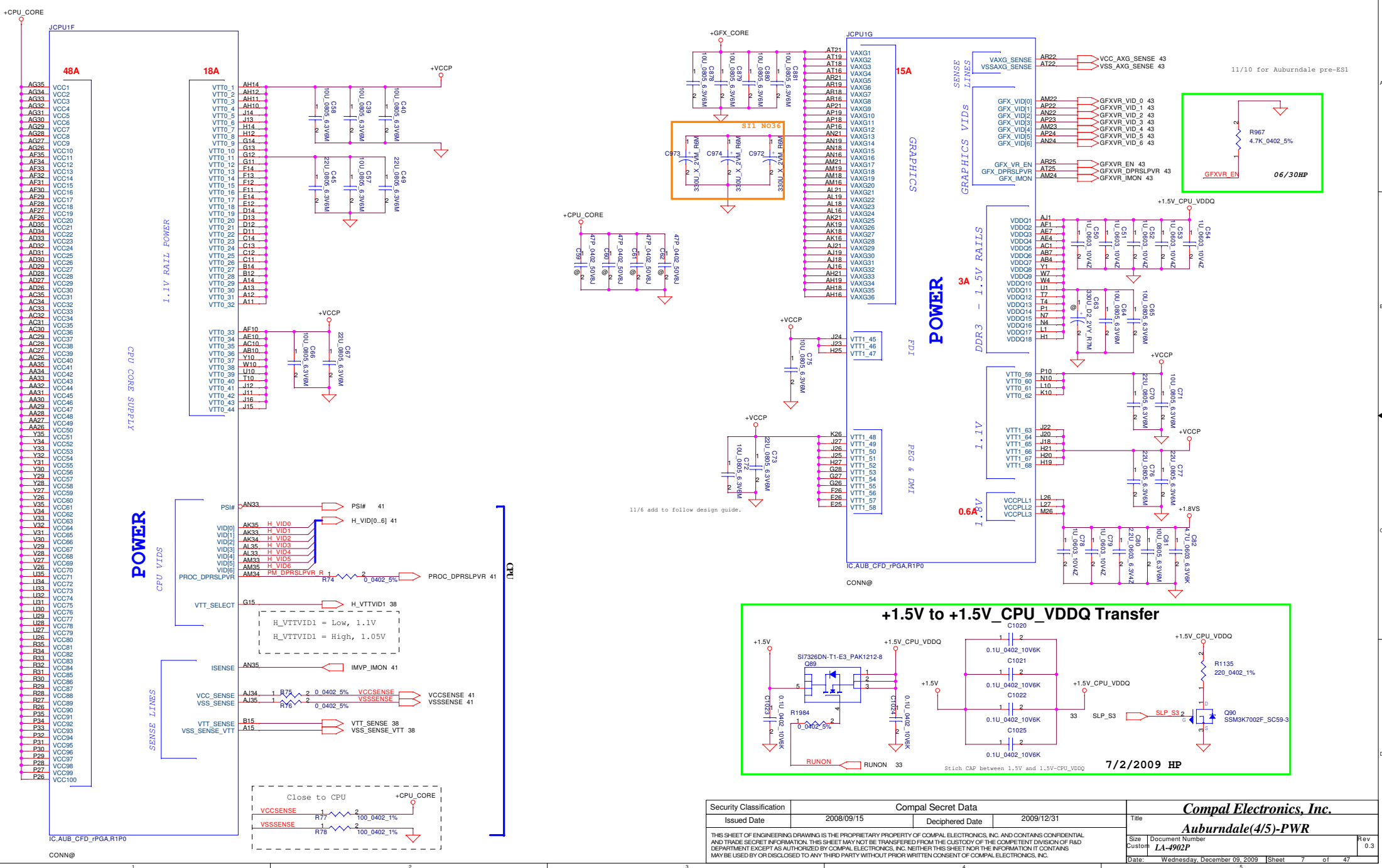


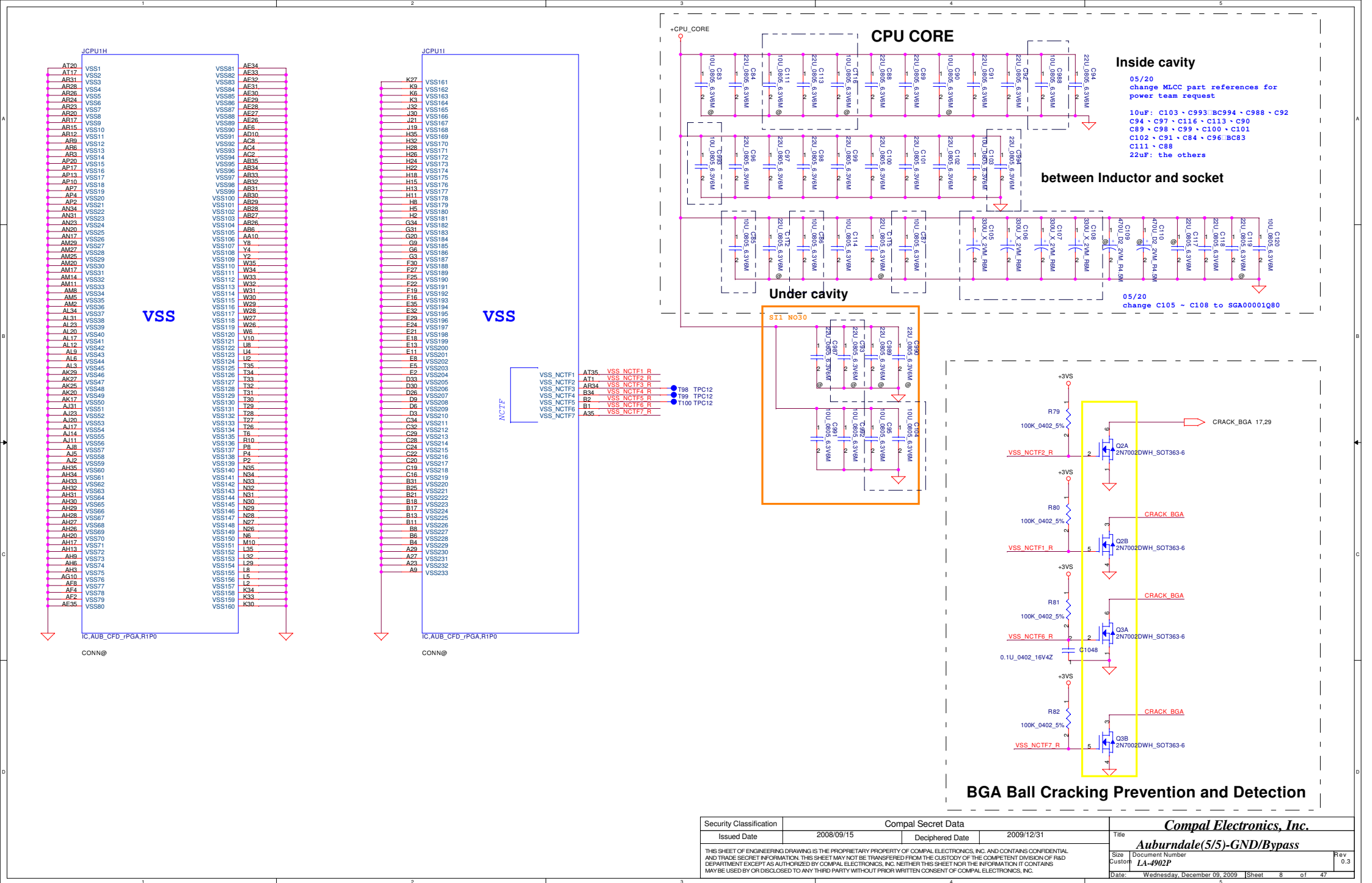
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|-----------------------------------------------------------------------|-------------------------------------------------------|---------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | <b>Compal Electronics, Inc.</b><br><b>Auburndale(1/5)-Thermal/XDP</b> |                                                       |               |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2008/09/15         | Deciphered Date | 2009/12/31 | Title                                                                 | <b>Auburndale(1/5)-Thermal/XDP</b><br><b>LA-4902P</b> |               |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date:                                                                 | Wednesday, December 09, 2009                          | Sheet 4 of 47 |





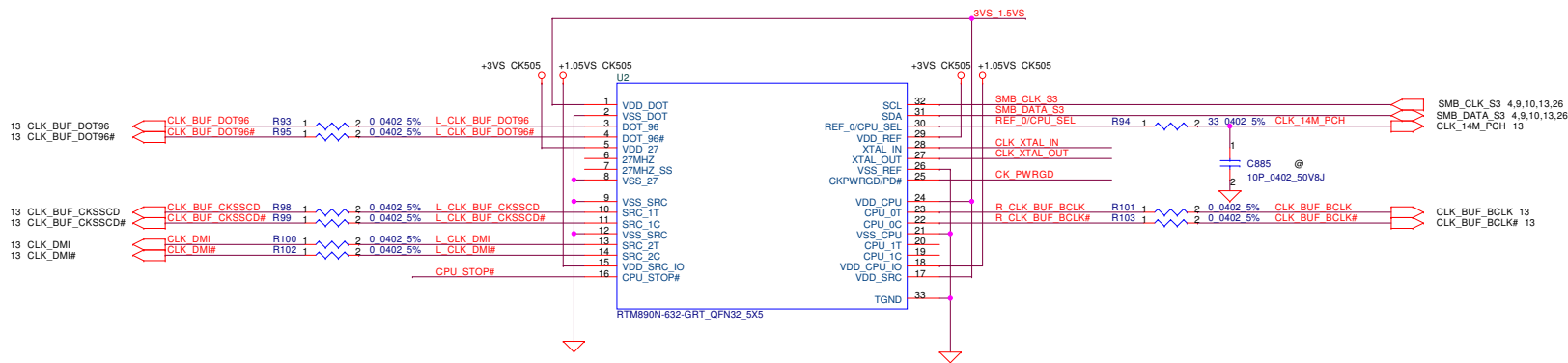
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Title                |                              |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2008/09/15 | Deciphered Date    | 2009/12/31 | Auburndale(3/5)-DDR3 |                              |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                | 6 of 47                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev                  | 0.3                          |



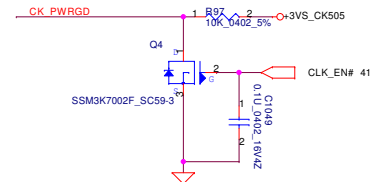
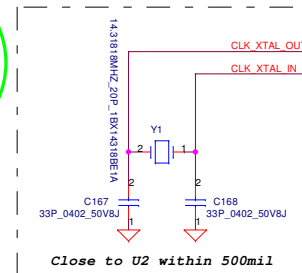
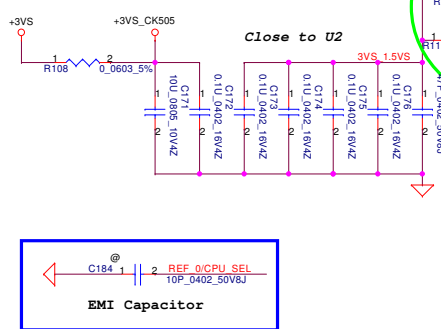
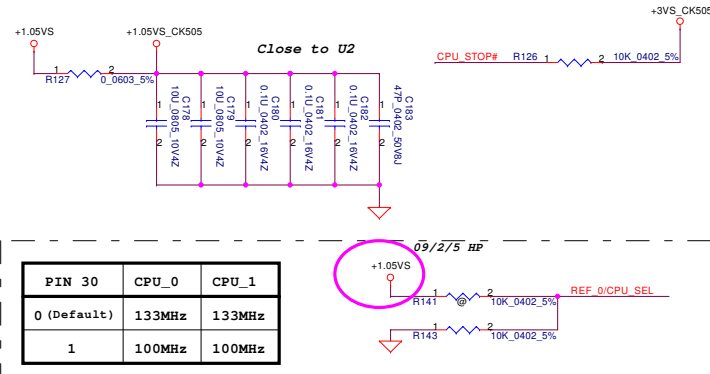




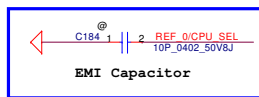




CLK Gen feature 1.5V support 6/29



| PIN         | 30 | CPU_0  | CPU_1  |
|-------------|----|--------|--------|
| 0 (Default) |    | 133MHz | 133MHz |
| 1           |    | 100MHz | 100MHz |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                              |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2008/09/15 | Deciphered Date    | 2009/12/31 | Title                    | CLOCK GENERATOR              |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date                     | Wednesday, December 09, 2009 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 11 of 47                     |



8/31/2009 HP

EXP

WLAN

NIC

EXP

WLAN

NIC

SMBUS

PCI-E \*

From CLK BUFFER

Clock Flex

SMBALERT# / GPIO11  
SMBCLK  
SMBDATASML0ALERT# / GPIO60  
SML0CLK  
SML0DATASML1ALERT# / GPIO74  
SML1CLK / GPIO58  
SML1DATA / GPIO75CL\_CLK1  
CL\_DATA1  
CL\_RST1#PEG\_A\_CLKREQ# / GPIO47  
CLKOUT\_PEG\_A\_N  
CLKOUT\_PEG\_A\_PCLKOUT\_DMI\_N  
CLKOUT\_DMI\_PCLKOUT\_DP\_N / CLKOUT\_BCLK1\_N  
CLKOUT\_DP\_P / CLKOUT\_BCLK1\_PCLKIN\_DMI\_N  
CLKIN\_DMI\_PCLKIN\_BCLK\_N  
CLKIN\_BCLK\_PCLKIN\_DOT\_96N  
CLKIN\_DOT\_96PCLKIN\_SATA\_N / CKSSCD\_N  
CLKIN\_SATA\_P / CKSSCD\_PREFCLK14IN  
CLKIN\_POILOOPBACKXTAL25\_IN  
XTAL25\_OUT  
XCLK\_RCOMPCLKOUTFLEX0 / GPIO64  
CLKOUTFLEX1 / GPIO65  
CLKOUTFLEX2 / GPIO66  
CLKOUTFLEX3 / GPIO67SMBALERT#  
SMBCLK  
SMBDATASML0ALERT#  
SML0CLK  
SML0DATASML1ALERT#  
SML1CLK  
SML1DATACL\_CLK1  
CL\_DATA1  
CL\_RST1#PEG\_A\_CLKREQ#  
CLK\_EXP# R  
CLK\_EXP RCLK\_DP# R  
CLK\_DP RCLKIN\_DMI#  
CLKIN\_DMICLKIN\_BCLK#  
CLKIN\_BCLKCLKIN\_DOT96#  
CLKIN\_DOT96CLKIN\_BUF\_CKSSCD#  
CLKIN\_BUF\_CKSSCDCLK\_14M\_PCH  
CLK\_PCI\_FBXTAL25\_IN  
XTAL25\_OUT  
XCLK\_RCOMPCLKOUTFLEX0 / GPIO64  
CLKOUTFLEX1 / GPIO65  
CLKOUTFLEX2 / GPIO66  
CLKOUTFLEX3 / GPIO67CLK\_EXP# 4  
CLK\_EXP 4  
CLK\_DP# 4  
CLK\_DP 4  
CLK\_DMI# 11  
CLK\_DMI 11  
CLK\_BUF\_BCLK# 11  
CLK\_BUF\_BCLK 11  
CLK\_BUF\_DOT96# 11  
CLK\_BUF\_DOT96 11  
CLK\_BUF\_CKSSCD# 11  
CLK\_BUF\_CKSSCD 11  
CLK\_14M\_PCH 11  
CLK\_PCI\_FB 15  
XTAL25\_IN  
XTAL25\_OUT  
XCLK\_RCOMP

DDR

intel LAN

EC\_THERMAL

Security Classification

Compal Secret Data

Issued Date

2008/09/15

Deciphered Date

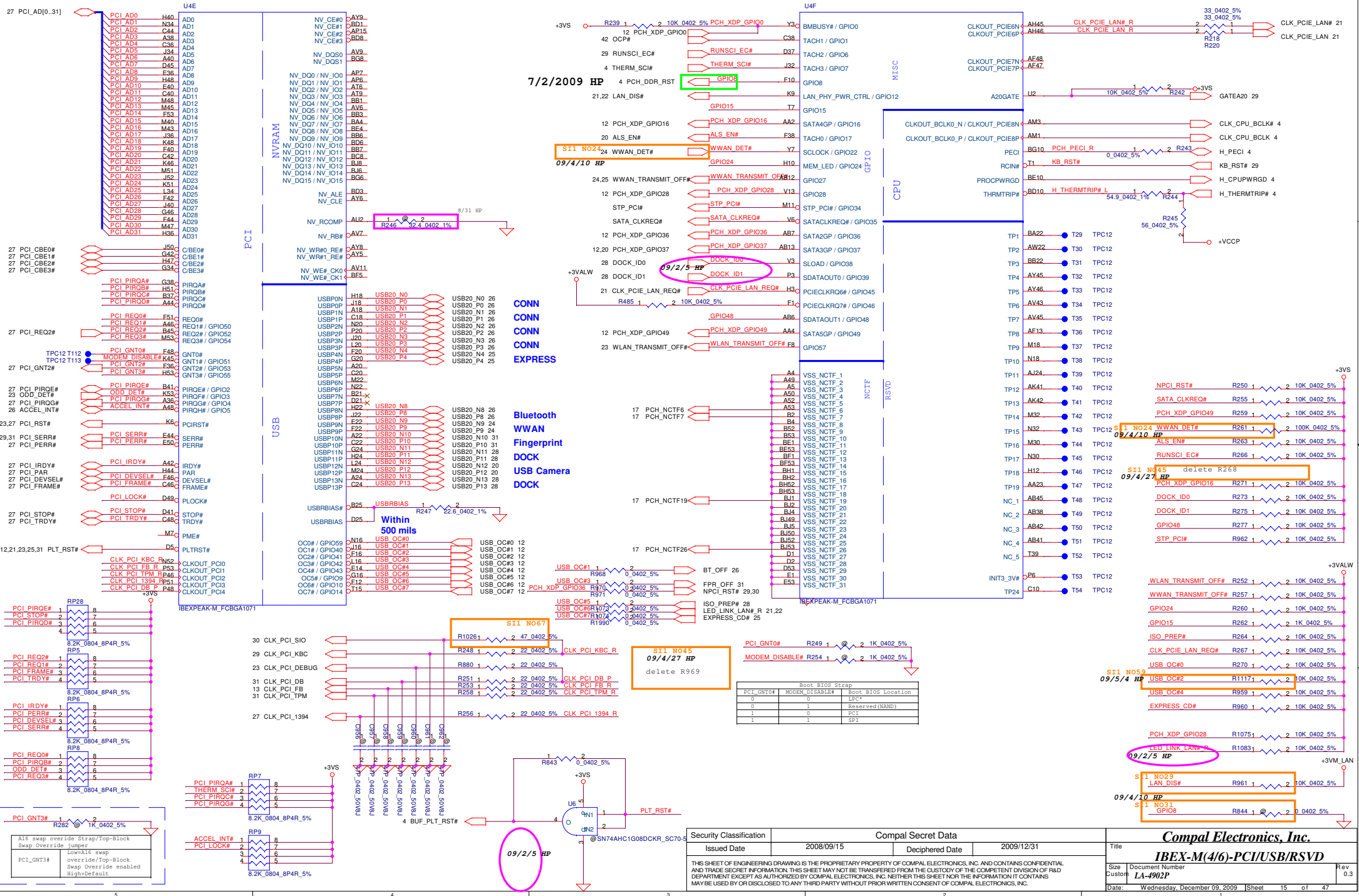
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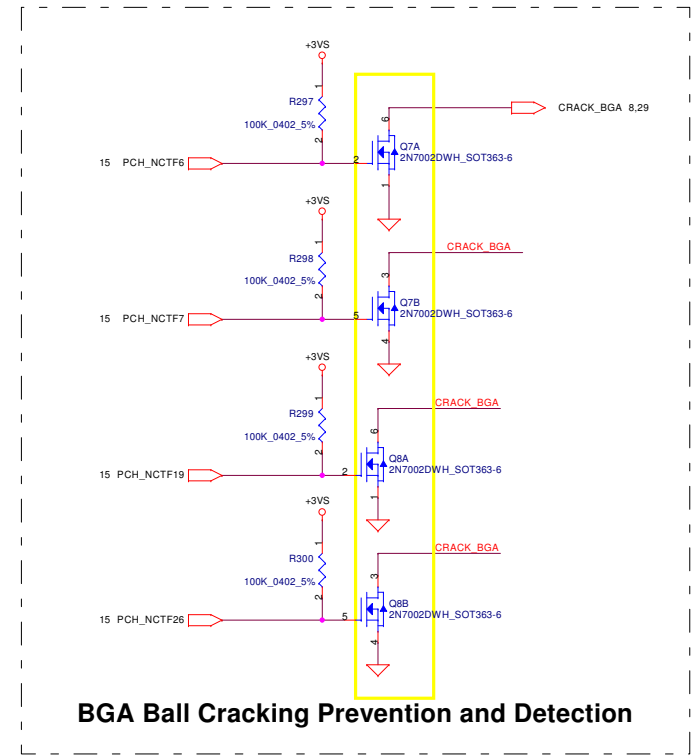
Compal Electronics, Inc.

Title  
IBEX-M(2/6)-PCI-E/SMBUS/CLKSize  
CustomDocument Number  
LA-4902PDate  
Wednesday, December 09, 2009Sheet  
13 of 47Rev  
0.3



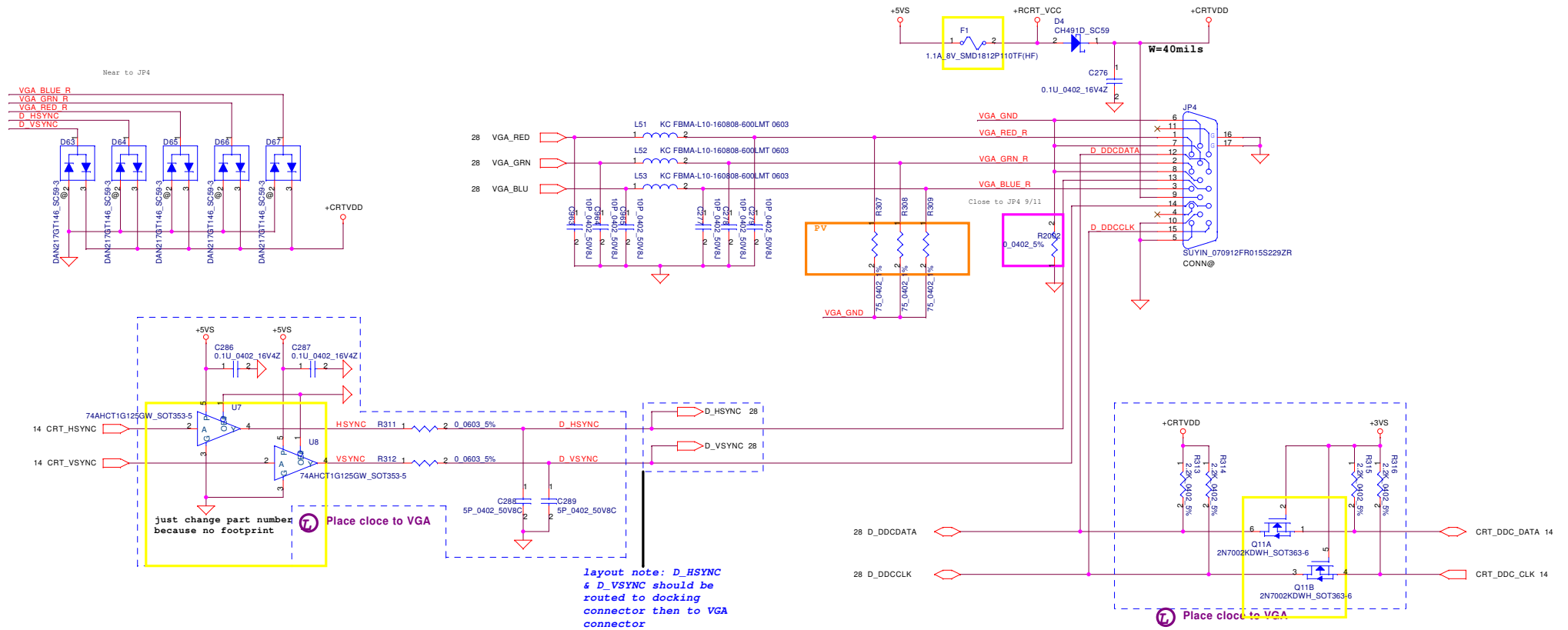






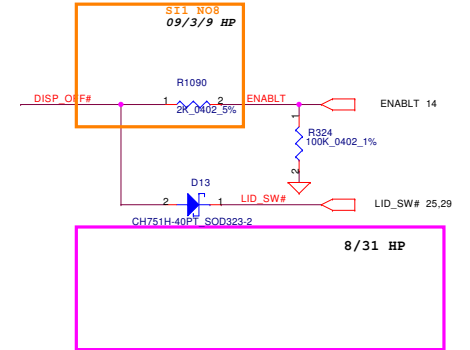
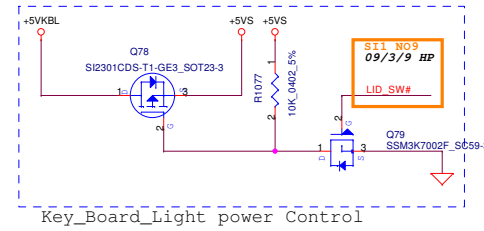
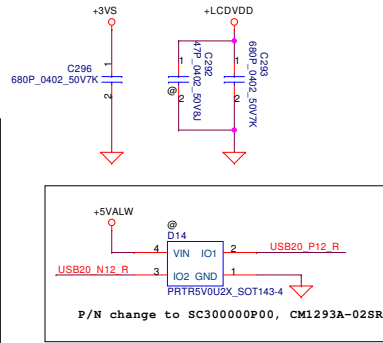
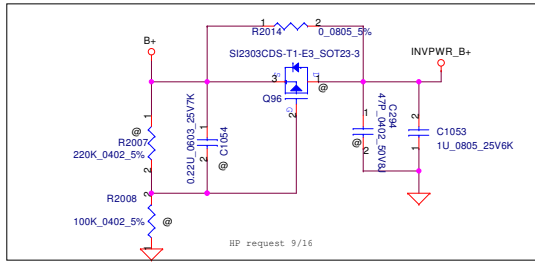
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Title           |                              |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | LA-4902P        |                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:           | Wednesday, December 09, 2009 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet           | 17 of 47                     |

# CRT Connector

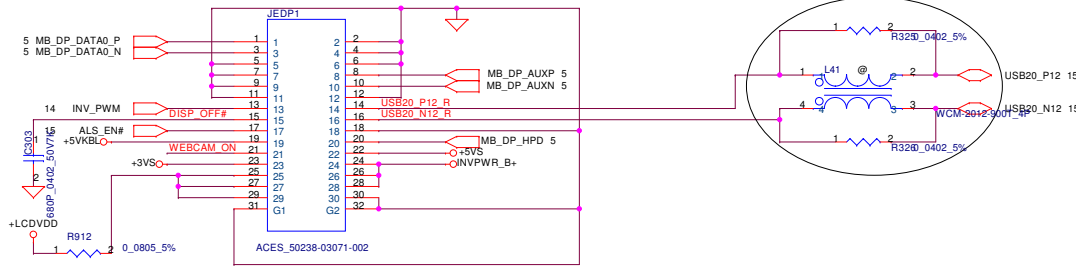


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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number              | LA-4902P        |                          | Rev           |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Wednesday, December 09, 2009 | Sheet           | 18 of 47                 | 0.3           |

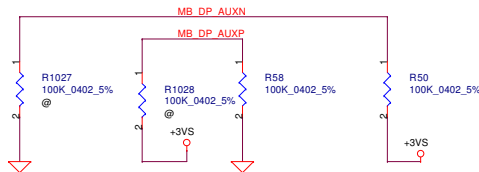




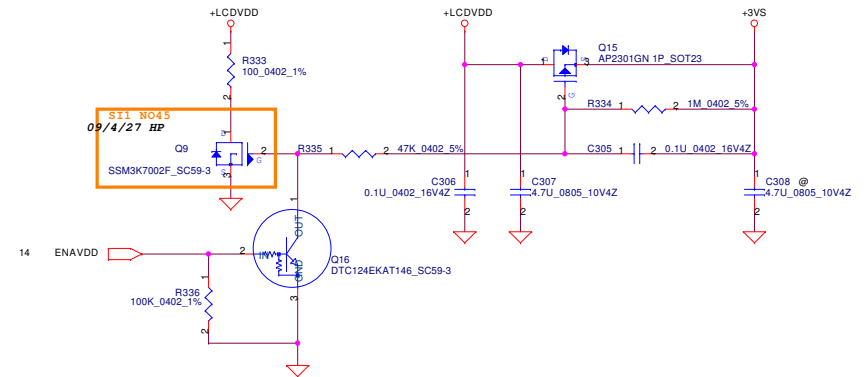
## LCD/PANEL BD. CONN.



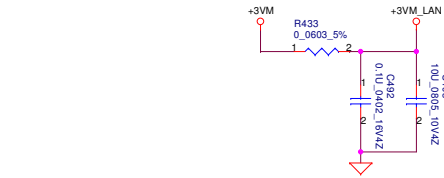
Change eDP LCD connector to 30pin for Coaxial cable 9/13



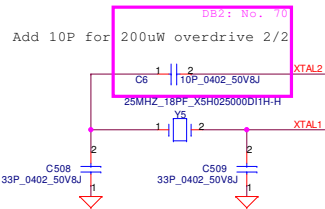
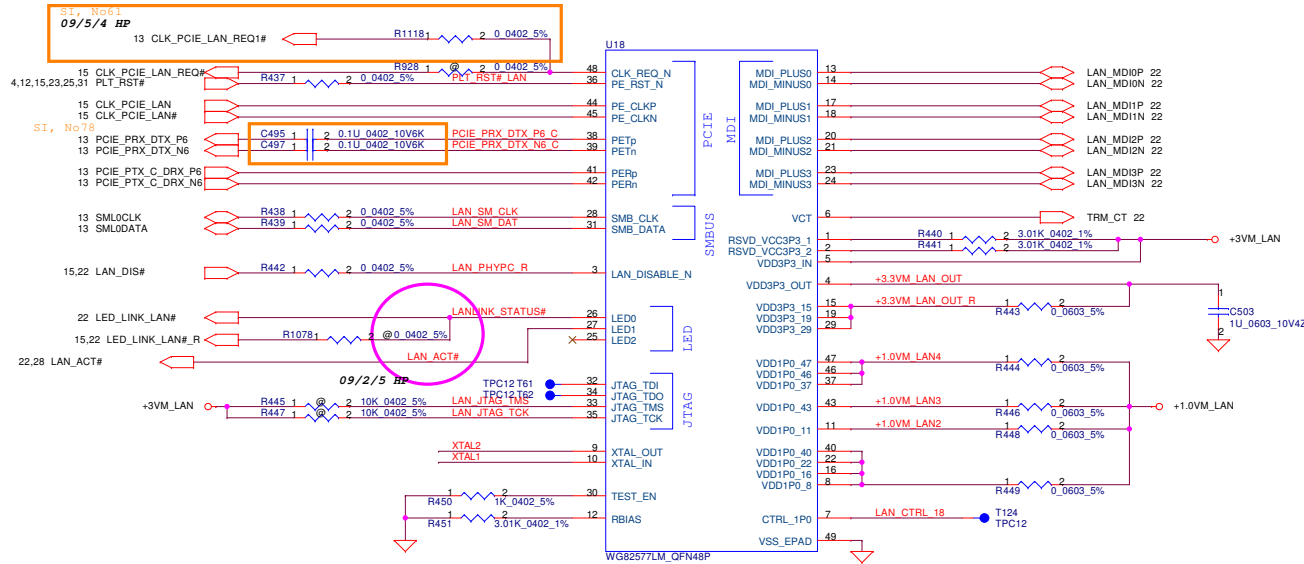
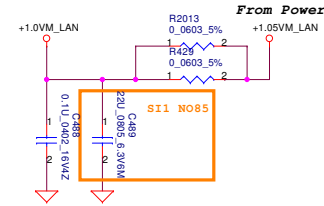
## LCD POWER CIRCUIT



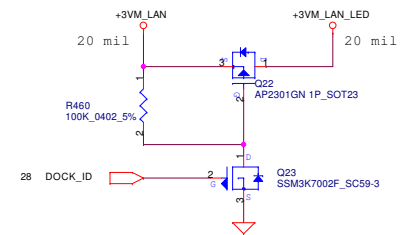
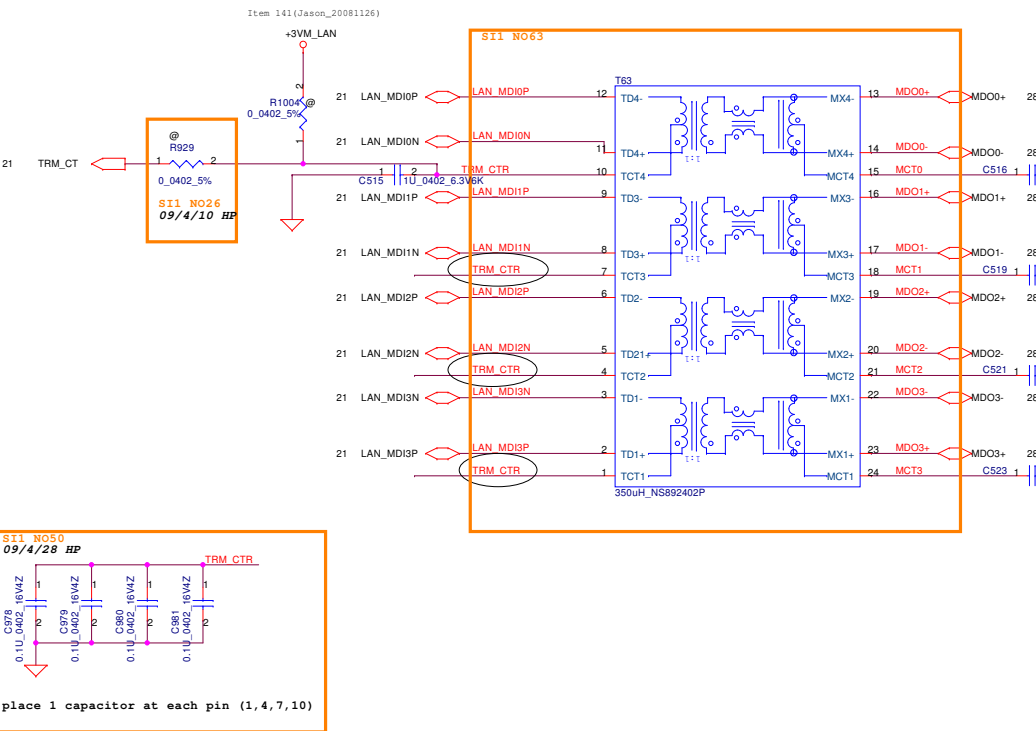
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 | Title      |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2008/09/15         | Deciphered Date | 2009/12/31 | LA-4902P       |
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| Date: Wednesday, December 09, 2009                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                 |            | Sheet 20 of 47 |



09/2/5 HP

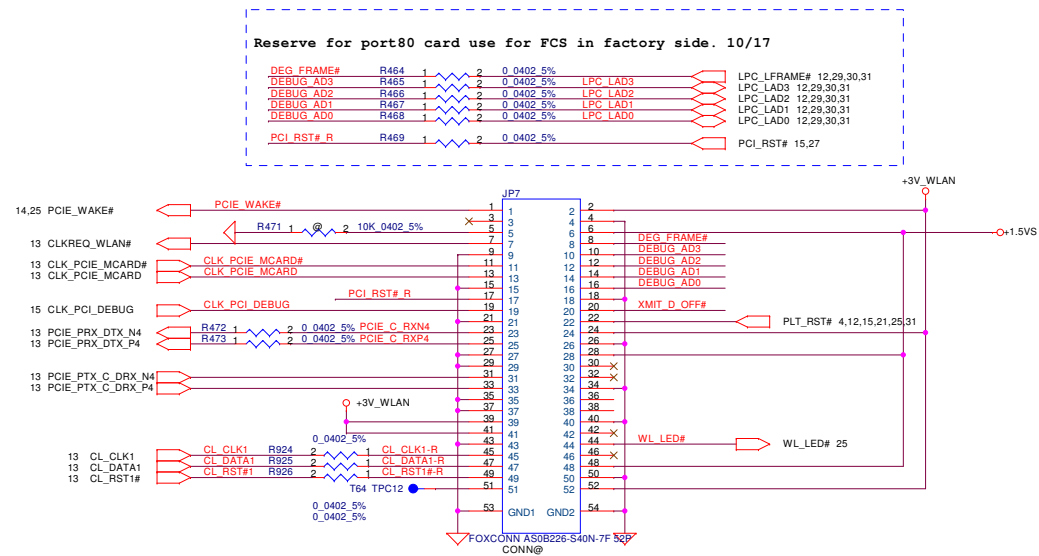
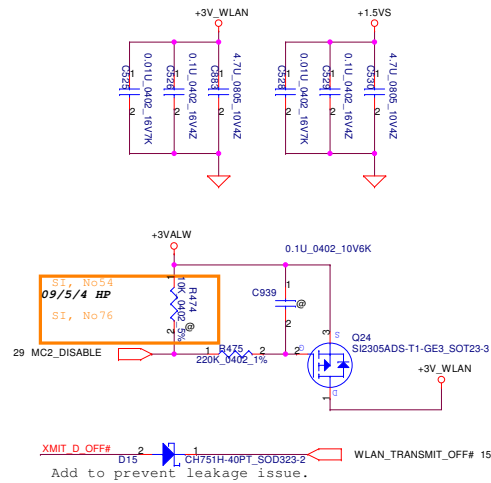


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |                    |            |                          |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------|------------|--------------------------|---------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                              | Compal Secret Data |            | Compal Electronics, Inc. |                     |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2008/09/15                   | Deciphered Date    | 2009/12/31 | Title                    | Intel 82566 Nineveh |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number              | LA-4902P           | Rev        | 0.3                      |                     |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Wednesday, December 09, 2009 | Sheet              | 21         | of                       | 47                  |

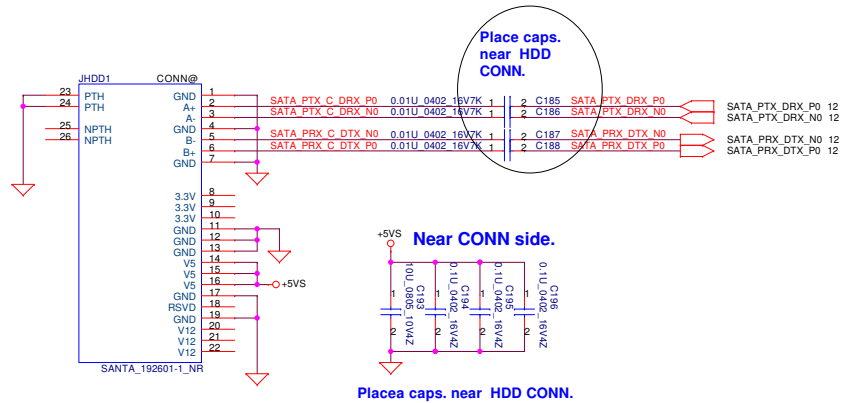


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                                                               |                                    |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|---------------------------------------------------------------|------------------------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | <b>Compal Electronics, Inc.</b><br><b>Magnetic &amp; RJ45</b> |                                    |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2008/09/15         | Deciphered Date | 2009/12/31 |                                                               |                                    |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date:                                                         | Wednesday, December 09, 2009       | Sheet 22 of 47 |

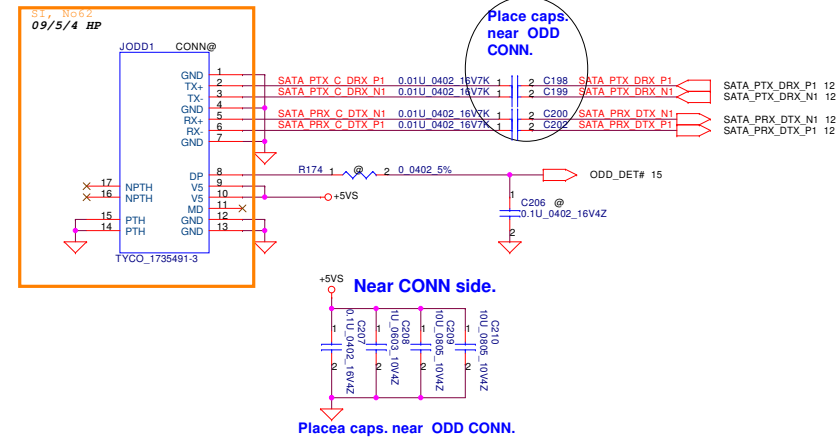
## WLAN (Half mini Card)



**SATA HDD CONN.**

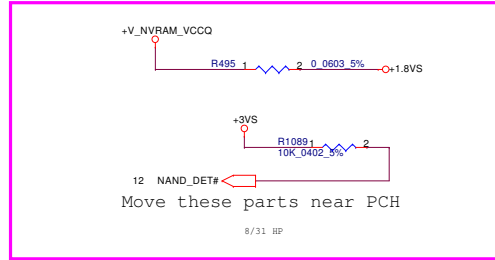


**SATA ODD CONN.**



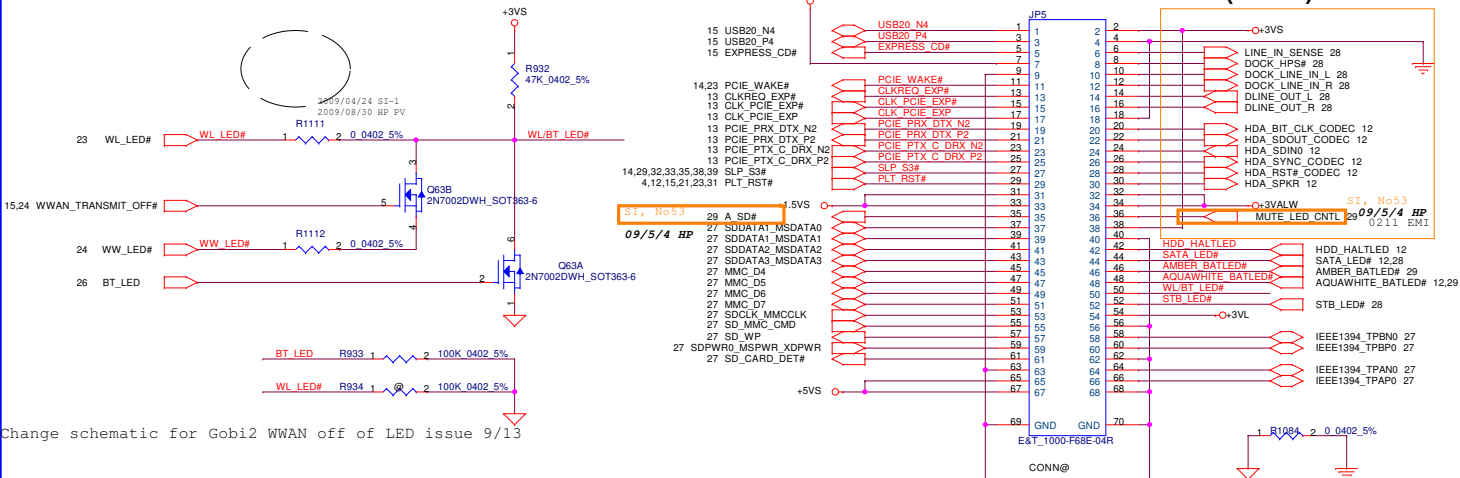
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                                 |                              |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|---------------------------------|------------------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | <b>Compal Electronics, Inc.</b> |                              |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2008/09/15         | Deciphered Date | 2009/12/31 | Title                           | <b>WLAN/ODD/HDD</b>          |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date:                           | Wednesday, December 09, 2009 | Sheet 23 of 47 |

## NAND

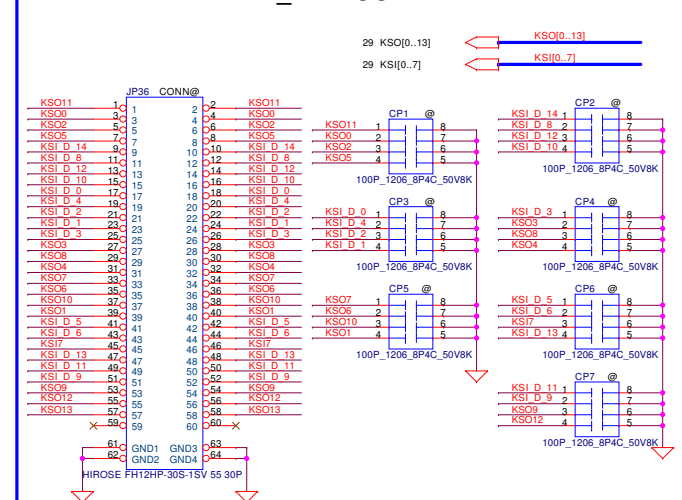


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                                 |                 |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|---------------------------------|-----------------|----------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | <i>Compal Electronics, Inc.</i> |                 |          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2008/09/15 | Deciphered Date    | 2009/12/31 | Title<br><b>WWAN/NAND</b>       |                 |          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                                 | LA-4902P        | 0.3      |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |            | Wednesday, December 09, 2009    | Sheet           | 24 of 47 |

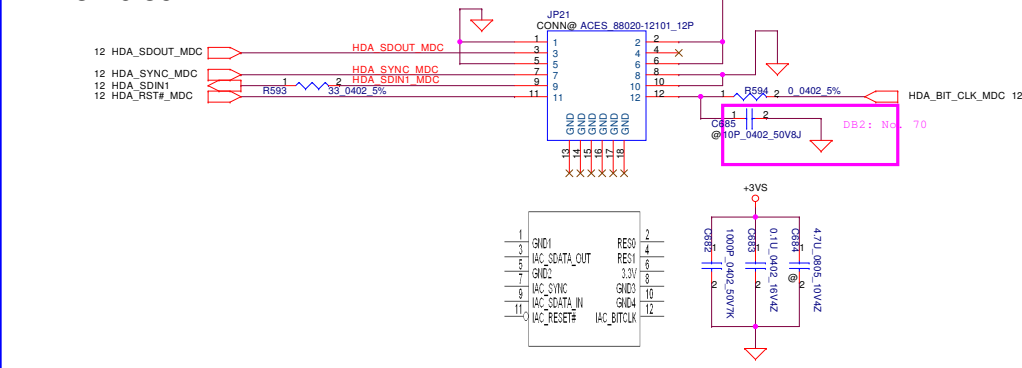
## AUDIO BOARD CONNECTOR (MALE)



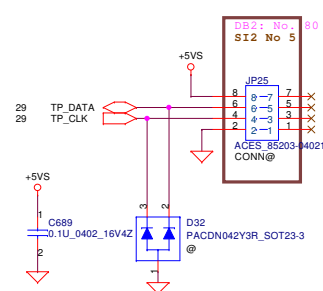
**INT KBD CONN.**



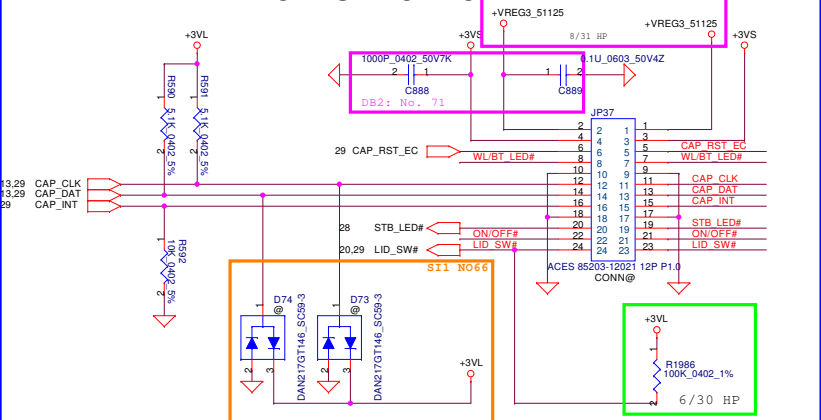
**MDC 1.5 Conn.**



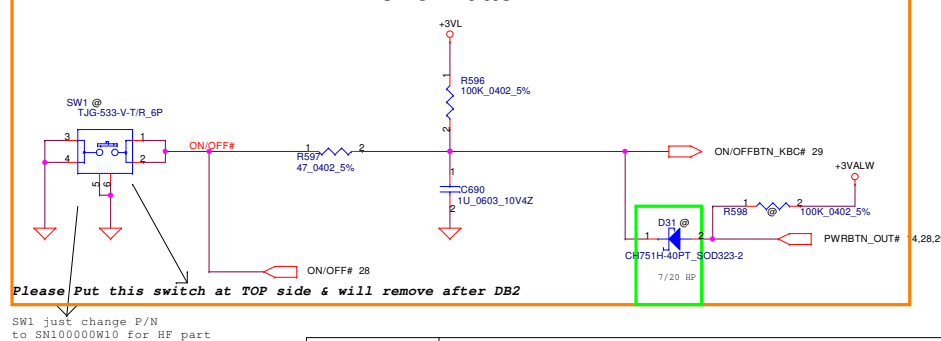
**T/P BOARD.**



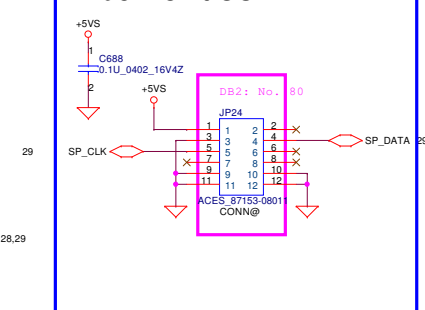
## CAP SWITCH BOARD



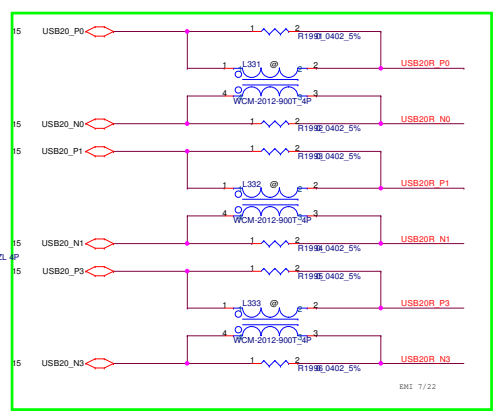
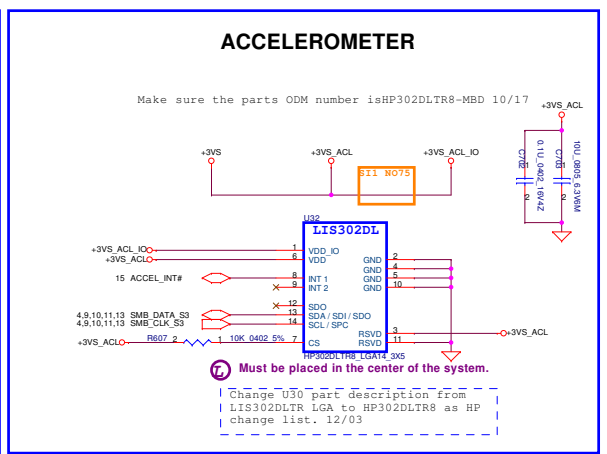
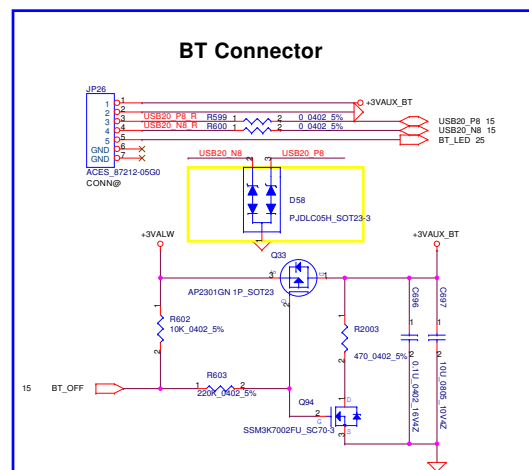
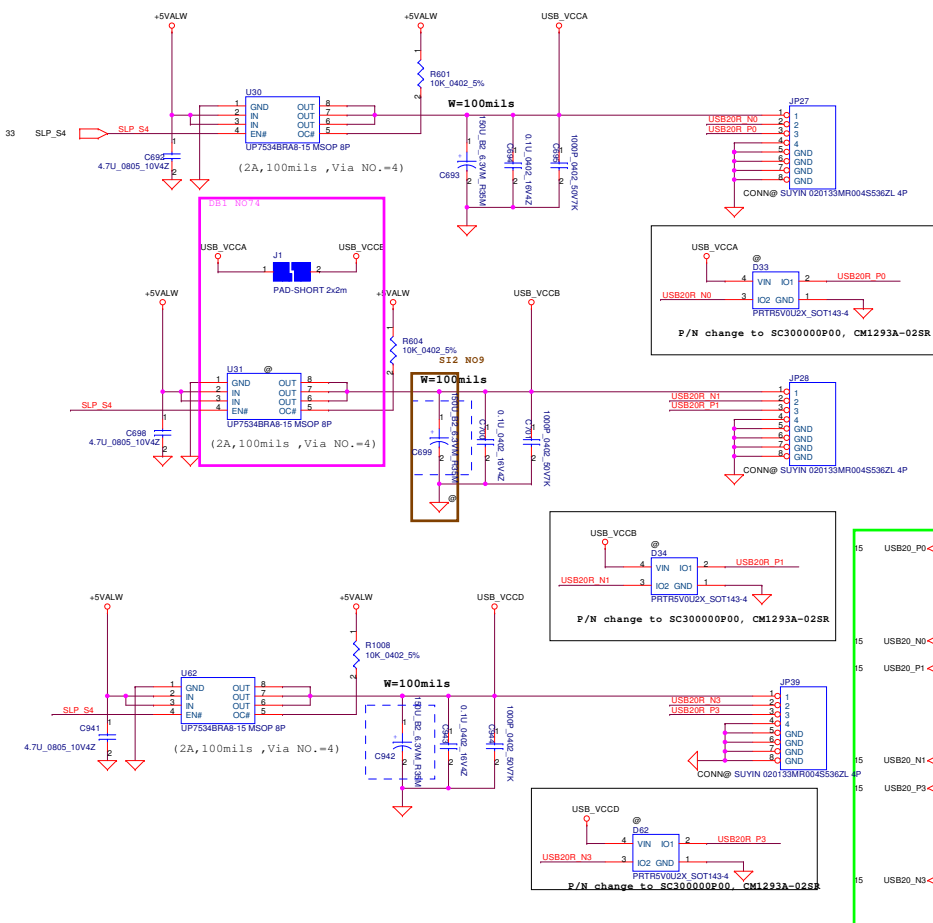
## Power Button



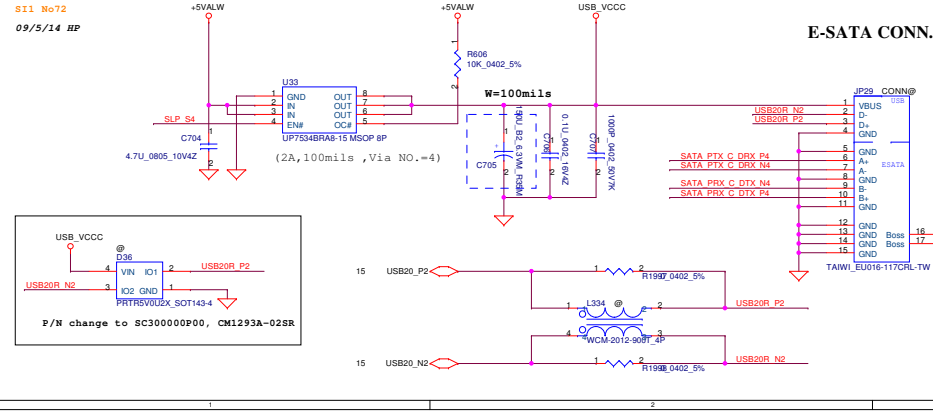
## TrackPoint CONN.



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                              |            |                                                              |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------|------------|--------------------------------------------------------------|-----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data           |            | <b>Compal Electronics, Inc.</b><br><b>MDC/KBD/ON OFF/LID</b> |                 |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2008/09/15 | Deciphered Date              | 2009/12/31 | Title                                                        |                 |
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| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            | Wednesday, December 09, 2009 |            | Sheet                                                        | 25 of 47        |

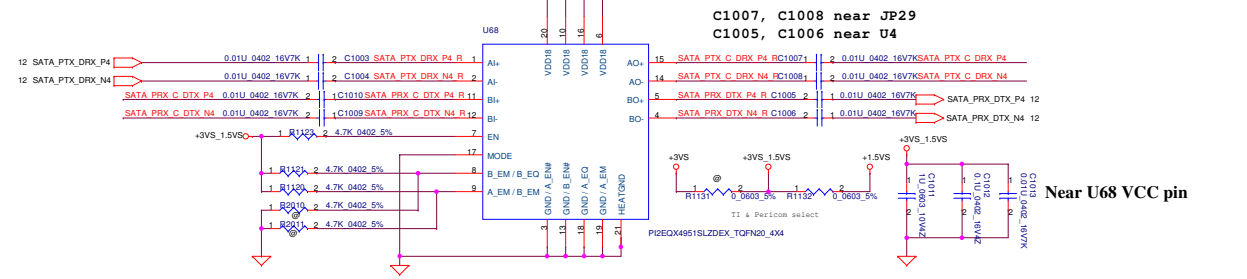


# ESATA function



Change TI to Pericom PI3EQX4951ST\_PEND  
And add 1.5 power rail option 6/30

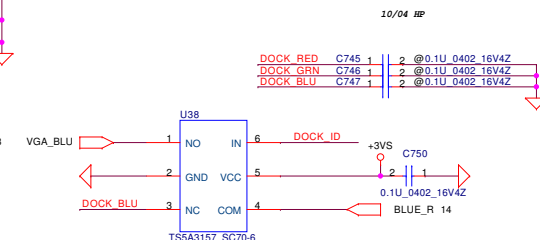
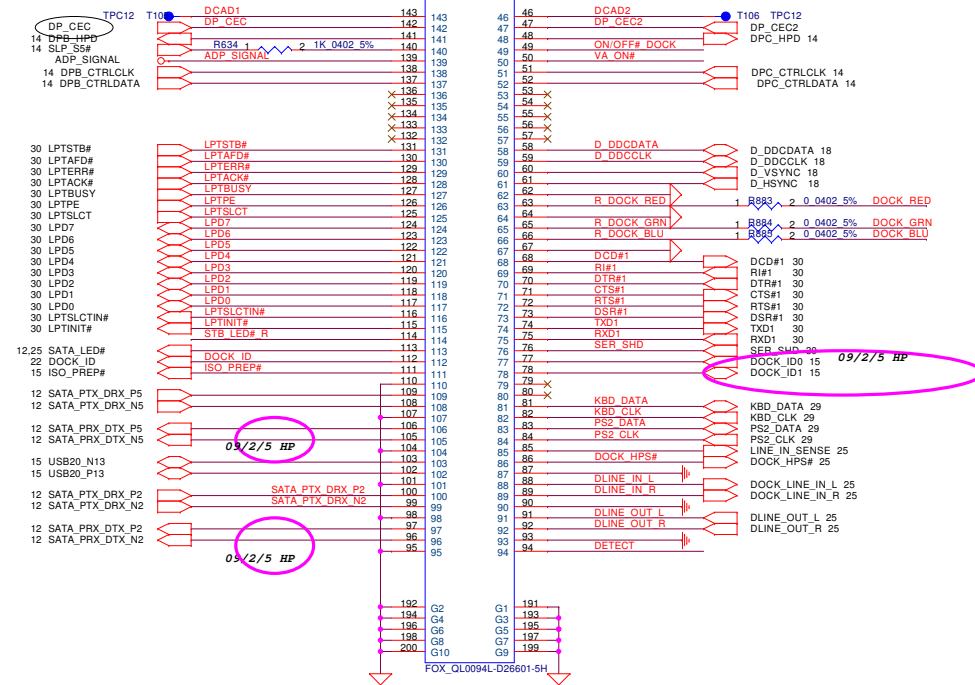
# SATA Redriver



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |                 |            |                          |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------|------------|--------------------------|-----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data           |                 | Title      | Compal Electronics, Inc. |                 |
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| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Wednesday, December 09, 2009 | Sheet           | 26         | of                       | 47              |



## DOCKING CONNECT

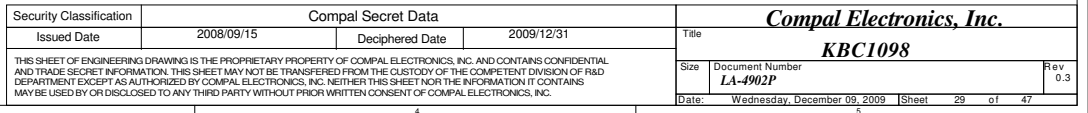


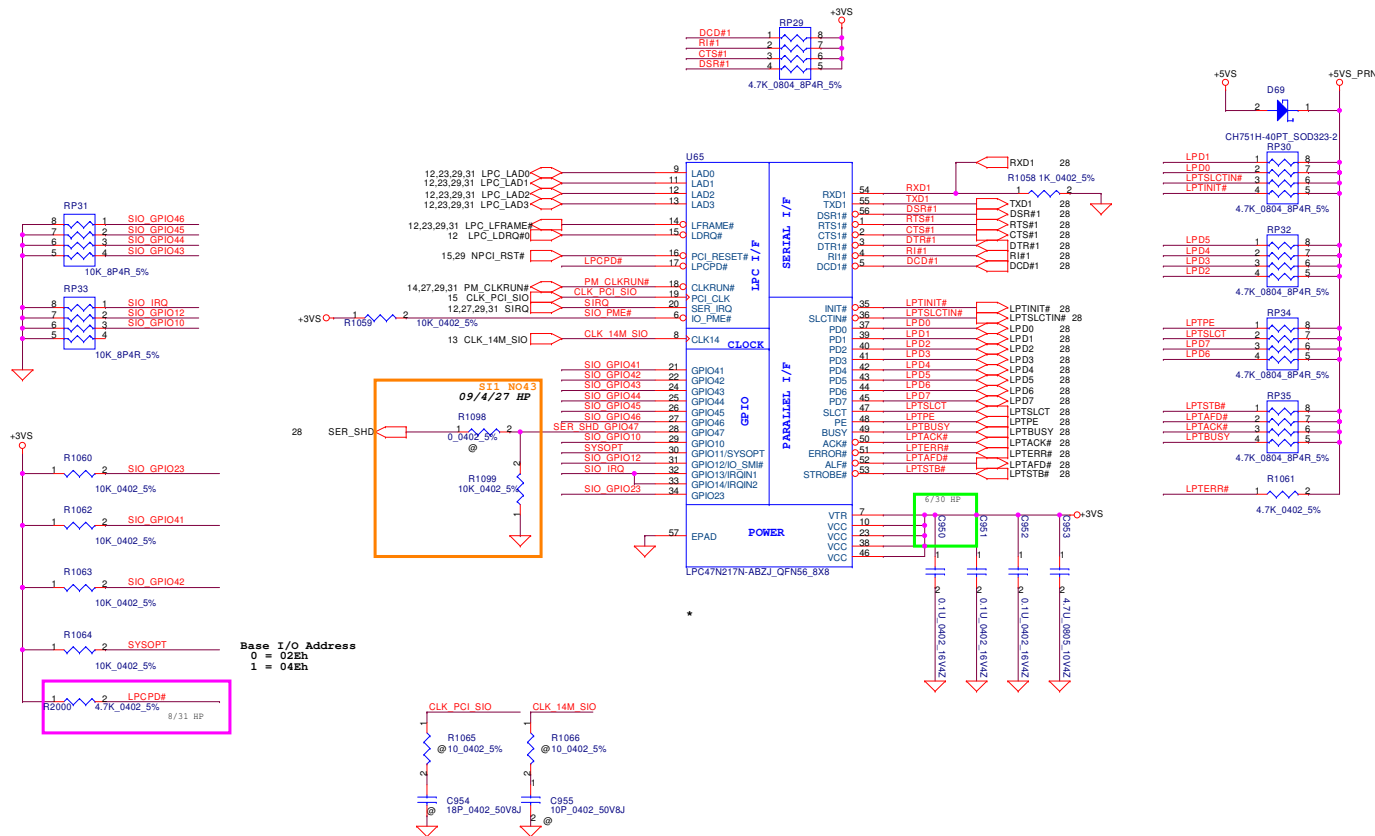
|    |           |           |
|----|-----------|-----------|
| IN | NC<-->COM | NO<-->COM |
| L  | ON        | OFF       |
| H  | OFF       | ON        |

|                         |                    |                 |            |
|-------------------------|--------------------|-----------------|------------|
| Security Classification | Compal Secret Data |                 |            |
| Issued Date             | 2008/09/15         | Deciphered Date | 2009/12/31 |

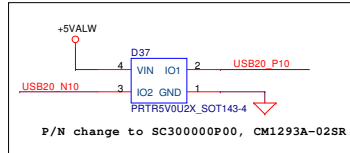
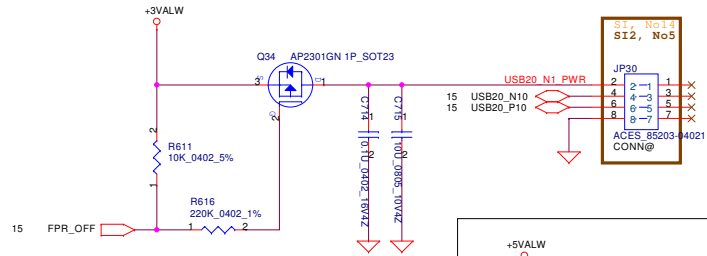
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|---------------------------------|------------------------------------|-------|------------|
| <b>Compal Electronics, Inc.</b> |                                    |       |            |
| Title                           |                                    |       |            |
| <b>DOCK CONN</b>                |                                    |       |            |
| Size<br>Custom                  | Document Number<br><b>LA-4902P</b> |       | Rev<br>0.3 |
| Date:                           | Wednesday, December 09, 2009       | Sheet | 28 of 47   |

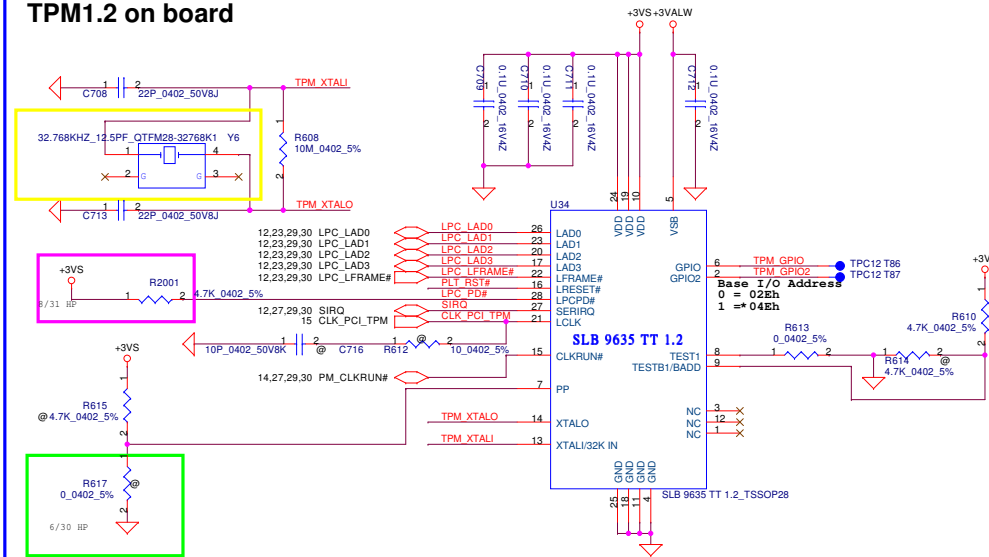




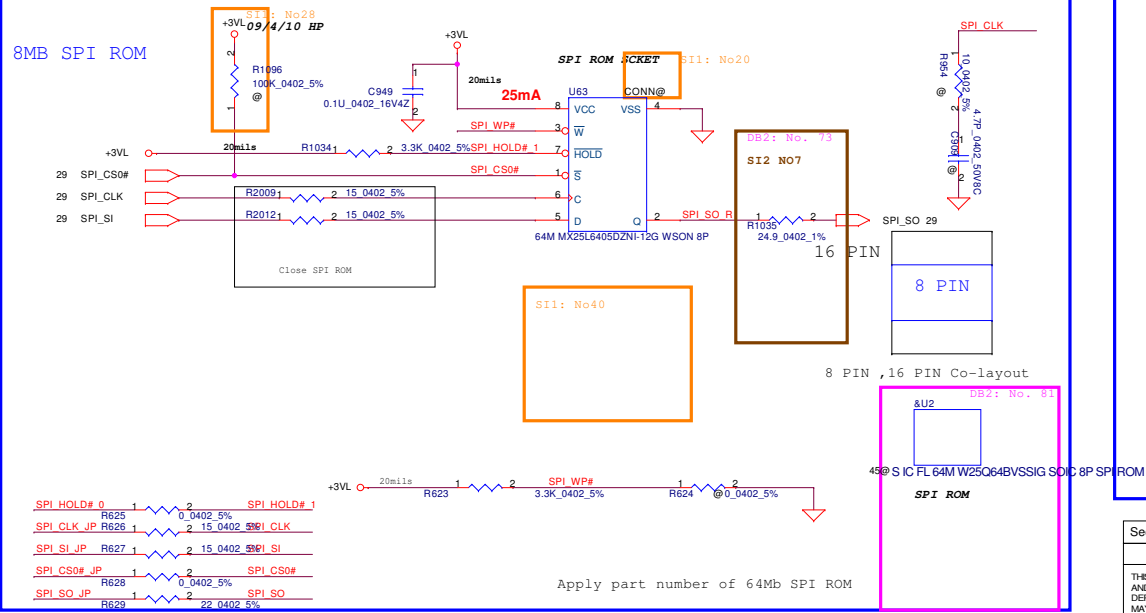
## Finger Printer



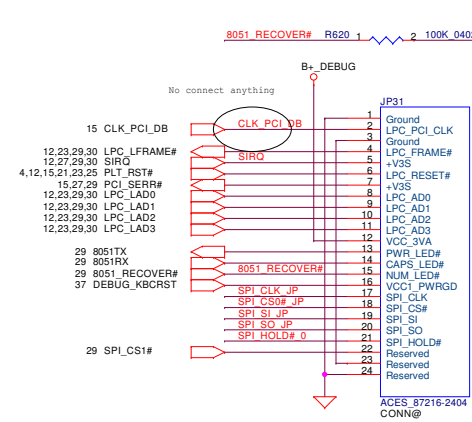
## TPM1.2 on board



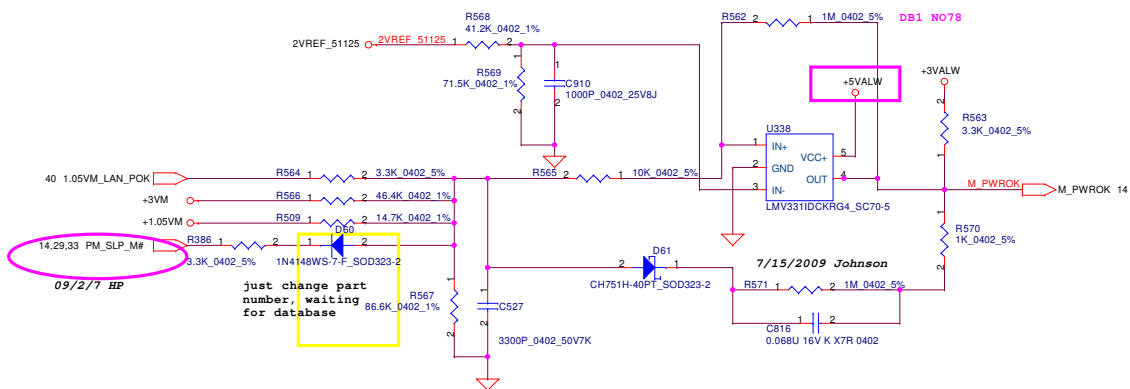
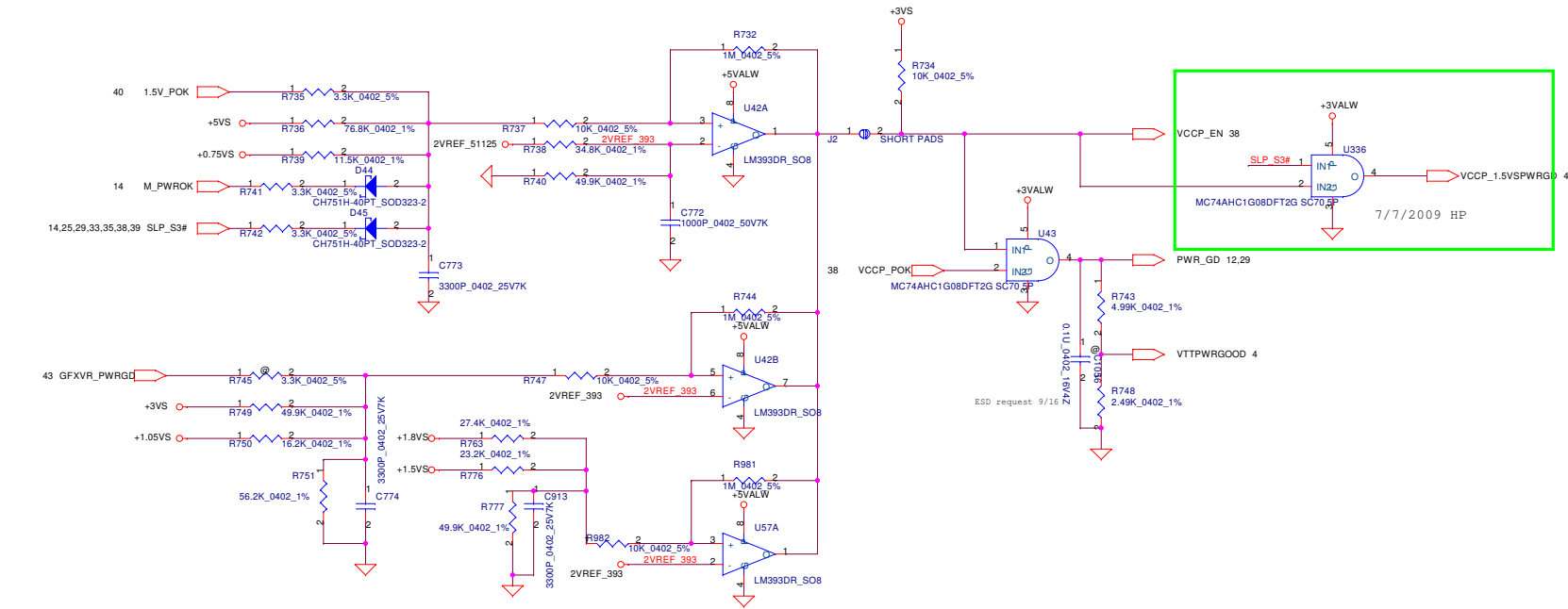
## BIOS ROM(8MB)



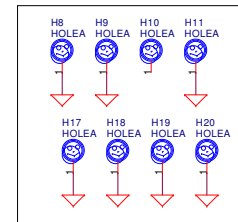
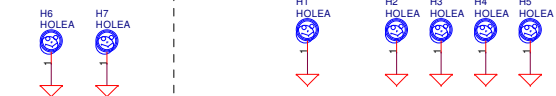
## LPC Debug Port



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|-------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                               |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2008/09/15 | Deciphered Date    | 2009/12/31 | Title                    | TCC/BIOS ROM/PS2/SW LPC DEBUG |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date                     | Wednesday, December 09, 2009  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 31 of 47                      |

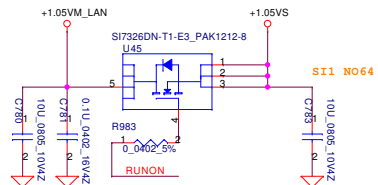


# MDC STANDOFF

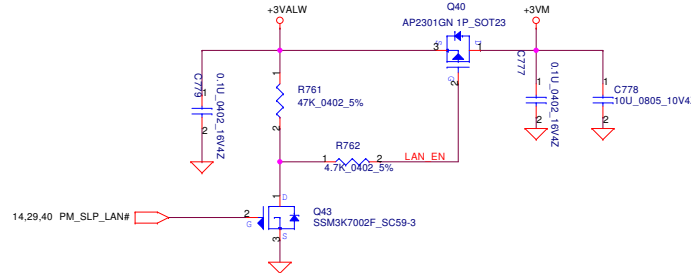


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |                    |            |                              |  |
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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 | Compal Secret Data |            | Compal Electronics, Inc.     |  |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number | Rev                |            | Date                         |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               | LA-4902P        | 0.3                |            | Wednesday, December 09, 2009 |  |
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| 47                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                    |            |                              |  |

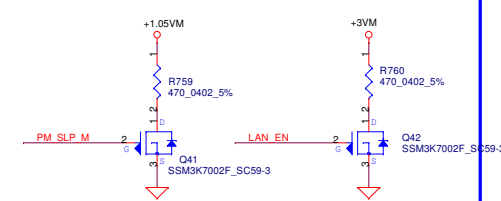
## +1.05VM\_LAN to +1.05VS Transfer



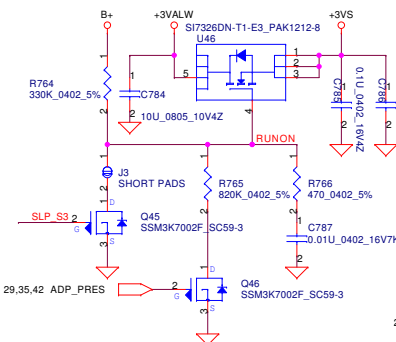
## +3VALW to +3VM Transfer



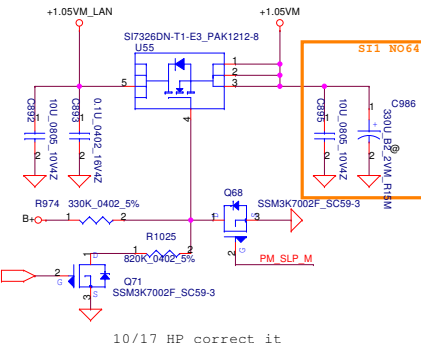
## Discharge circuit-2 for V-M



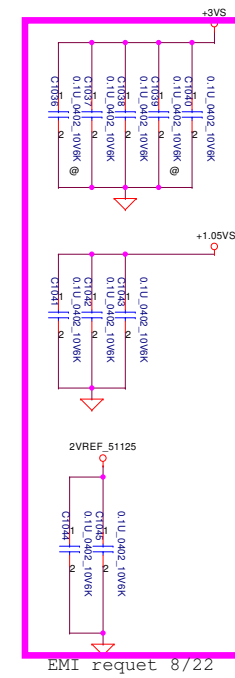
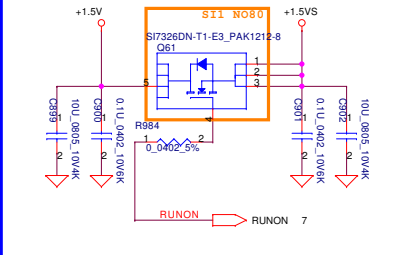
## +3VALW to +3VS Transfer



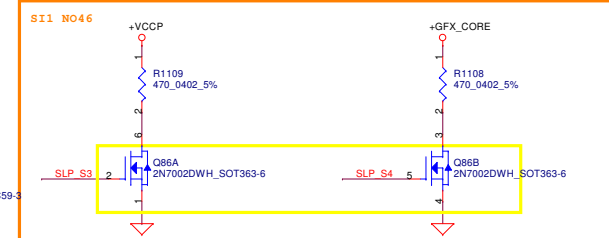
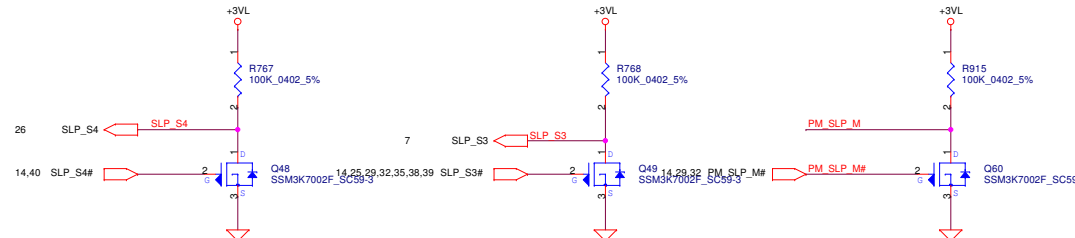
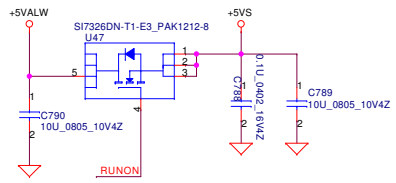
## +1.05VM\_LAN to +1.05VM Transfer



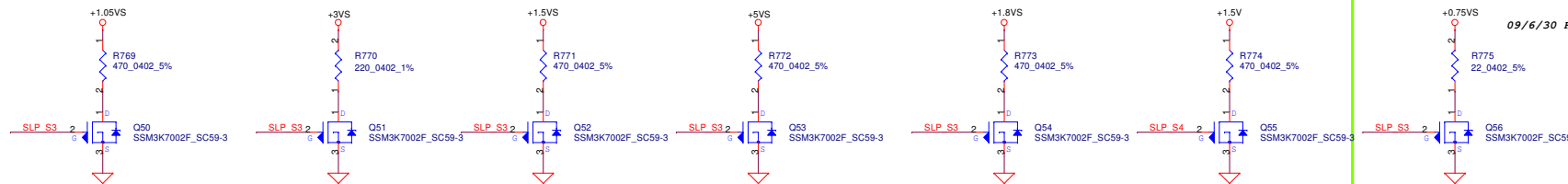
## +1.5V to +1.5VS Transfer



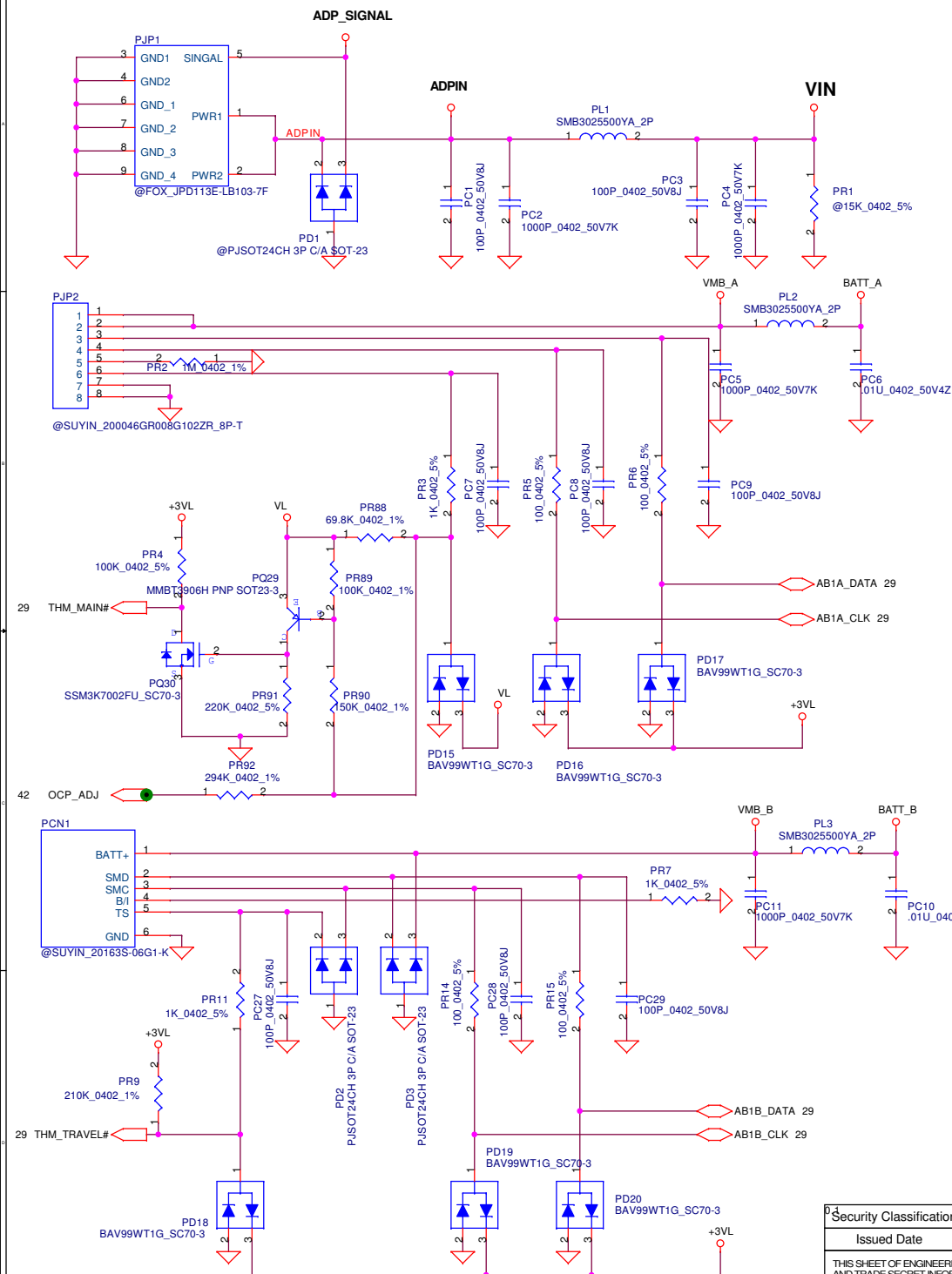
## +5VALW to +5VS Transfer



## Discharge circuit-1

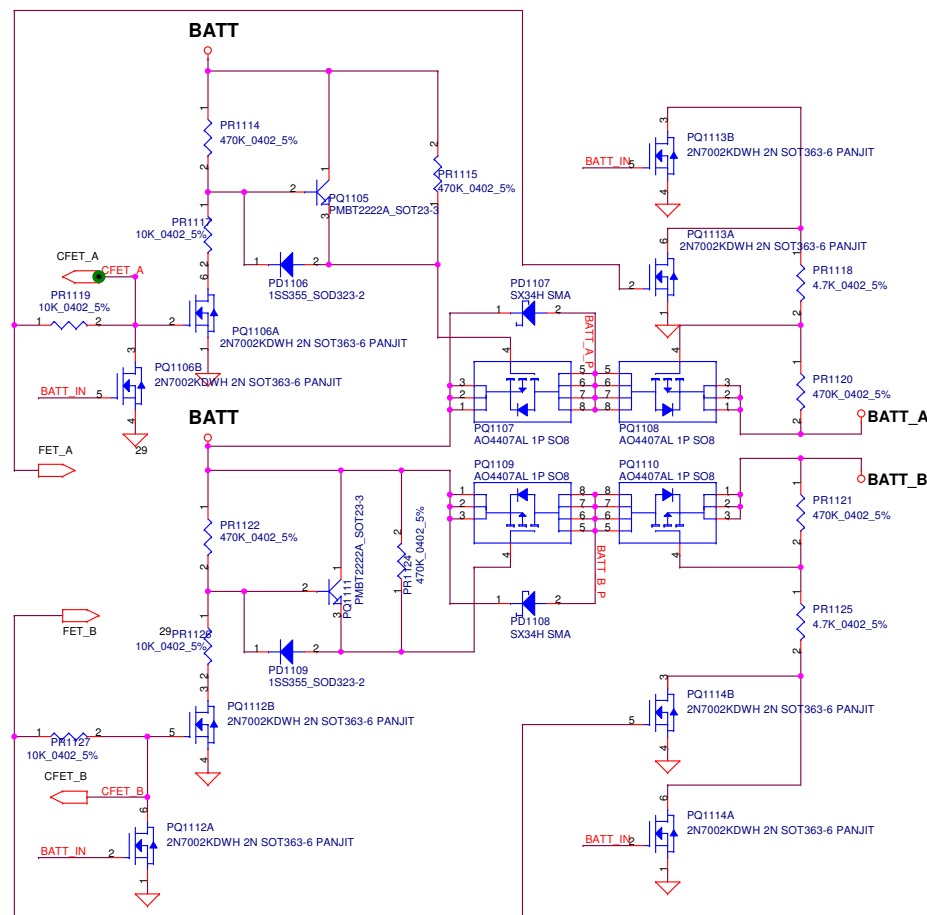
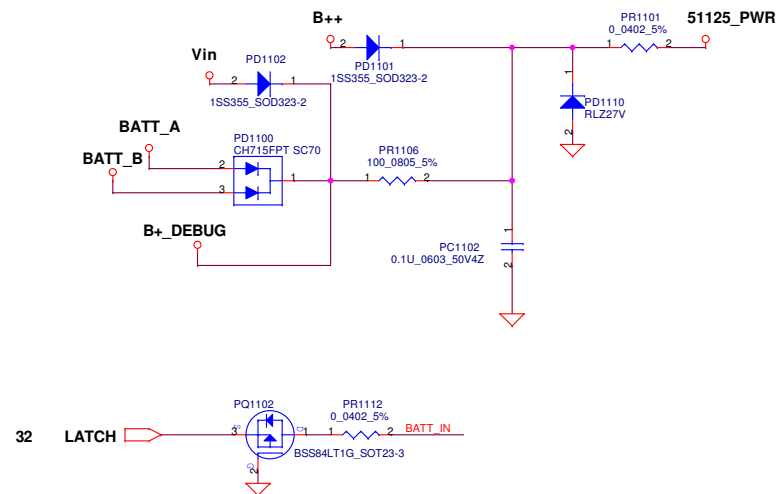
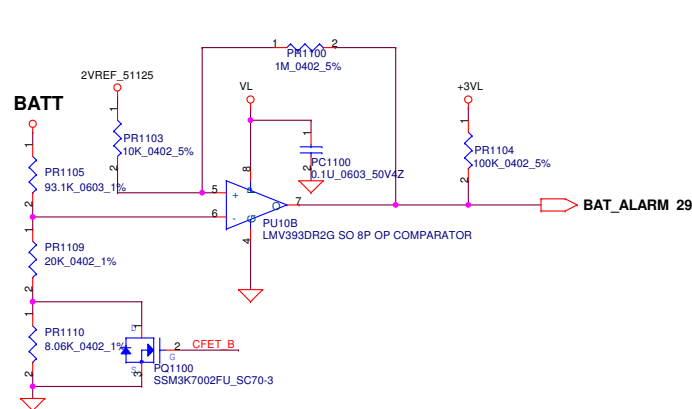


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| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data           |                 | Compal Electronics, Inc. |                |
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| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Wednesday, December 09, 2009 | Sheet           | 33 of 47                 |                |

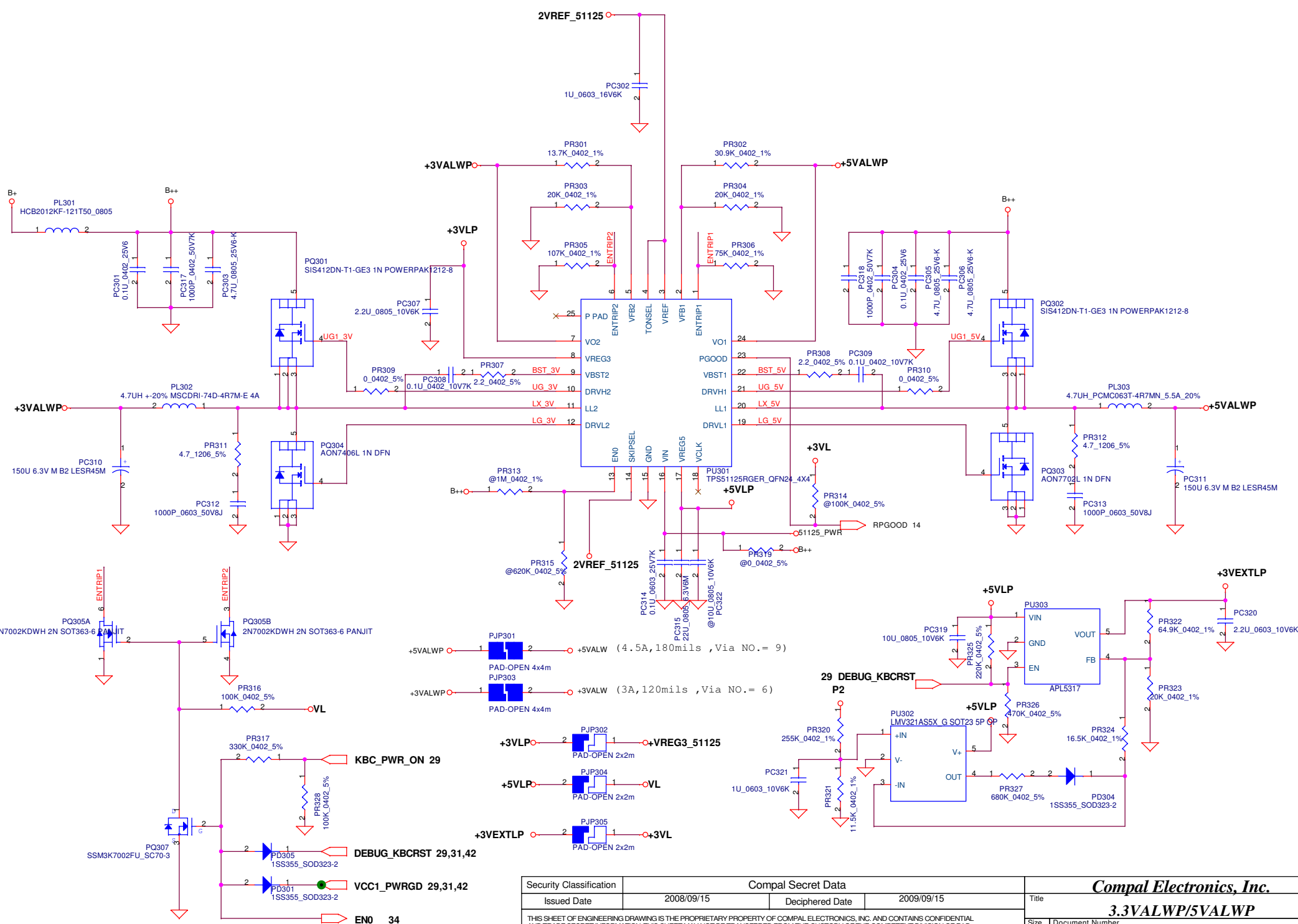


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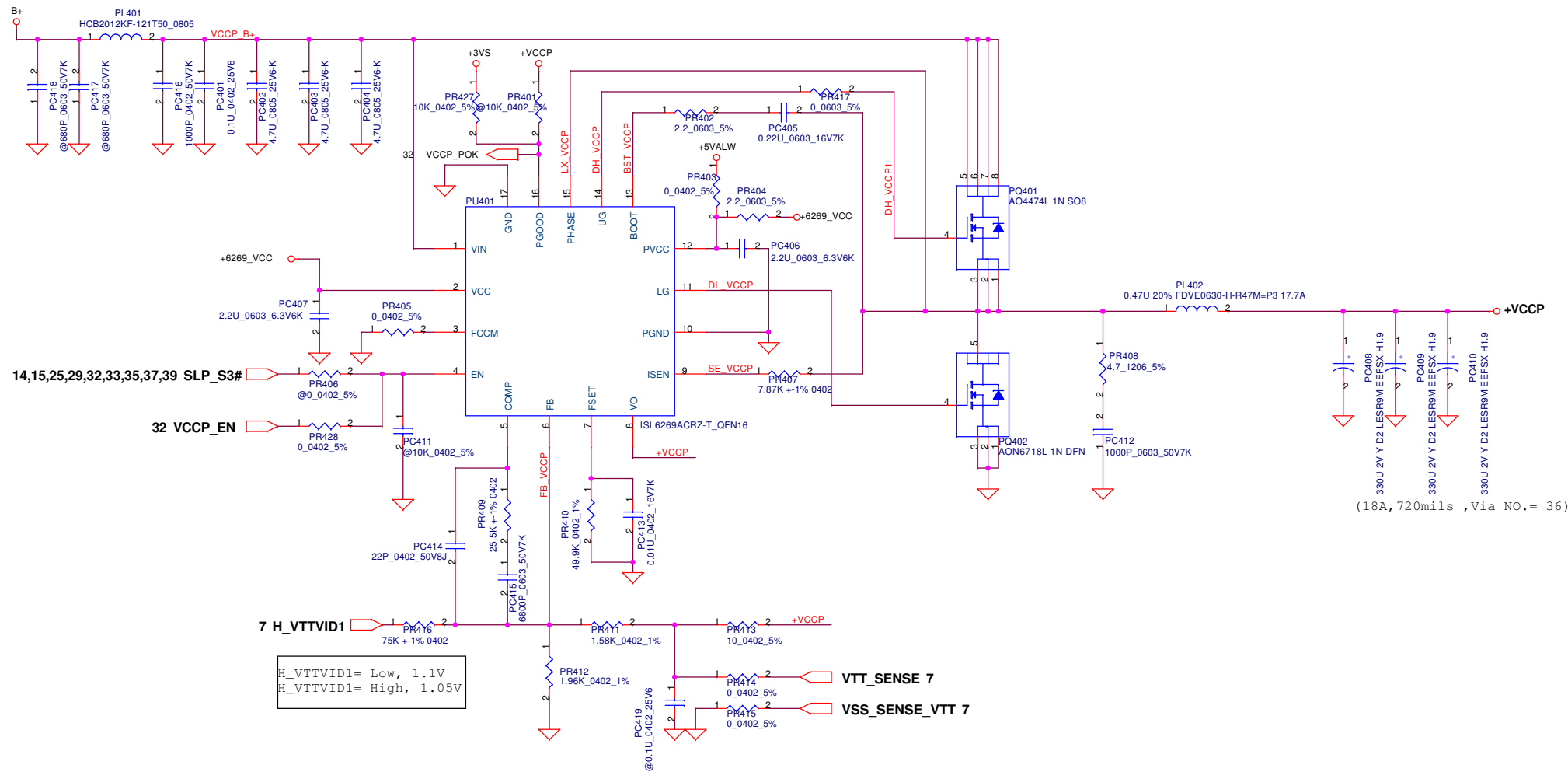




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| Custom                                                                                                                                                                                                                                                                                                                                                                                                                                                        | LA-4902P        | Sheet              |            | 36 of 44                           |  |

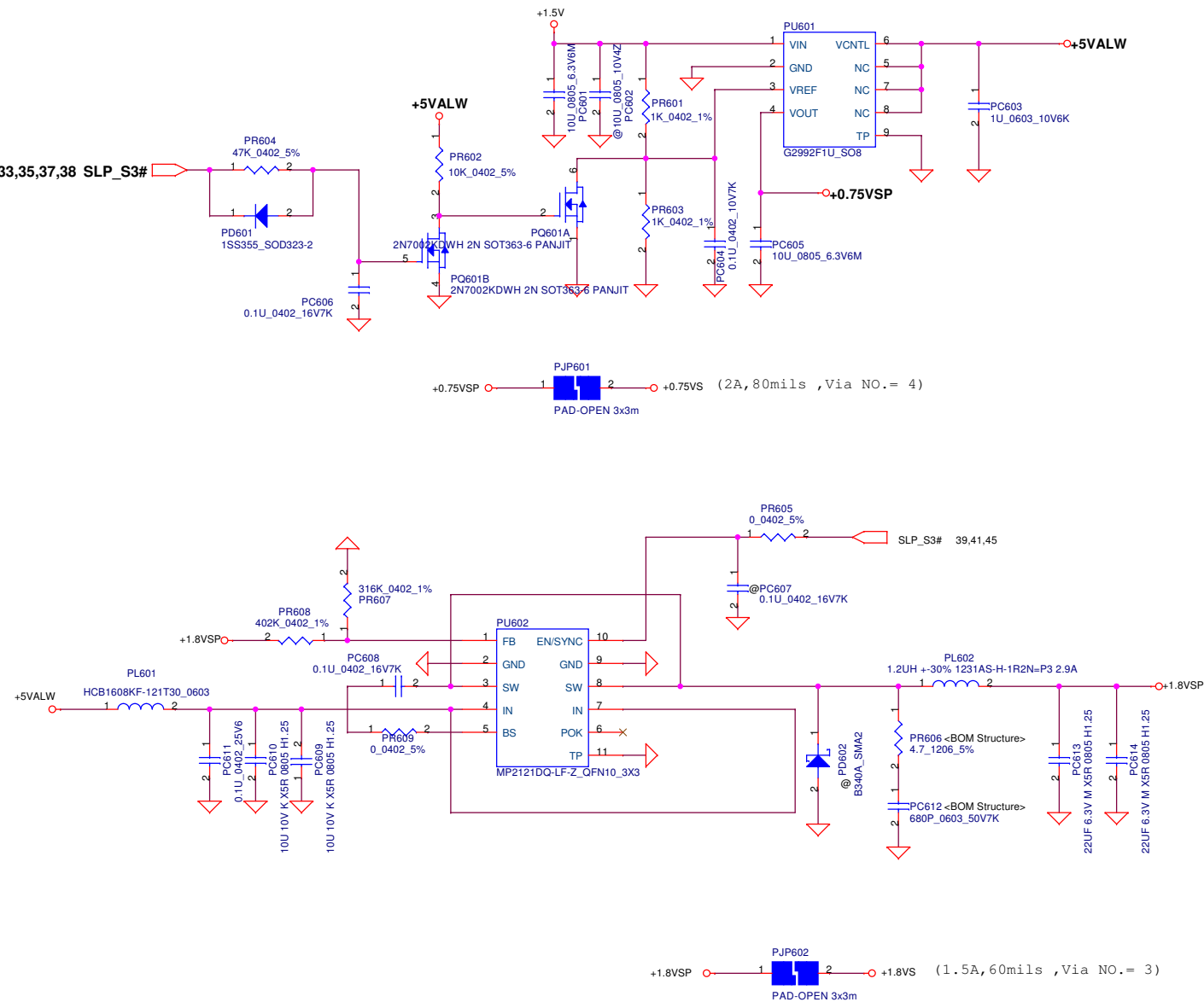


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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  | c                               | d                            | e     | f              |
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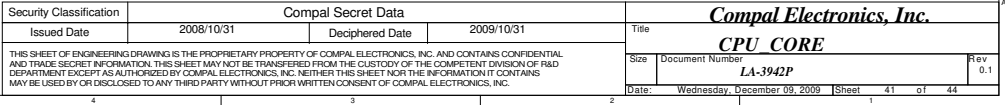
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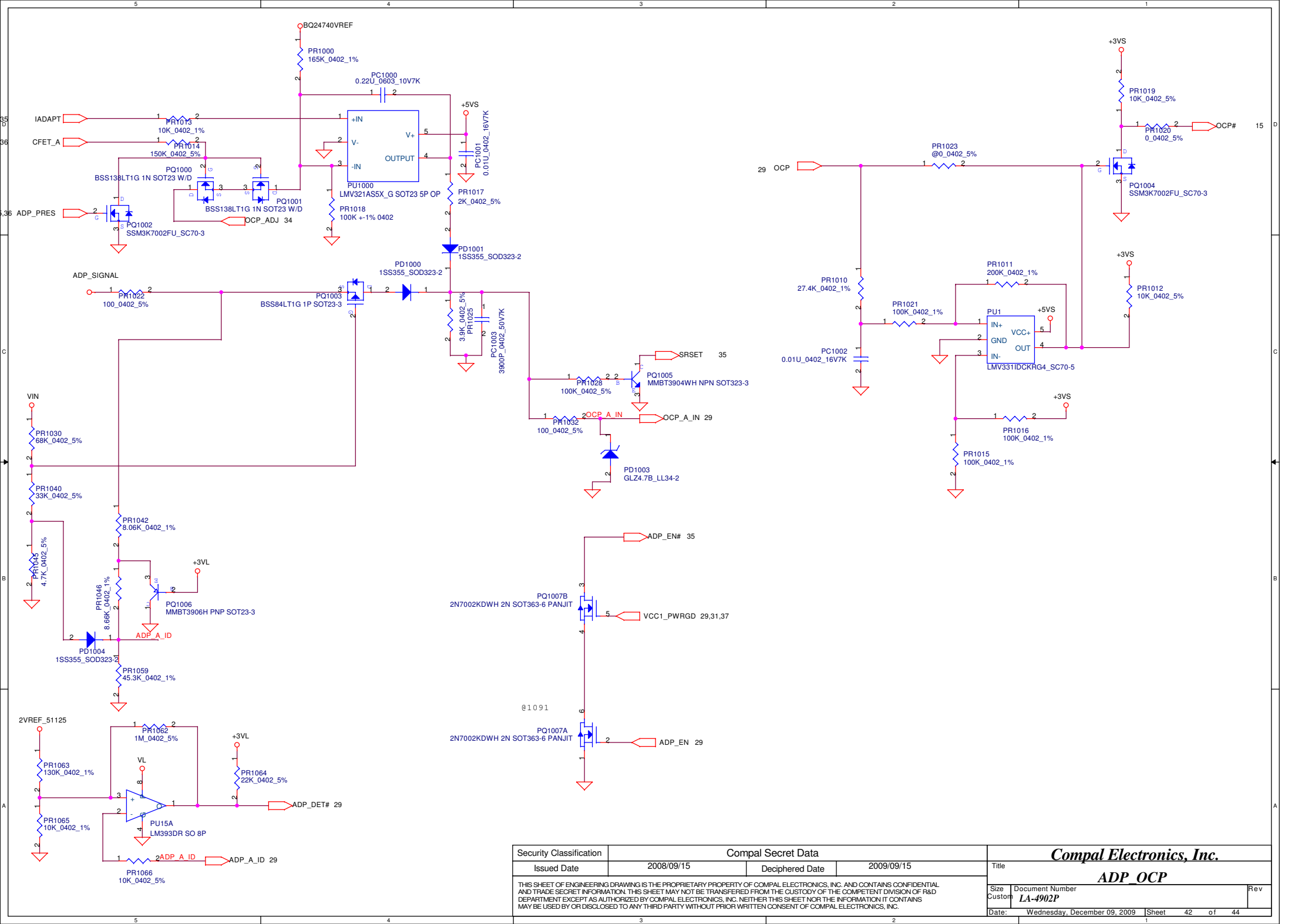
14,15,25,29,32,33,35,37,38 SLP\_S3#



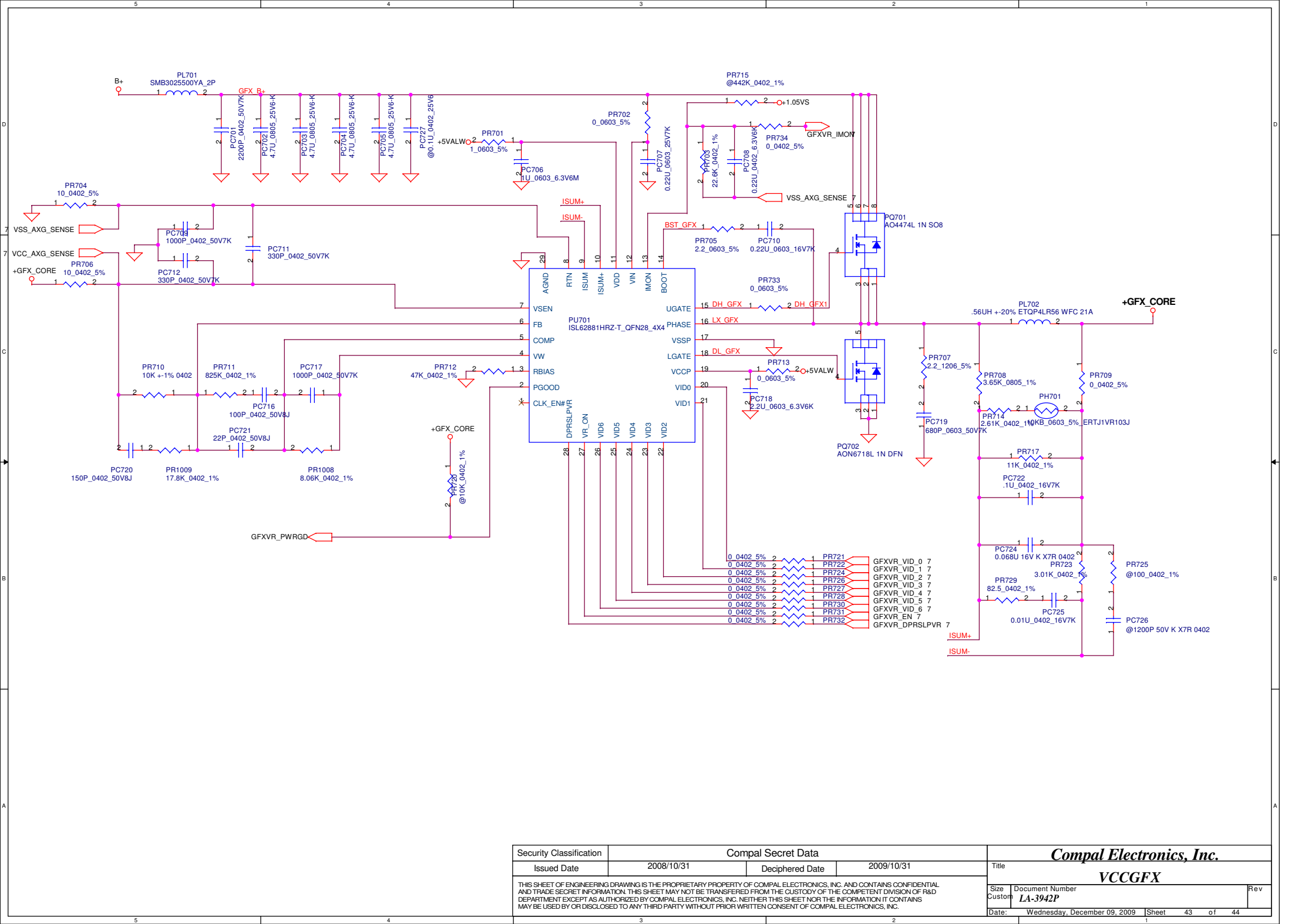
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| Date: Wednesday, December 09, 2009                                                                                                                                                                                                                                                                                                                                                                                                                            |            |                    |            | Sheet 42 of 44 |                 |



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|       | <b>LA-4902P</b>              |                |
| Date: | Wednesday, December 09, 2009 | Sheet 44 of 44 |

2/2

No1. P21, LED0 and LED1 nets reversed

No2. P16, for HP item 84, R20,R85,C274 value change

No3. P20, due to JEDP1 42pin to 30 pin, redefining the signals, please remember to change footprint, symbol, part number.

No4. P20, JEDP1 change footprint and value

No5. P14,15, delete PCH LVDS signals and USB\_5 for LVDS\_CAMERA

No6. P21, LED0 and LED1 change Back.

No7. P23, HDD/ODD footprint modified.

No8. P20, add 2 pins on JEDP1 by myself, different from database part

No9. P20, use real JEDP1 from database

No10. P12, for HP item 69, delete SMB\_DATA\_S3, SMB\_CLK\_S3 and add 2 test points

No11. P14, for HP item 78, install R227

No12. P29, for HP item 82, KB\_RST# pull high to +3VS

No13. P4, for HP item 85, uninstall R997 and del R40

No14. P4, for HP item 97, delete R34,R36,R37,R46,R49 and change name of XDP\_TDI & XDP\_TDO, and short XDP\_TDI\_M to XDP\_TDO\_M

No15. P4, for HP item 98, add a series R between pin3 and 5 on U54

No16. P21, for HP item 127, delete C484-C487, C945, R427, R428, R963, Q18

No17. P22, for HP item 100, delete Q80A

No18. P22, for HP item 101, Source and Drain of Q80B are swapped and change to a single 2N7002

No20. P12&P29, for HP item 103, change R948, R949, R952, R953, R939, R176, R180, R940 to 0ohm and R950 to 33ohm

No21. P28, for HP item 104, Connect +5VS to JP32 pins 11, 178, 179.

No22. P11, for HP item 105, R141 is connected to +1.05VS

No23. P12, for HP item 106, R100B and Q70A, Replace Q70B with a single 7002

No24. P28, for HP item 107, Delete R635-R638 and short the signals

No25. P10, for HP item 108, Delete C203-C205 and short the signals

No26. P21, for HP item 110, LED0 and LED1 nets reversed again

No27. P22, for HP item 111, Control signal for Q80B\_GATE should be LAN\_DIS#

No28. P12, for HP item 112, NO INSTALL R967 for ESI silicon

No29. P12, for HP item 113, INSTALL R847 and change to 1Kohm. Connect R847.1 to Q66.1 and remove the GND connection at R847.1.

No30. P12, for HP item 80, install R184 and R190

No31. P15 & P28, for HP item 79, GPIO38 and GPIO39 on U4 connect DOCK\_ID0 and DOCK\_ID1 to the docking connector pins 77 and 78

No32. P15, for HP item 60, delete R283

No33. P29, for HP item 66, change K504 to K503, change 10K to 0 Ohm, change the Table, add a NOR gate

No34. for No 18, change Q80 Source and Drain pin back.

No35. P32, for HP item 115, change PM\_SLP\_LAN# to PM\_SLP\_M# at R386-1

No36. P24, for HP item 116, circuits Recuperation because of canceling item 106

No37. P19, for HP item 117, swap DPD\_CTRLDATA and DPD\_CTRLCLK, AUX connects to CLK and AUX# connects to DATA, add isolation nFET in series with Q74A and Q74B.

No38. P15, add 7 47P 0402 but "0" at every clock of PCI

No39. P12, change RTCVCC source from +VREG5\_51125 instead of +3VL

No40. ESD change: (1) 0: D63-D67, D14, D57, D32, D68, D33, D34, D36, D62, D37

No41. ESD change: (2) change P/N: D14, D57, D32, D68, D33, D34, D36, D62, D37

No42. ESD change: (3) affact layout: D14, D33, D34, D36, D62, D37

No43. modify C962 GND disconnection and R70 to GND

No44. modify HP part number, please search"change HP P/N" to know which parts changed.

No45. for Load BOM problems, change some parts as below:  
(1) add CONN8: JCPU1, JP5  
(2) add P/N for dual 2N7002: Q2,Q3,Q7,Q8,Q81  
(3) change P/N: R570, C6, C829, R43, R44, R47

No46. for DRC check,  
(1) P23, delete dummy net of JODD1 pin16, 17  
(2) P28, add intersheet symbol at SMB\_CLK\_S3 and SMB\_DATA\_S3  
(3) P21, add a TP at U18.7: LAN\_CTRL\_l8  
(4) P14, delete a dummy net N19910781  
(5) P28, change JP32 pin DCAD net name to DCAD1

No47. for parts forbidden:  
(1) C829 change to SE026104KN0 (2) R800 change to SD028100380  
(3) D68 change to SCA00000E00 (4) C818 change to 0402 SE070104Z80

No48. EMI concern:  
(1) install C833, C836, C956  
(2) P25, JP25 pin difinition changes.  
(3) R931 to 47 ohm  
(4) P18, modify CRT circuits: add L and C, change R places, install C

No49. P29, for HP item 123, Change R680 to 100 ohms, and uninstall R699

No50. P29, delete R886, R887 and relative circuits

No51. P29, delete R892 for BATCON

No52. P23, change JODD1 pin16, 17 type to avoid from useless net names

No53. HF parts link database: D1

No54. HF parts link database:  
(1) Q78 link SB00000H500  
(2) D16, D63-D67 link SC2AN217020  
(3) D1 link SC2N202U000  
(4) D23-D29 did not link SC2P202U000, just revise manually  
(5) Q57 & Q58 link SB000007H10  
(6) C263 & C269 link SGA202211D0  
(7) lots of 2N7002(Q4, Q23, Q32,Q41,Q42,Q43,Q45,Q46,48,49,50,51, 52,53,54,55,56,60,65,66,68,71,76,79,80) link SB000009080  
(8) T63 link SP050002I10  
(7) U42A, U42B, U44A, U57A link SA003930080

No55. combine power schematics 0212

No56. P29, for HP item 122, Connect D42-2 to VCORE\_GP (not PM\_PWROK)

TEST. change U42,U44,U57 value and footprint LM393DG\_S08

before netin

No57. change U42,U44,U57 link another SA003930080

2/16

No58. P5, for HP item 126, R60 and R61 should be NO INSTALL.

No59. P12, for HP item 127, Connect R857.1 to HDD\_HALTLED\_R instead of HDD\_HALTLED

No60. P9,10, for HP item 128, Connect JDIMA1.199 and JDIMB1.199 to 3VS as Intel reference board

No61. P16, for HP item 131, Based on spec, VccTX\_LVDS and VCCA\_LVD to GND.

No62. P19, for HP item 136, install Q76 and no install R1055 as there must be isolation

No63. P13, for HP item 138, Change Gate of Q77 to +3VALW

No64. change Pb-free  
(1)R1058 to SD028100180,  
(2)R1059,1060,1062,1063,1064 to SD028100280  
(3)R615, 1061 to SD028470180  
(4)RP31, RP33 to SD309100280  
(5)RP29, 30, 32,34,35 to SD309470180 --> footprint should keep original  
(5)C953 to SE053475280  
(6)C950, 951, 952 to SE070104Z80  
change HF  
(1) SW1 to SN100000W10

No65. separate GND signals  
(1) P28 and P25, add GNDA and resistors,

No66. P20, change JEDP1 to 24 pin connector, delete LANE[1:3] and EDID, as well as U4 relative signals.

No67. P31, change SPI ROM back to DB1 design, but mount 8pin, unmount 16pin

No68. P19, change misunderstand name:DPD\_C\_AUX/DPD\_C\_AUX# to "DPD\_C\_AUX\_1/DPD\_C\_AUX\_L#

2/19

No69. P5, delete MB\_DP\_DATA[1:3] N/P for JEDP pin cutting

No70. C6 and C685 change to SE071100J80 because of Jason's request( vendor doesn't have the original 25V part)

No71. P25, install C888,C889

2/20

No72. for HP item 66, P29, U66.5 should be connected to 3VL so that KBC can read board before boot and apply necessary fixes.

No73. for HP item 103, P31, R1035 should be 0ohm

No74. P27, change SC\_PWR circuits for unsurely current

2/23

No74. P26, uninstall U31 and add J1 for cost down

No75. change some test point footprint to IPC12: T61,T62,T1,T55,T97,T22, and P14 lots of points

2/24

No76. P22, JP6 symbol error, modified!

No77. P12, add a net name XDP\_FN4

2/25

No78. P32, change U44.8 to +5VALW for HP request

No79. P29, change R680=220 ohms

combine power schematics

No80. P25,  
(1) JP24: redefine the singals of the pins,  
(2) JP25: reverse pin definition

No81.

(1)U4 change PN to SA00002KV30 for ES2  
(2)P31, &U1, &U2 change to SA000037A00

3/6

No82.

(1)P29, Firmwave said unmount R1021 and mount R1022  
(2)P4, delete R998 <BOM structure>, otherwise BOM will be error

| Security Classification |  | Compal Secret Data |                 |                          |                              |
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| Issued Date             |  | 2008/03/13         | Deciphered Date | 2009/05/11               | Title                        |
|                         |  |                    |                 | Compal Electronics, Inc. |                              |
|                         |  |                    |                 | Hardware revision -DB2   |                              |
|                         |  |                    |                 | Size                     | Document Number              |
|                         |  |                    |                 | C                        | LA-4902P                     |
|                         |  |                    |                 | Rev                      | 0.3                          |
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No1. for HP item 5, P32, change U44A to U57B and delete U44  
No2. for HP item 6, P12&24, connect JP12.17 to U4A.F34 and add 10K pull-up to +3VS for Braidwood detection.  
No3. for HP item 7, P4, change debug ports to CFG4 - pin 28, CFG5 - pin 30, CFG10 - pin 22, and CFG11 pin 24  
No4. for HP item 11, P20, reverse Q9A  
No5. for HP item 12, P13, Change all express clock series terminations from 33ohm to 0ohm, R208, R209, R211, R212, R41 and R59 should be 0ohm  
No6. for HP item 13, P22, Change all express clock series terminations from 33ohm to 0ohm, R208, R209, R211, R212, R41 and R59 should be 0ohm  
No7. for HP item 14, P12, Unmount R186 and R192 because latest PCH EDS shows that PCH XDP UTAG\_RST# is now NO CONNECT on PCH  
No8. for HP item 16, P20, Change D12 to 2Kohm resistor and remove R322  
No9. for HP item 17, P20, Change Q79.2 to L1D\_SW#  
No10. for HP item 18, P22, Change WWAN power circuits to pFET circuits.  
No11. for HP item 22, P27, add ESD Diodes and pullups for the SCCLK, SCIO, SCRST lines on the SC socket  
No12. P14, add RGB name:DAC\_RED\_R,DAC\_GRN\_R,DAC\_BLU\_R  
No13. P29, R593 part number: "space" delete  
No14. P31, reverse JP30 pin definition  
No15. P4, change R1082 from 0 ohm to 10K  
No16. P18, change R307, R308, R309, R301, R302, R303 from 75ohm to 150ohm  
No17. for HP item 4, P22, Source and Drain on Q80B should be swapped  
No18. P28, add a reversing circuit for STB\_LED# to fix the LED bug  
No19. P21,P28, delete redundant net LAN\_ACT#\_DOCK and change it to LAN\_ACT#  
No20. P31, revise BIOS connector to CONN@ and unmount #U1  
No21. P9, reivse "M1#" to "M1#"   
No22. P12, revise 0ohm(R868,R869,R870,R871,R872,R1071) from SD034000080 to SD028000080  
No23. P25, modify Power button circuits  
No24. for HP item, P15 and 24, GPIO ->WWAN\_DET# and pull high 100K  
No25. for HP item, P15, add SYS\_SHDN# surf R61 for SYS\_SHDN# and add these 3 to my schematics as C972-974  
No26. for HP item, P22, VCI pin U18.6 should be NO CONNECT. R929 uninstall  
No27. for HP item, P9,10, Remove M18 for UMA and make it always installed. UMA will only use M1  
No28. for HP item, P15, reserve 100Kohm pull up to 3Vl on U63.1  
No29. for HP item, P15, LAN\_DI# should pull up to +3VM LAN instead of 3VALW  
No30. for HP item, P4, Change R14/R15 to P1.1K/1.2K per DGI.52  
No31. for HP item, P16, Add NO INSTALL 0ohm to GND on GPIO8 on PCH and remove PULL UP to 3VLAW because PCH has an integrated pull up.  
No32. for HP item, P13, for UMA:  
NO INSTALL: R210, Y4, C222  
INSTALL 0ohm resistor in C223  
No33. P14, revise for HP item 13 not mentioned, delete LVD\_VREFH and LVD\_VREFL to GND  
No34. for HP item, P19, Reserve 0.1uF on DDC\_EN and DP\_EN for concern about noise.  
No35. P29, R1021 Removed  
No36. R1022 Install (main battery selection)  
No37. R1023 Install (OCP function)  
No38. R1024 Install (travel battery selection)  
No39. R694 Install (SMSC CBB will required it)  
No39. P29, R1021 Removed  
No40. R1022 Install (main battery selection)  
No41. R1023 Install (OCP function)  
No42. R1024 Install (travel battery selection)  
No43. R694 Install (SMSC CBB will required it)  
No44. P31, delete U64 and #U1  
No45. for HP item 48 and 57, P24, modify WWAN circuits  
No46. for HP item 50, P12, delete CLR\_P2  
No47. for HP item 51, P29, change system ID by installing R660 and uninstalling the others  
No48. for HP item 52, P22, TRM\_CRT: add 4 0.1uF  
No49. for HP item 56, P25, change caps to 150uF and 22uF, delete the others.  
No50. for HP item 60, P18, simplify WWAN/WWAN/BT LED circuits. uninstall Q62 and Q64  
No51. for HP item 61, P20, modify WEBCAM again  
No52. swap again  
No53. for HP item 62, P25 & 29, Change A\_SD to A\_SD# on U40.91U (GPIO14 of KBC).  
Change A\_SD to A\_SD# on JP5.35 (Audio board connector).  
Change EAPD to MUTE\_LED\_CNTRL on U40.100U (GPIO31 of KBC).  
Change EAPD to MUTE\_LED\_CNTRL on JP5.36 (Audio board connector).  
No54. for HP item 64, P23, uninstall R474. The concern is leakage when system is off.  
No55. for HP item 65, P29, Uninstall pull-up on KERST# (R893) as it is not needed.  
No56. for HP item 66, P29, change RSMRST# from 10K to 100K to reduce current.  
No57. for HP item 67, P29, for ADC small input filters, add R1113-R1116 and C982-C984  
No58. for HP item 68, P18, uninstall R234 for wrong power rail.  
No59. for HP item 70, P18, add 10K pull-up to USB\_C0#2 as we are not using it.  
No60. for HP item 71, P12&24, change net name from BRAID\_DET to NAND\_DET#  
No61. for HP item 71, P13&21, add CLK\_PCIE\_LAN\_REQ1# connected U18.4# to U4B.U4  
No62. P23, change JODD1, link database  
No63. P22, swap T63 MDI +/- signals  
No64. for HP item 15, P33, add 330uF to each of +1.05VS and +1.05VM  
No65. P22, swap again  
No66. for HP item 15, P33, change 330uF to smaller package because of lack of space, and delete C782, C894  
No67. P15, EMI concern: change R1026 to 47 ohm  
No68. for HP item 68, P29, change net name :AC\_AND CHG --> AC\_AD\_PRES  
No69. for HP item 74, P33, uninstall R775 and Q56  
No70. for HP item 73, P29, uninstall D42

power schematics updated: CARTIER\_UMA\_PWR\_20090508.DSN  
No71. P20, JEDP.20 change to +VS  
No72. P26, add eSATA connector and redriver circuits  
No73. P19, correct Q75B's direction  
No74. P29, cost down, change NOR to dual 2N7002  
No75. P26, cost down, delete R605, and short the circuits  
No76. P23, from Johnson, we should keep the pull high resistor because EC will not program the internal pull-high afterwards.  
power schematics updated: CARTIER\_UMA\_PWR\_20090513.DSN  
No77. for HP item 75, P24, install C45-c47 39pF  
No78. P21, c495, c497 CHANGE TO X5R SE095104K80  
No79. P7, delete uninstalled VCCP 47pF \* 4 and 10uF \* 1 (C41-C44, C46)  
power schematics updated: CARTIER\_UMA\_PWR\_20090515.DSN  
No80. P32, Q61 change part  
No81. for HP item 22, P27, install D70-72  
No82. for HP item 76, P14, 29, 41  
(1) add R=1k between PGD\_IN and VGATE, and uninstall R237.  
(2) remove D42.  
(3) remove PR217 and PR230  
No83. for HP item 77, P19, uninstall R1076  
No84. for HP item 78, P24, install C45-c47 39pF  
Remove R1051 and R1048 and make the following changes:  
Install R1046 (100K) but change R1046.2 to GND  
Install R1047 (100K) but change R1047.1 to 3VS  
power schematics updated: CARTIER\_UMA\_PWR\_20090518.DSN  
No85. P21, change 10uF to 22uF to stabilize voltage  
No86. change HF part:  
(1) SA411250130 S IC 74AHCT1G125GW SOT353 5P BUS BUFFER  
-> SA00000RY00: U7, U8, (PN change only)  
(2) SB000008E00 S TR MMBT3904W NPN SOT323-3  
->SB000008E10: Q1,  
(3) SB00000A000 S TR 2N7002DW T/R7 2N SOT-363-6  
-> SB00000A010: Q2, Q3, Q5, Q7, Q8, Q10, Q63, Q77, Q86, Q87  
(4) SB570025280 S TR 2N7002DW-7-F 2N SOT-363  
-> SB00000E010: Q11, Q72, Q73, Q74, Q75, Q81  
(5) SC2N2020U000 S DIO ROW DAN202UGT106 3P C/C SC-70  
-> SC600000B00: D1  
(6) SCA00000A00 S ZEN ROW PJDL0C5 3P C/A SOT23  
-> SCA00000A10: D58  
(7) SJ100001V00 S CRYSTAL 32.768KHZ 1TJS125D4A420P  
-> SJ100000A00: Y6, Y7  
(8) SP04301P120 S FUSE SMD1812P110TF 1.1A 6V UL/CSA/TUV  
-> SP04301P140: F1  
(9) SC1N4148180 S DIO 1N4148WS-7-F SOD-323  
-> SC100004P00: D60, D70, D71, D72 (PN change only)  
No87. after Gerber out: BOM  
(1) change Q70 to SB923050020  
(2) link database:  
JP31(enter myself), C888, R782, R202, R200, R791, R785, R800, R796, R797, C184, C885, C887, C231, C232, C236, C241, C243, C244, C247, C248, C251, C252, C253, C261, C264, C270, C271, C272, C274, C275, C515, RP16, RP18, RP26, RP27, R787  
No88. according to Monji, P13, check R215 to 22 ohm  
No89. U67: Change SA00002ZR0L to SA00002ZR00  
for DELL prohibition part  
No90. P08, change MLCC part references for power team request  
(1) 10uF: C103、C993、C994、C988、C92 C94、C97、C116、C113、C90 C89、C98、C99、C100、C101 C102、C91、C84、C96、C83 C111、C88  
(2) 22uF: the others  
(3) change C105 ~ C108 to SGA00001Q80  
No91. change schematics parts of Q24 and Q70, the same P/N SB923050020  
No92. P27, change R1086 to 100K, R1085 to 10K, delete R1110 like DIS  
No93. PCH PN: SA00002KV60; LAN PN: SA00002M040

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