

# Compal Confidential

## NELA0 M/B Schematics Document

Intel Arrandale Processor with DDRIII + Ibex Peak-M  
Nvida N11P-GE1/N11M-OP1

2010-04-01

REV:1.0

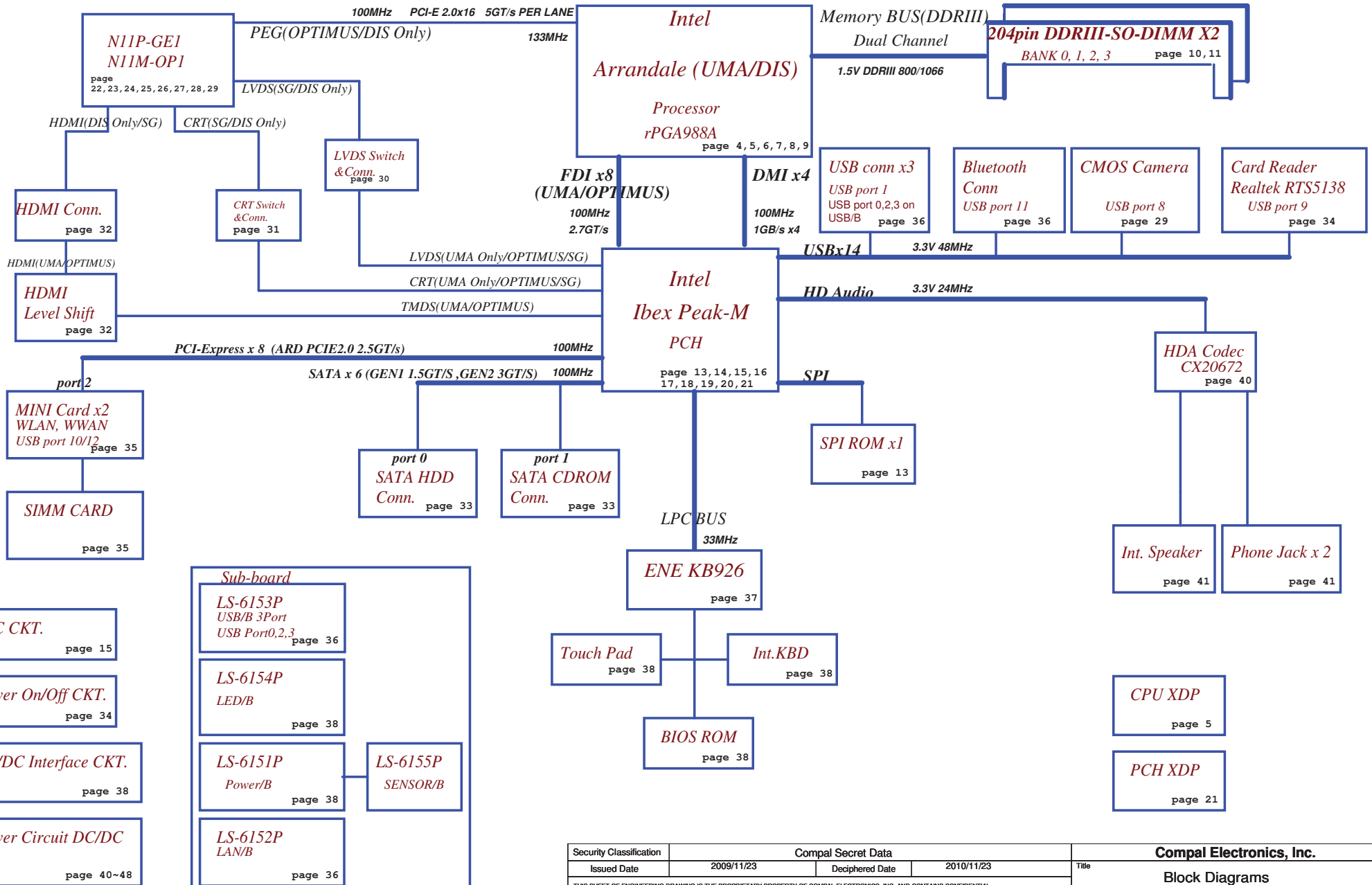
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|------------------------------------------------------------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                                                                                    |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Size<br>Custom           | Document Number<br>NELA0 M/B LA-6151P Schematic<br>Date: Wednesday, April 21, 2010 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev<br>1.0               | Sheet 1 of 58                                                                      |

**Model Name : NELA0**  
**File Name : LA6151P**

*Fan Control* page 38

*Clock Generator*  
*IDT: 9LVS3199AKLFT*  
*Realtek: RTM890N-631-GRT*  
**133/120/100/96/14.318MHZ to PCH**

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                                   |                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|-----------------------------------|--------------------------------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc.          |                                                        |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/11/23 | Deciphered Date    | 2010/11/23 | Title                             | Block Diagrams                                         |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date<br>Wednesday, April 21, 2010 | Rev<br>1.0                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet 2 of 58                     |                                                        |

Voltage Rails

| Power Plane                                                                                     | Description                                                 | S1  | S3  | S5  |
|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-----|-----|-----|
| VIN                                                                                             | Adapter power supply (19V)                                  | N/A | N/A | N/A |
| BATT+                                                                                           | Battery power supply (12.6V)                                | N/A | N/A | N/A |
| B+                                                                                              | AC or battery power rail for power circuit.                 | N/A | N/A | N/A |
| +CPU_CORE                                                                                       | Core voltage for CPU                                        | ON  | OFF | OFF |
| +VGA_CORE                                                                                       | Core voltage for GPU                                        | ON  | OFF | OFF |
| +VGFX_CORE                                                                                      | Core voltage for Arrandale GPU (only for arrandaleCPU)      | ON  | OFF | OFF |
| +0.75VS                                                                                         | +0.75VP to +0.75VS switched power rail for DDR terminator   | ON  | OFF | OFF |
| +1.0VSDGPU                                                                                      | +1.0VSPDGPU to +1.0VSDGPU switched power rail for GPU       | ON  | OFF | OFF |
| +1.05VS_VTT                                                                                     | +1.05VS_VTTP to +1.05VS_VTT switched power rail for ARD CPU | ON  | OFF | OFF |
| +1.05VS_PCH                                                                                     | +1.05VS_VTT to +1.05VS_PCH power for PCH                    | ON  | OFF | OFF |
| +1.5V                                                                                           | +1.5VP to +1.5V power rail for DDRIII                       | ON  | ON  | OFF |
| +1.5VS                                                                                          | +1.5V to +1.5VS switched power rail                         | ON  | OFF | OFF |
| +1.5VSDGPU                                                                                      | +1.5VS to +1.5VSDGPU switched power rail for GPU            | ON  | OFF | OFF |
| +1.8VS                                                                                          | (+5VALW or +3VALW) to 1.8V switched power rail to PCH & GPU | ON  | OFF | OFF |
| +3VALW                                                                                          | +3VALW always on power rail                                 | ON  | ON  | ON* |
| +3VALW_EC                                                                                       | +3VALW always to KBC                                        | ON  | ON  | ON* |
| +3V_LAN                                                                                         | +3VALW to +3V_LAN power rail for LAN                        | ON  | ON  | ON* |
| +3V                                                                                             | +3VALW to +3V power rail for PCH (Short Jumper)             | ON  | ON  | ON* |
| +3VS                                                                                            | +3VALW to +3VS power rail                                   | ON  | OFF | OFF |
| +5VALW                                                                                          | +5VALWP to +5VALW power rail                                | ON  | ON  | ON* |
| +5V                                                                                             | +5VALW to +5V switched power rail for PCH (Short resister)  | ON  | ON  | ON* |
| +5VS                                                                                            | +5VALW to +5VS switched power rail                          | ON  | OFF | OFF |
| +VSB                                                                                            | +VSBP to +VSB always on power rail for sequence control     | ON  | ON  | ON* |
| +RTCVCC                                                                                         | RTC power                                                   | ON  | ON  | ON  |
| Note : ON* means that this power plane is ON only with AC power available, otherwise it is OFF. |                                                             |     |     |     |

EC SM Bus1 address

| Device        | Address     | Device | Address |
|---------------|-------------|--------|---------|
| Smart Battery | 0001 011X b |        |         |

EC SM Bus2 address

PCH SM Bus address

| Device                                           | Address    |
|--------------------------------------------------|------------|
| Clock Generator (9LVS3199AKLFT, RTM890N-631-GRT) | 1101 0010b |
| DDR DIMM0                                        | 1001 000Xb |
| DDR DIMM2                                        | 1001 010Xb |

| BOM Config     |                                        |
|----------------|----------------------------------------|
| UMA Only       | BT@,UMOP@,UMAO@,UMA@                   |
| OPTIMUS:       | BT@,VGA@,OPT@,UMOP@,UMA@,VENTURA@,X76@ |
| Discrete Only: | BT@,VGA@,DISO@,DIS@,VENTURA@,X76@      |
| SWITCHABLE:    | BT@,SG@,UMA@,VGA@,DIS@,VENTURA@,X76@   |

| VRAM BOM Config    |                |
|--------------------|----------------|
| X761@: X76198BOL01 | Samsung 512MB  |
| X762@: X76198BOL02 | Hynix 512MB    |
| X763@: X76198BOL03 | Samsung 1024MB |
| X764@: X76198BOL04 | Hynix 1024MB   |

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

Board ID / SKU ID Table for AD channel

| Vcc      | 3.3V +/- 5%  |             |             |             |
|----------|--------------|-------------|-------------|-------------|
| Ra/Rc/Re | 100K +/- 5%  |             |             |             |
| Board ID | Rb / Rd / Rf | VAD_BID min | VAD_BID typ | VAD_BID max |
| 0        | 0            | 0 V         | 0 V         | 0 V         |
| 1        | 8.2K +/- 5%  | 0.216 V     | 0.250 V     | 0.289 V     |
| 2        | 18K +/- 5%   | 0.436 V     | 0.503 V     | 0.538 V     |
| 3        | 33K +/- 5%   | 0.712 V     | 0.819 V     | 0.875 V     |
| 4        | 56K +/- 5%   | 1.036 V     | 1.185 V     | 1.264 V     |
| 5        | 100K +/- 5%  | 1.453 V     | 1.650 V     | 1.759 V     |
| 6        | 200K +/- 5%  | 1.935 V     | 2.200 V     | 2.341 V     |
| 7        | NC           | 2.500 V     | 3.300 V     | 3.300 V     |

BOARD ID Table

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

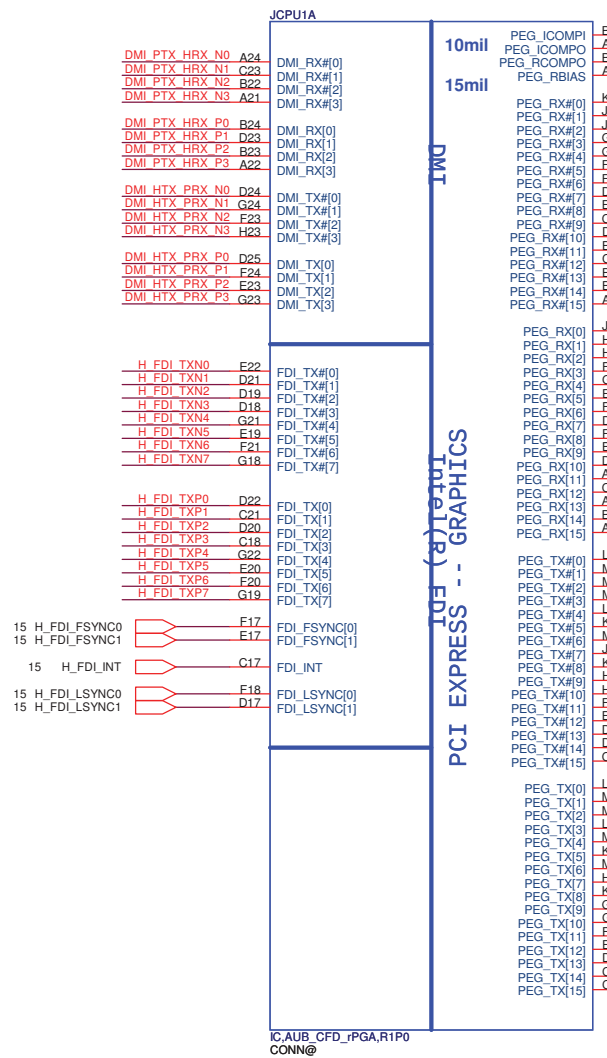
BTO Option Table

| BTO Item          | BOM Structure |
|-------------------|---------------|
| UMA/OPT/SG        | UMA@          |
| UMA only &OPTIMUS | UMOP@         |
| OPTIMUS           | OPT@          |
| Discrete Only     | DISO@         |
| GPU               | VGA@          |
| SWITCHABLE        | SG@           |
| VRAM              | X76@          |
| DIS only&SG       | DIS@          |
| Connector         | CONN@         |
| Ventura           | VENTURA@      |
| Blue Tooth        | BT@           |
| Unpop             | @             |
| 3G                | 3G@           |
|                   |               |
|                   |               |
|                   |               |
|                   |               |

USB Port Table

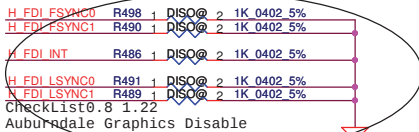
| USB 2.0 | USB 1.1 | Port | 3 External USB Port  |
|---------|---------|------|----------------------|
| EHCI1   | UHCI0   | 0    | USB/B (Right Side)   |
|         |         | 1    | USB Port (Left Side) |
|         | UHCI1   | 2    | USB/B (Right Side)   |
|         |         | 3    | USB/B (Right Side)   |
|         | UHCI2   | 4    |                      |
|         |         | 5    |                      |
|         | UHCI3   | 6    |                      |
|         |         | 7    |                      |
| EHCI2   | UHCI4   | 8    | Camera               |
|         |         | 9    | Card Reader          |
|         | UHCI5   | 10   | Mini Card(SIMM)      |
|         |         | 11   | Blue Tooth           |
|         | UHCI6   | 12   | Mini Card(WLAN)      |
|         |         | 13   | SIMM CARD            |

| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data           |                 |            | Compal Electronics, Inc. |         |
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| Size B                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Document Number              |                 |            | Rev                      |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               | NELA0 M/B LA-6151P Schematic |                 |            | 1.0                      |         |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Wednesday, April 21, 2010    |                 |            | Sheet                    | 3 of 58 |

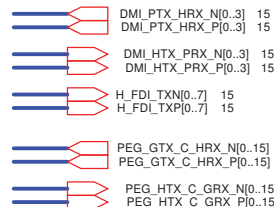


### eDP Signals Mapping

| eDP Signal | PEG Signals       | Lane Reversal    |
|------------|-------------------|------------------|
| eDP_TX0    | PEG HTX_C_GRX_P15 | PEG HTX_C_GRX_P0 |
| eDP_TX#0   | PEG HTX_C_GRX_N15 | PEG HTX_C_GRX_N0 |
| eDP_TX1    | PEG HTX_C_GRX_P14 | PEG HTX_C_GRX_P1 |
| eDP_TX#1   | PEG HTX_C_GRX_N14 | PEG HTX_C_GRX_N1 |
| eDP_TX2    | PEG HTX_C_GRX_P13 | PEG HTX_C_GRX_P2 |
| eDP_TX#2   | PEG HTX_C_GRX_N13 | PEG HTX_C_GRX_N2 |
| eDP_TX3    | PEG HTX_C_GRX_P12 | PEG HTX_C_GRX_P3 |
| eDP_TX#3   | PEG HTX_C_GRX_N12 | PEG HTX_C_GRX_N3 |
| eDP_AUX    | PEG GTX_C_HRX_P13 | PEG GTX_C_HRX_P2 |
| eDP_AUX#   | PEG GTX_C_HRX_N13 | PEG GTX_C_HRX_N2 |
| eDP_HPD#   | PEG GTX_C_HRX_P12 | PEG GTX_C_HRX_P3 |



WW41 Recommend not pull down  
PCIe2.0 Jitter is over on ES1



### CFG0 - PCI-Express Configuration Select

\*1:Single PEG  
0:Bifurcation enabled

### CFG3 - PCI-Express Static Lane Reversal

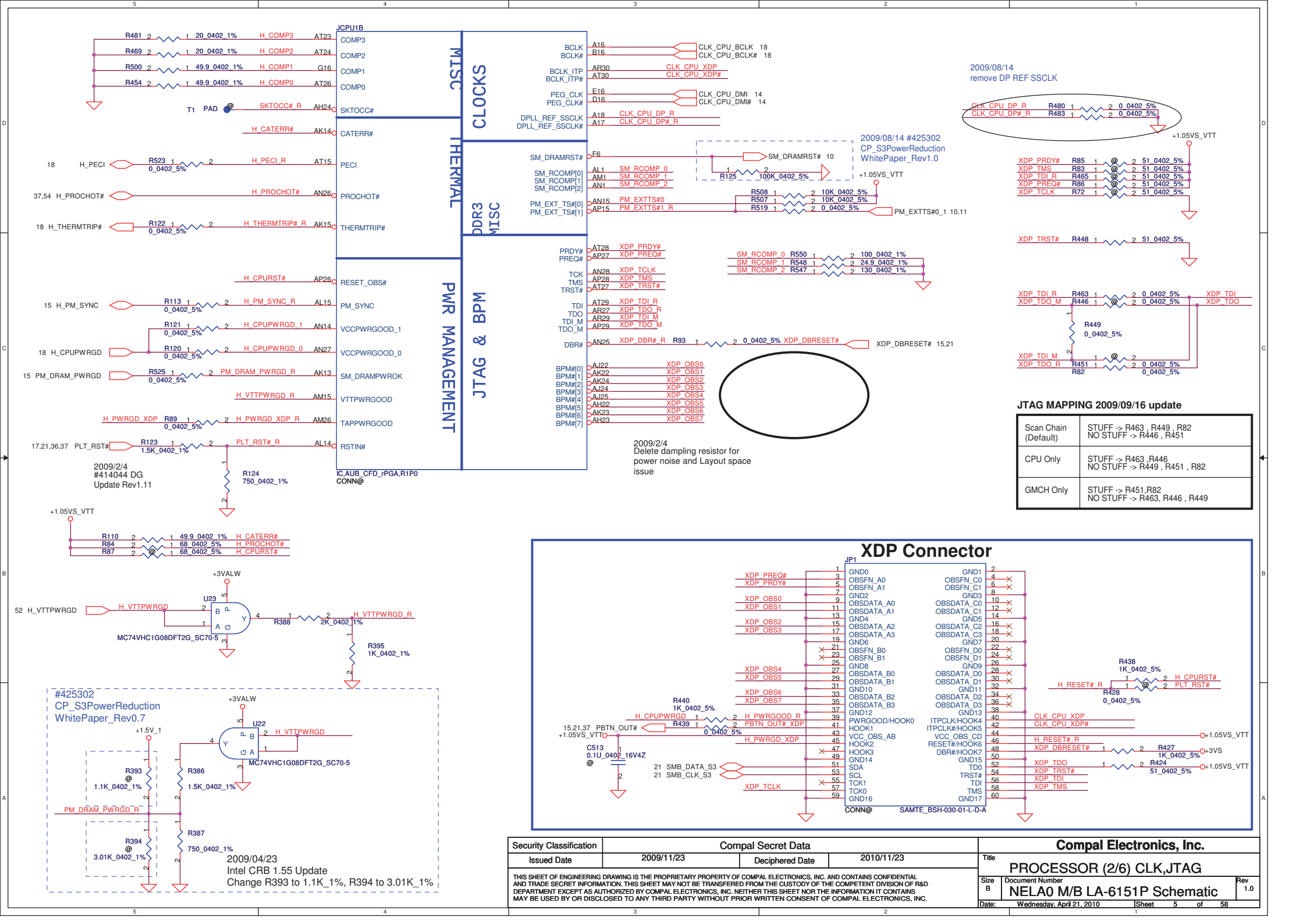
\*1 :Normal Operation  
0 :Lane Numbers Reversed  
15 > 0, 14 > 1, ...

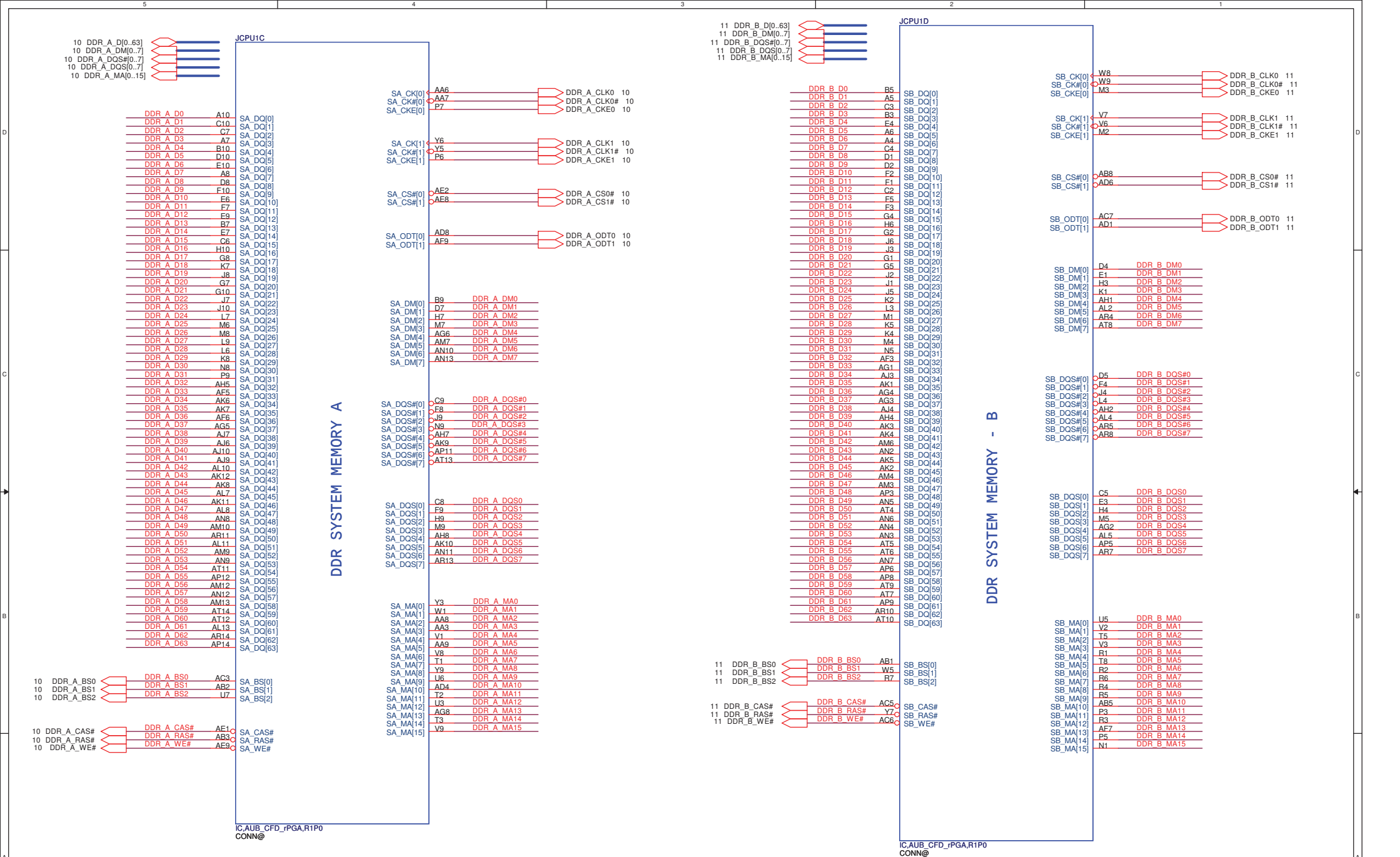
### CFG4 - Display Port Presence

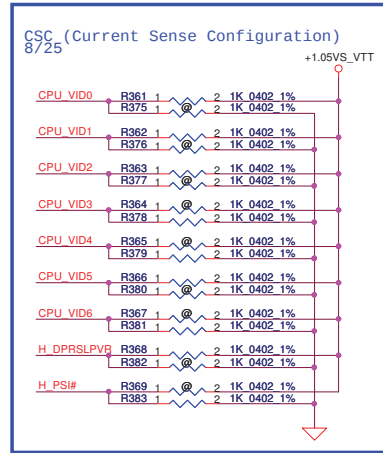
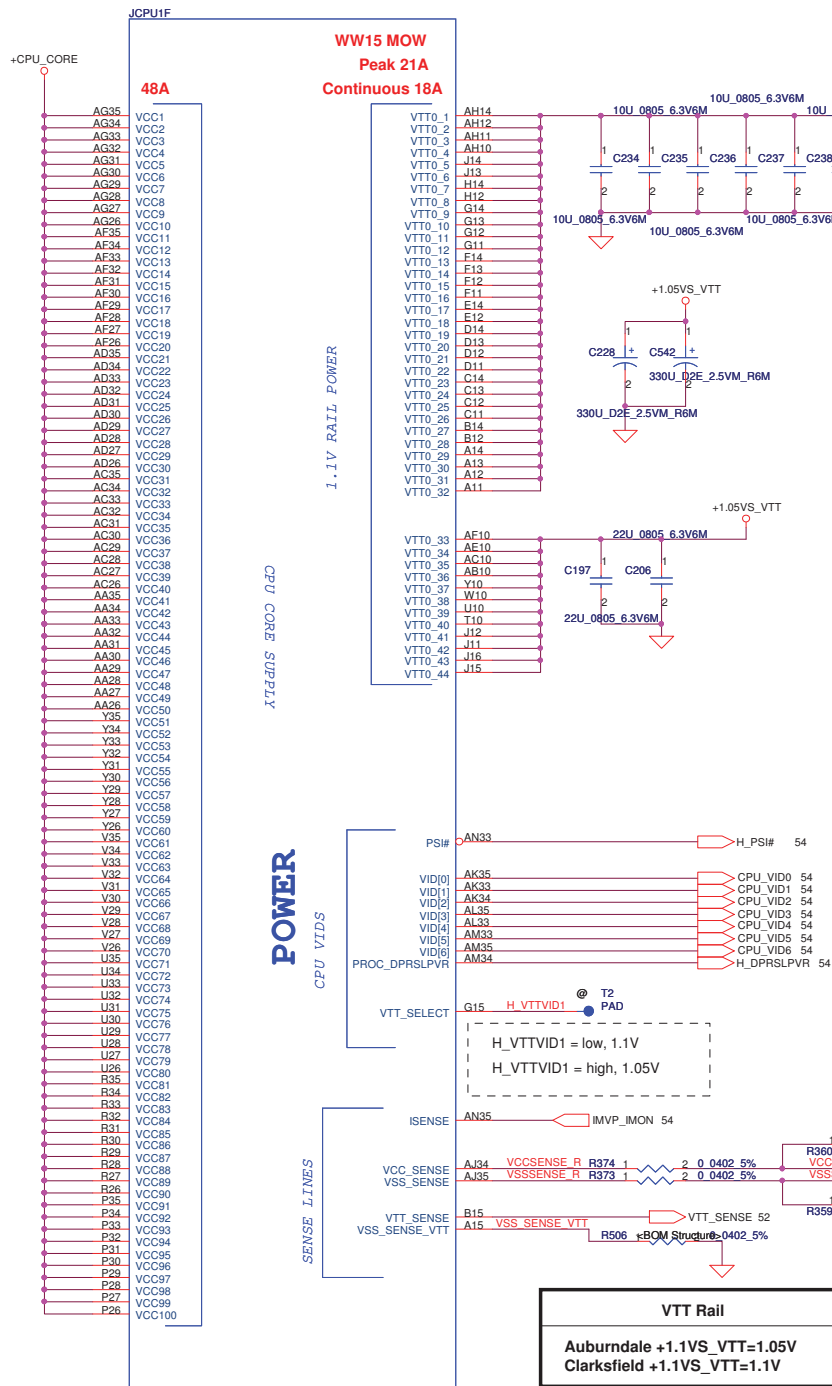
\*1:Disabled; No Physical Display Port  
attached to Embedded Display Port  
0:Enabled; An external Display Port  
device is connected to the Embedded  
Display Port

\*\*Default

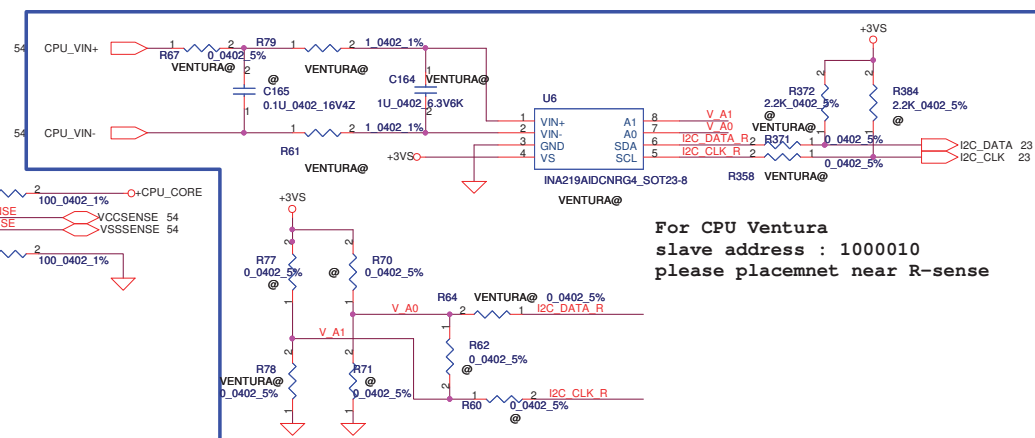
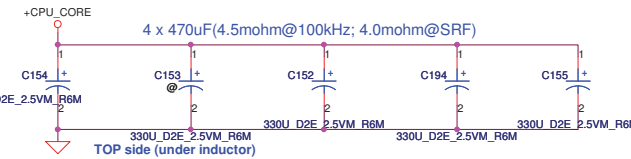
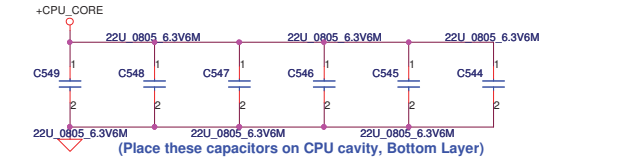
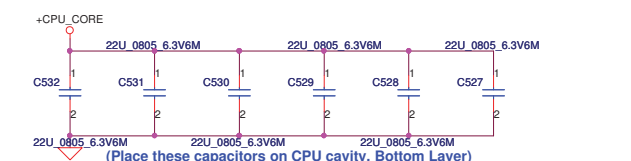
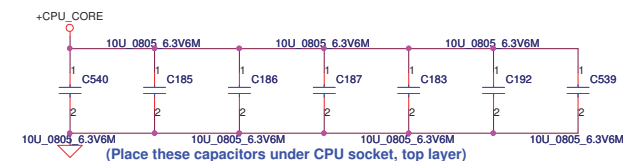
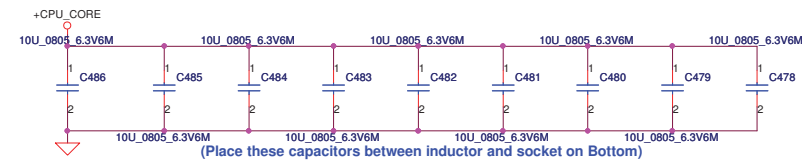
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                           |  |                 |  |                          |  | Size                         | Document Number |  | Rev |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                           |  |                 |  |                          |  | NELA0 M/B LA-6151P Schematic |                 |  | 1.0 |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | Wednesday, April 21, 2010 |  | Sheet           |  | 4                        |  | of 58                        |                 |  |     |



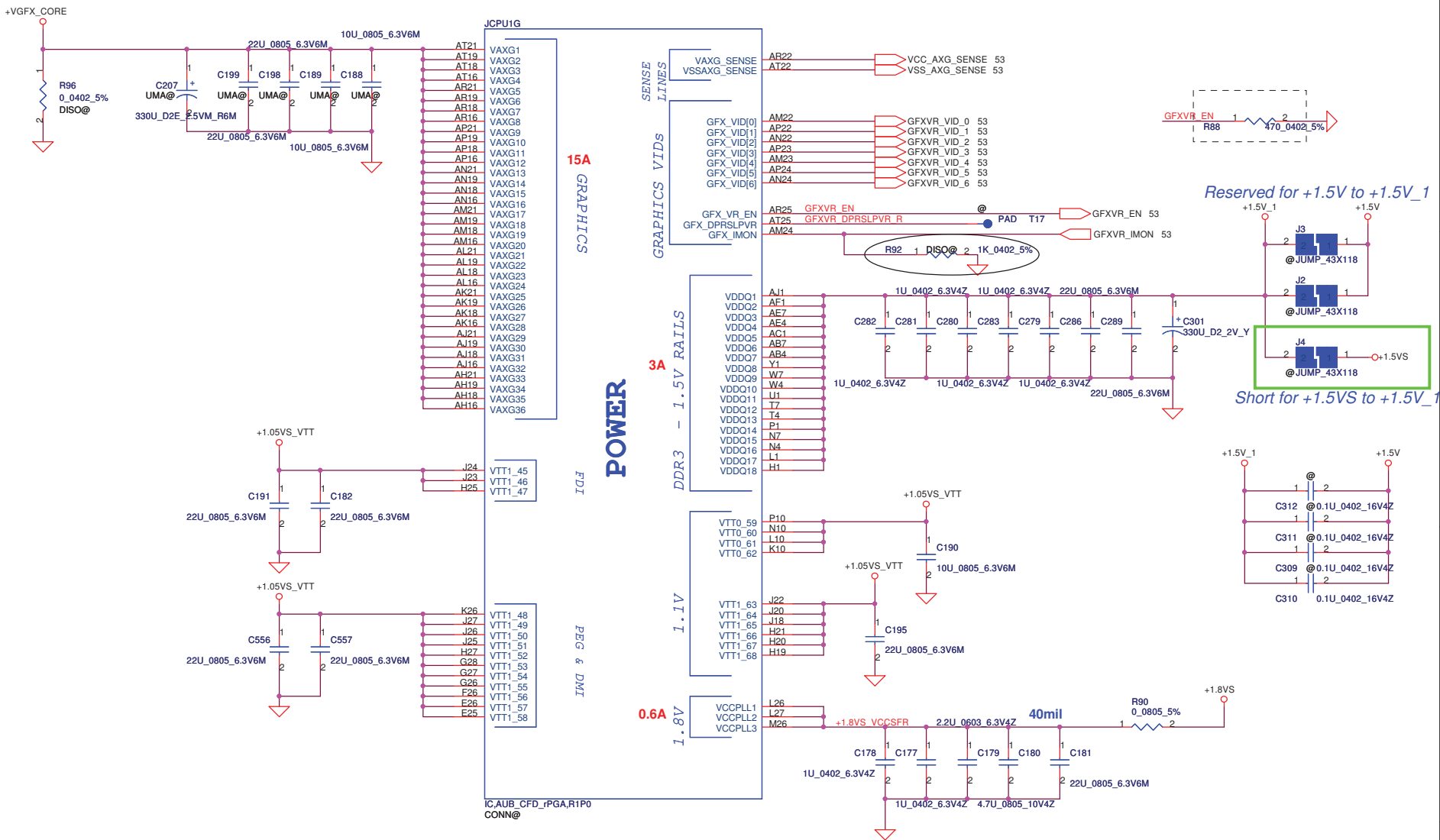




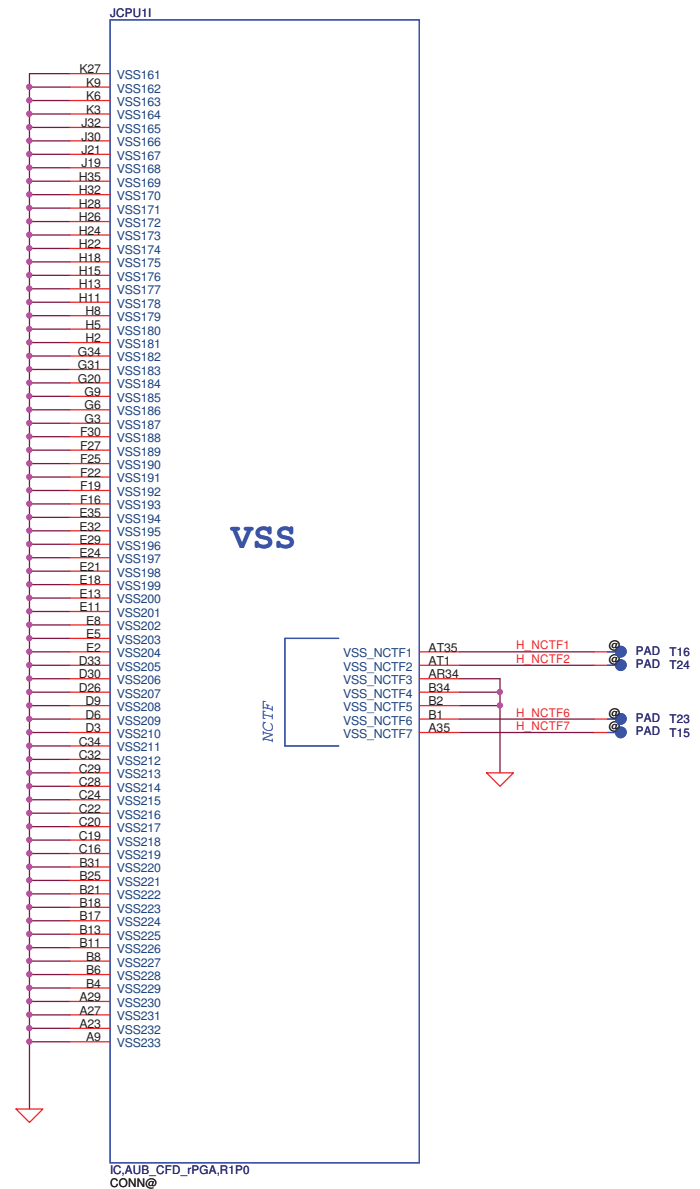
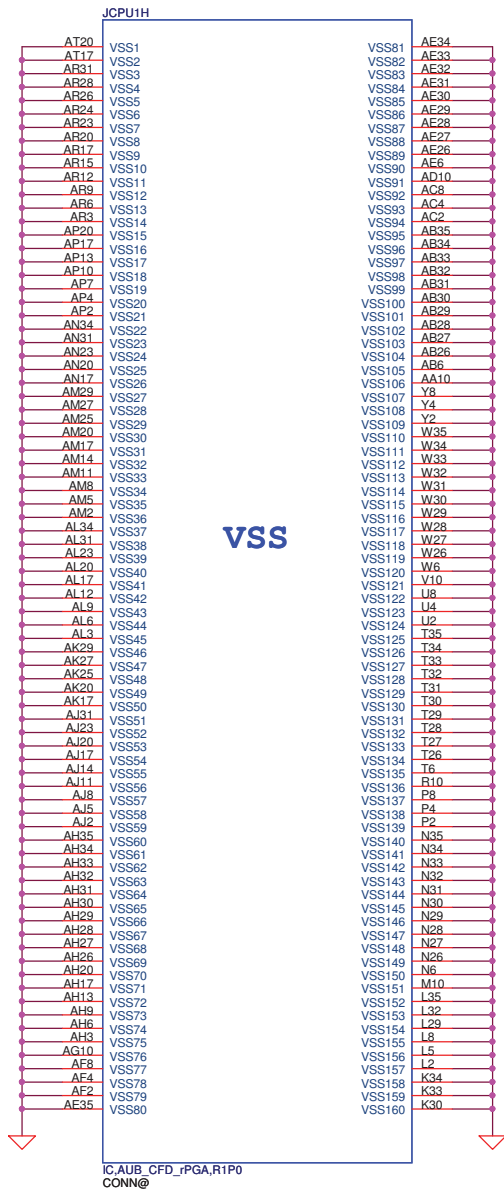
| +CPU-CORE Decoupling | C,uF    | ESR, mohm | Stuffing Option |
|----------------------|---------|-----------|-----------------|
| SPCAP, Polymer       | 4X470uF | 4m ohm/4  | 2X470uF         |
| MLCC 0805 X5R        | 16X22uF | 3m ohm/12 |                 |
|                      | 16X10uF | 3m ohm/16 |                 |



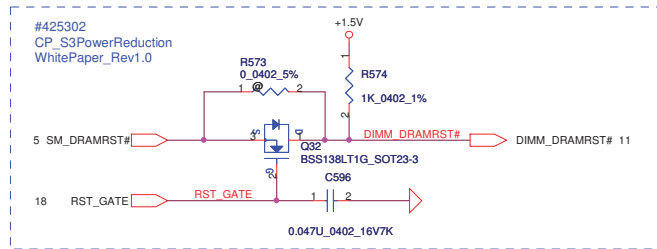
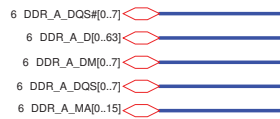
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |                              |       |       |                     |    |    |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  | Customer                 | NELA0 M/B LA-6151P Schematic |       |       | 1.0                 |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  | Date:                    | Wednesday, April 21, 2010    |       | Sheet | 8                   | of | 58 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |                              |       |       |                     |    |    |

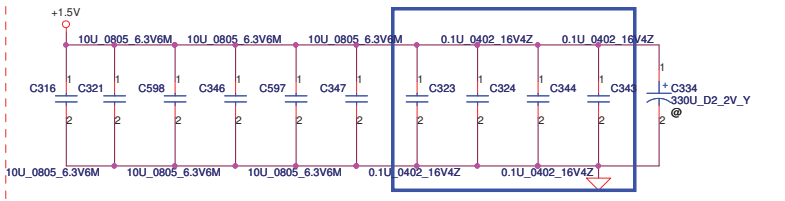


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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  | PROCESSOR (6/6) VSS          |  |       |  |         |     |  |  |  |
| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                    |  |                 |  |                          |  | Document Number              |  |       |  |         | Rev |  |  |  |
| Customer                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                    |  |                 |  |                          |  | NELA0 M/B LA-6151P Schematic |  |       |  |         | 1.0 |  |  |  |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                    |  |                 |  |                          |  | Wednesday, April 21, 2010    |  | Sheet |  | 9 of 58 |     |  |  |  |
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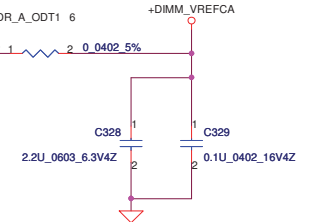
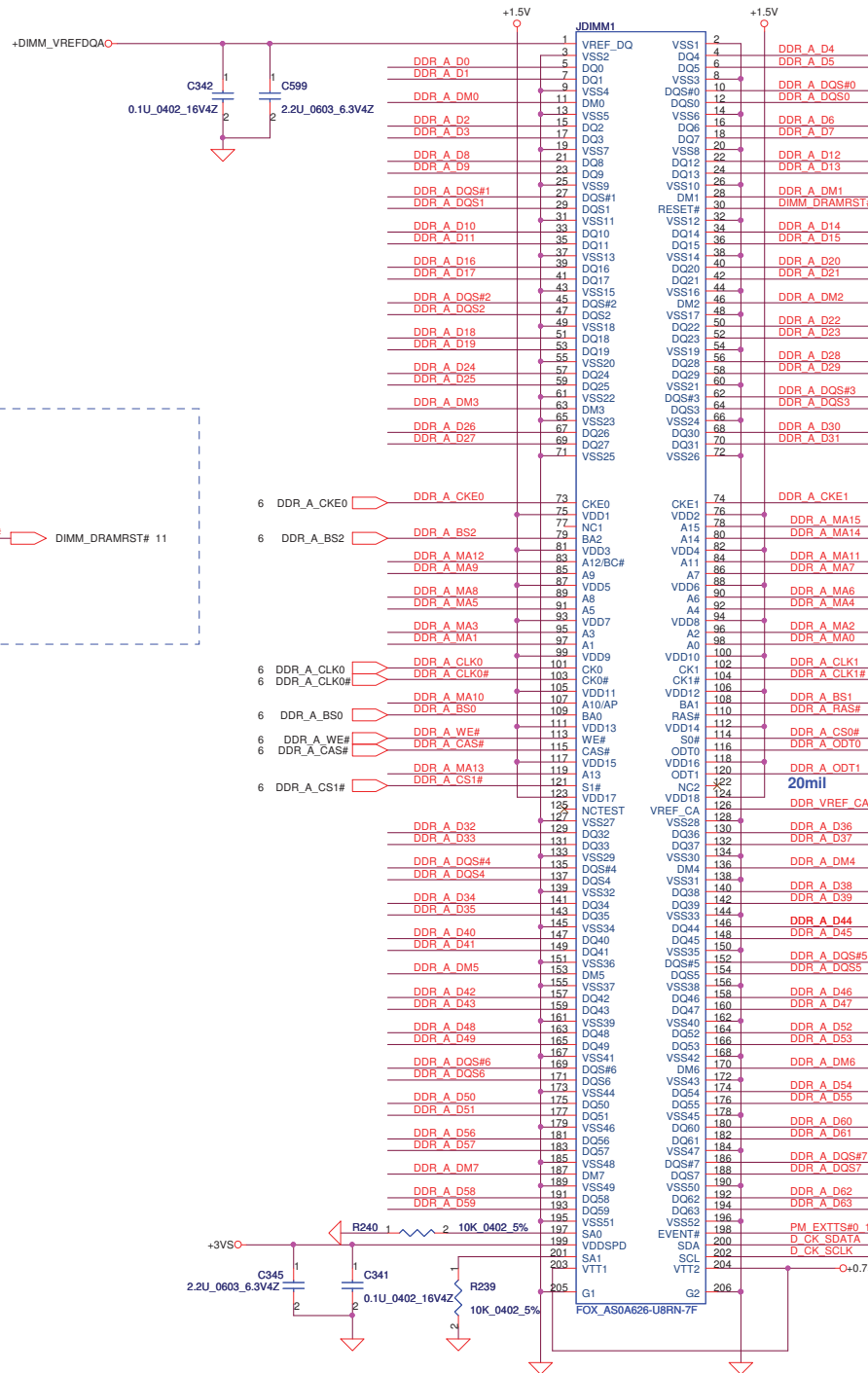
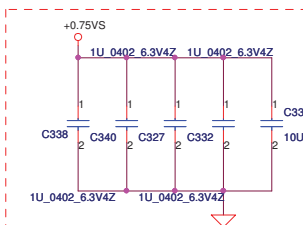


**Layout Note:**  
Place near JDIMM1

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



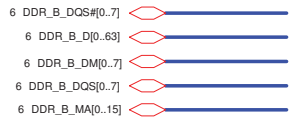
**Layout Note:**  
Place near JDIMM1.203 & JDIMM1.204



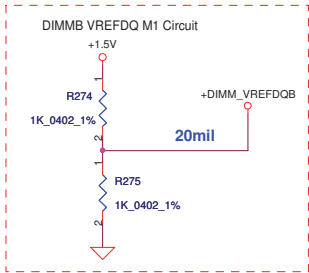
**DDR3 SO-DIMM A**  
**H=8mm**

**Compal Electronics, Inc.**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                          |                              |       |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|------------------------------|-------|----------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                              |       |          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/11/23         | Deciphered Date | 2010/11/23 | Title                    | DDRIII-SODIMM SLOT1          |       |          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Cust                     | NELA0 M/B LA-6151P Schematic |       | 1.0      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date:                    | Wednesday, April 21, 2010    | Sheet | 10 of 58 |

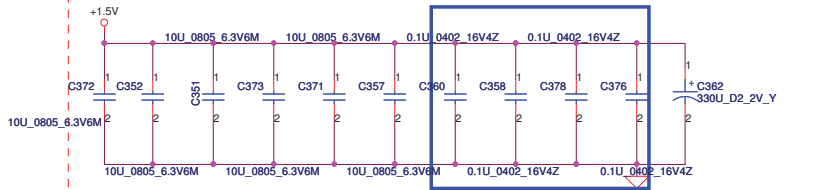


2008/9/8 #400755  
Calpella Clarkfield  
DDR3 SO-DIMM  
VREFDQ Platform  
Design Guide Change Details

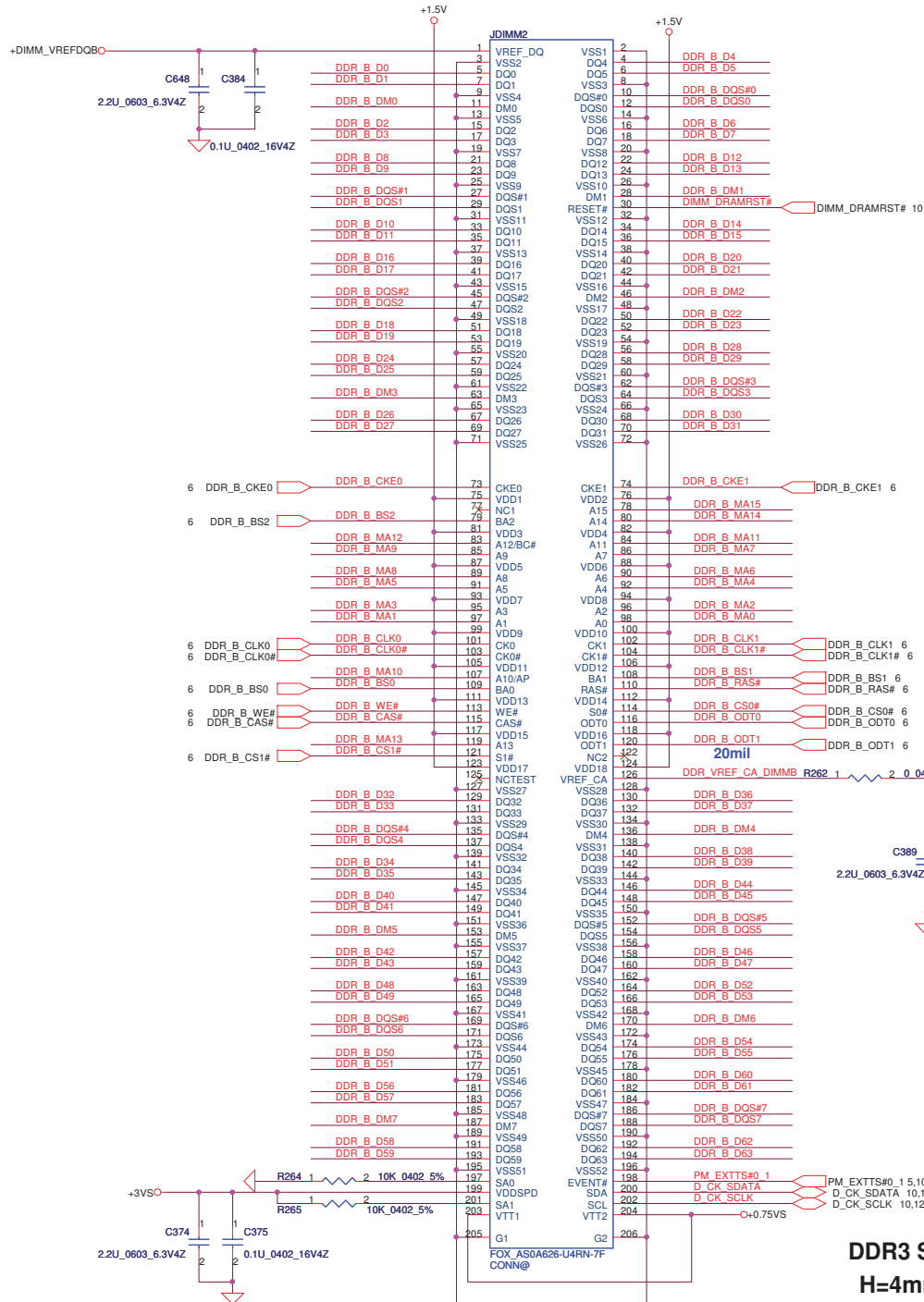
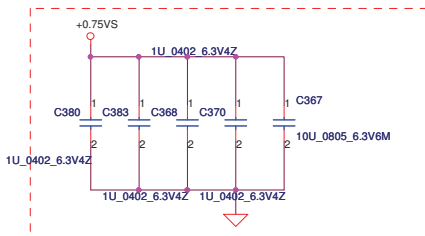


Layout Note:  
Place near JDIMM2

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



Layout Note:  
Place near JDIMM2.203 & JDIMM2.204

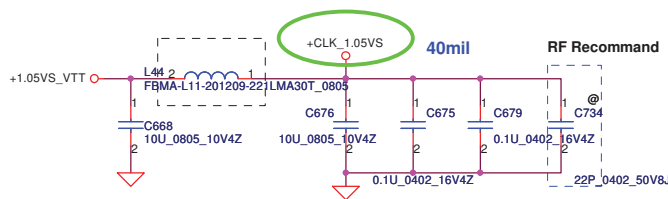


DDR3 SO-DIMM B  
H=4mm

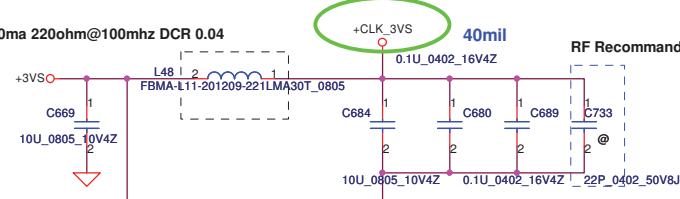
| Security Classification |            | Compal Secret Data |            | Compal Electronics, Inc.                |  |
|-------------------------|------------|--------------------|------------|-----------------------------------------|--|
| Issued Date             | 2009/11/23 | Deciphered Date    | 2010/11/23 | Title                                   |  |
|                         |            |                    |            | DDR3 SO-DIMM SLOT2                      |  |
|                         |            |                    |            | Size   Document Number                  |  |
|                         |            |                    |            | Customer   NELA0 M/B LA-6151P Schematic |  |
|                         |            |                    |            | Date   Wednesday, April 21, 2010        |  |
|                         |            |                    |            | Sheet   11 of 58                        |  |
|                         |            |                    |            | Rev   1.0                               |  |

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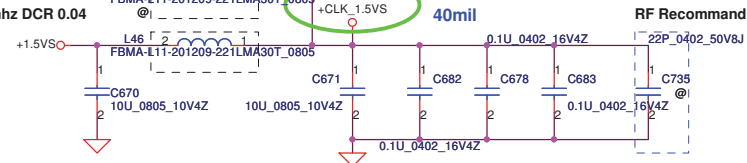
SM010014520 3000ma 220ohm@100mhz DCR 0.04



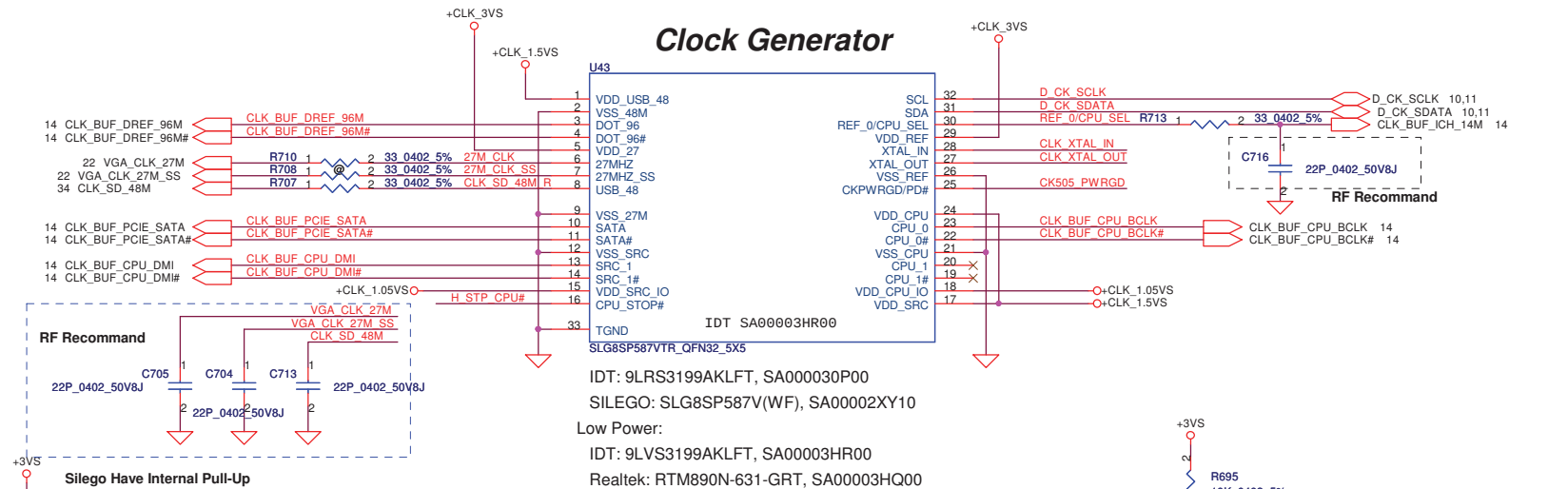
SM010014520 3000ma 220ohm@100mhz DCR 0.04



SM010014520 3000ma 220ohm@100mhz DCR 0.04



## Clock Generator



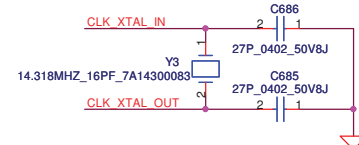
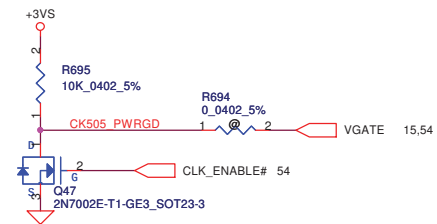
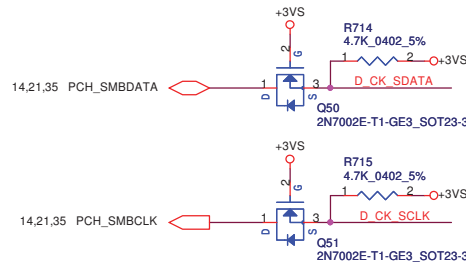
IDT 9LVS3199AKLFT NC

Silego Have Internal Pull-Up

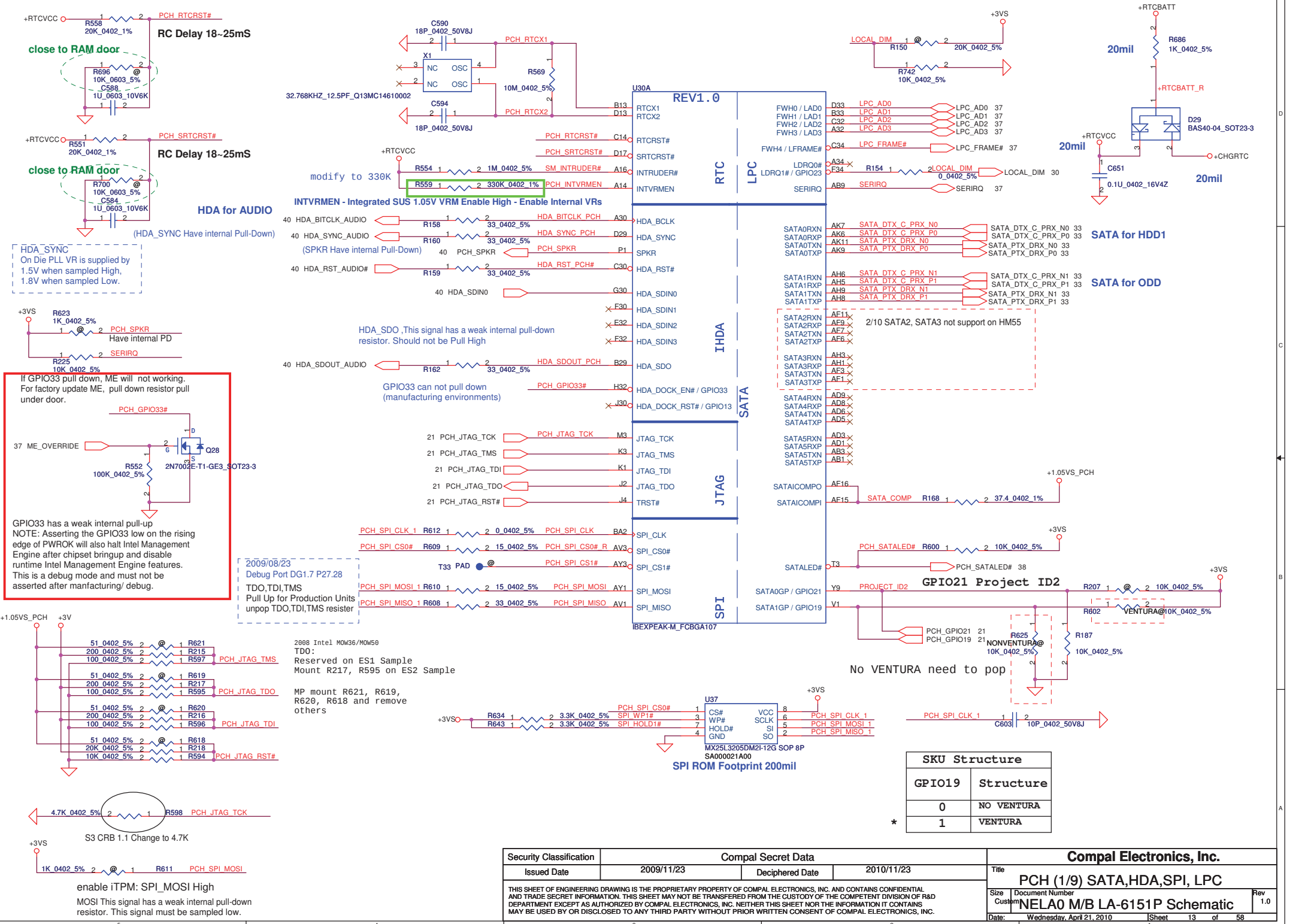
IDT Have Internal Pull-Down

FOR Realtek

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



| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  | Compal Secret Data |  |  |  | Compal Electronics, Inc.     |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--------------------|--|--|--|------------------------------|--|--|--|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  | 2009/11/23         |  |  |  | Deciphered Date              |  |  |  |
| 2010/11/23                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |  | Title              |  |  |  | Clock Generator (CK505)      |  |  |  |
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| Date: Wednesday, April 21, 2010                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  | Sheet 12 of 58     |  |  |  | NELA0 M/B LA-6151P Schematic |  |  |  |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                              |  |                           |  |                          |  |          |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------|--|---------------------------|--|--------------------------|--|----------|--|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Compal Secret Data           |  |                           |  | Compal Electronics, Inc. |  |          |  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | 2009/11/23                   |  | Deciphered Date           |  | 2010/11/23               |  | Title    |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | Size                         |  | Document Number           |  |                          |  | Rev      |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | NELA0 M/B LA-6151P Schematic |  |                           |  |                          |  | 1.0      |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | Date:                        |  | Wednesday, April 21, 2010 |  | Sheet                    |  | 13 of 58 |  |

For PCIE LAN

For Wireless LAN

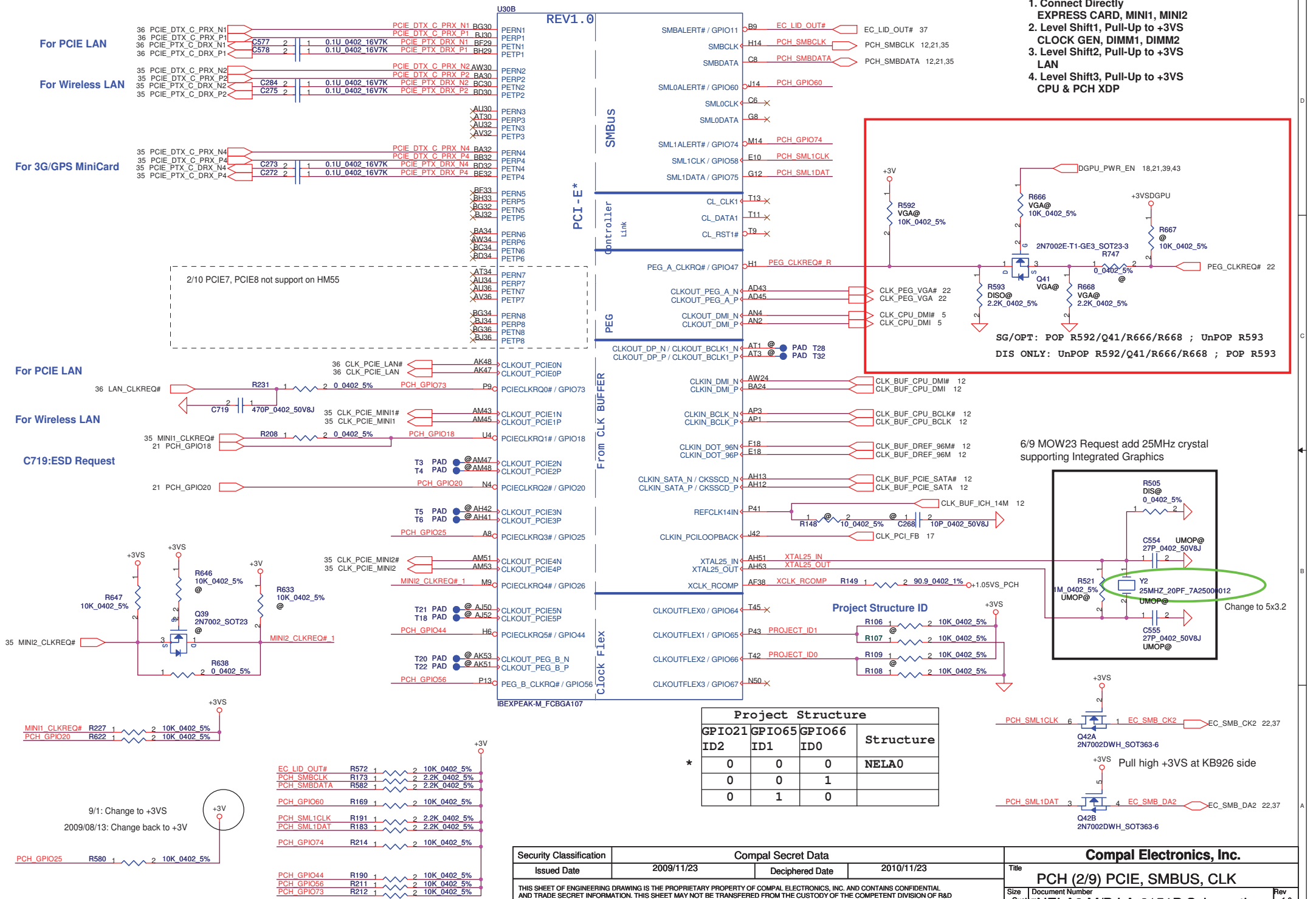
For 3G/GPS MiniCard

For PCIE LAN

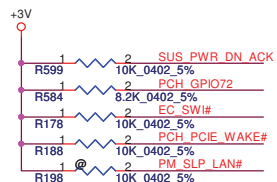
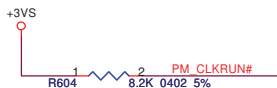
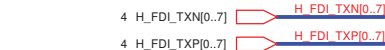
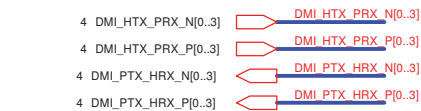
For Wireless LAN

C719:ESD Request

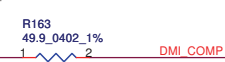
1. Connect Directly EXPRESS CARD, MINI1, MINI2
2. Level Shift1, Pull-Up to +3VS  
CLOCK GEN, DIMM1, DIMM2
3. Level Shift2, Pull-Up to +3VS  
LAN
4. Level Shift3, Pull-Up to +3VS  
CPU & PCH XDP



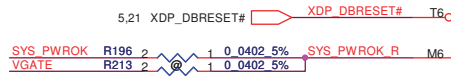
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                              | Compal Secret Data |            | Compal Electronics, Inc.   |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------|------------|----------------------------|--|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/11/23                   | Deciphered Date    | 2010/11/23 | Title                      |  |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number              | Rev                |            | 1.0                        |  |
| Customer                                                                                                                                                                                                                                                                                                                                                                                                                                                      | NELA0 M/B LA-6151P Schematic | Date               |            | Wednesday, April 21, 2010  |  |
| Sheet                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 14                           | of                 |            | 58                         |  |



+1.05VS\_PCH



09/09/14 WW37 PCH WAKE# PU 10K



SYS\_PWROK

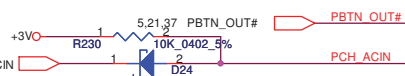
SYS\_PWROK

LAN\_RST#

5 PM\_DRAM\_PWRGD

PCH\_RSMRST#

37 SUS\_PWR\_DN\_ACK

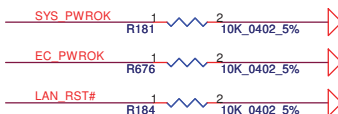
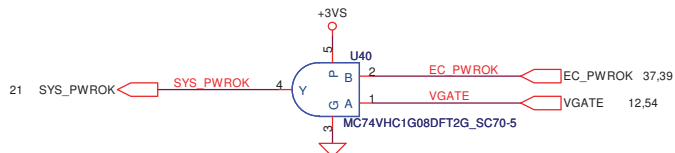


PCH\_ACIN

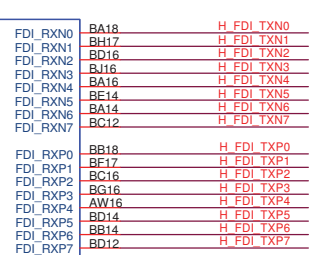
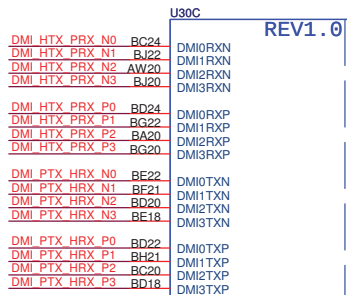
PCH\_GPIO72

37 EC\_SWI#

EC\_SWI#



No used Integrated LAN,  
connecting LAN\_RST# to GND



WAKE# J12 PCH\_PCIE\_WAKE# PCH\_PCIE\_WAKE# 35

CLKRUN# / GPIO32 Y1 PM\_CLKRUN# PM\_CLKRUN# 37

SUS\_STAT# / GPIO61 P8 PCH\_GPIO61 PAD T7

SUSCLK / GPIO62 F3 PCH\_GPIO62 PAD T31

SLP\_S5# / GPIO63 E4 PM\_SLP\_S5# 37

SLP\_S4# H7 PM\_SLP\_S4# 37

SLP\_S3# P12 PM\_SLP\_S3# 37

SLP\_M# K8 PM\_SLP\_M# PAD T8

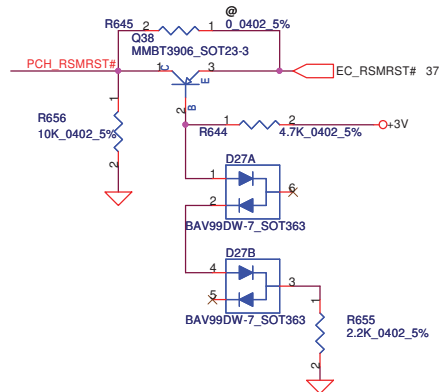
TP23 N2 PM\_SLP\_DSW# PAD T29

PMSYNCH BJ10 H\_PM\_SYNC 5

SLP\_LAN# / GPIO29 F6 PM\_SLP\_LAN#

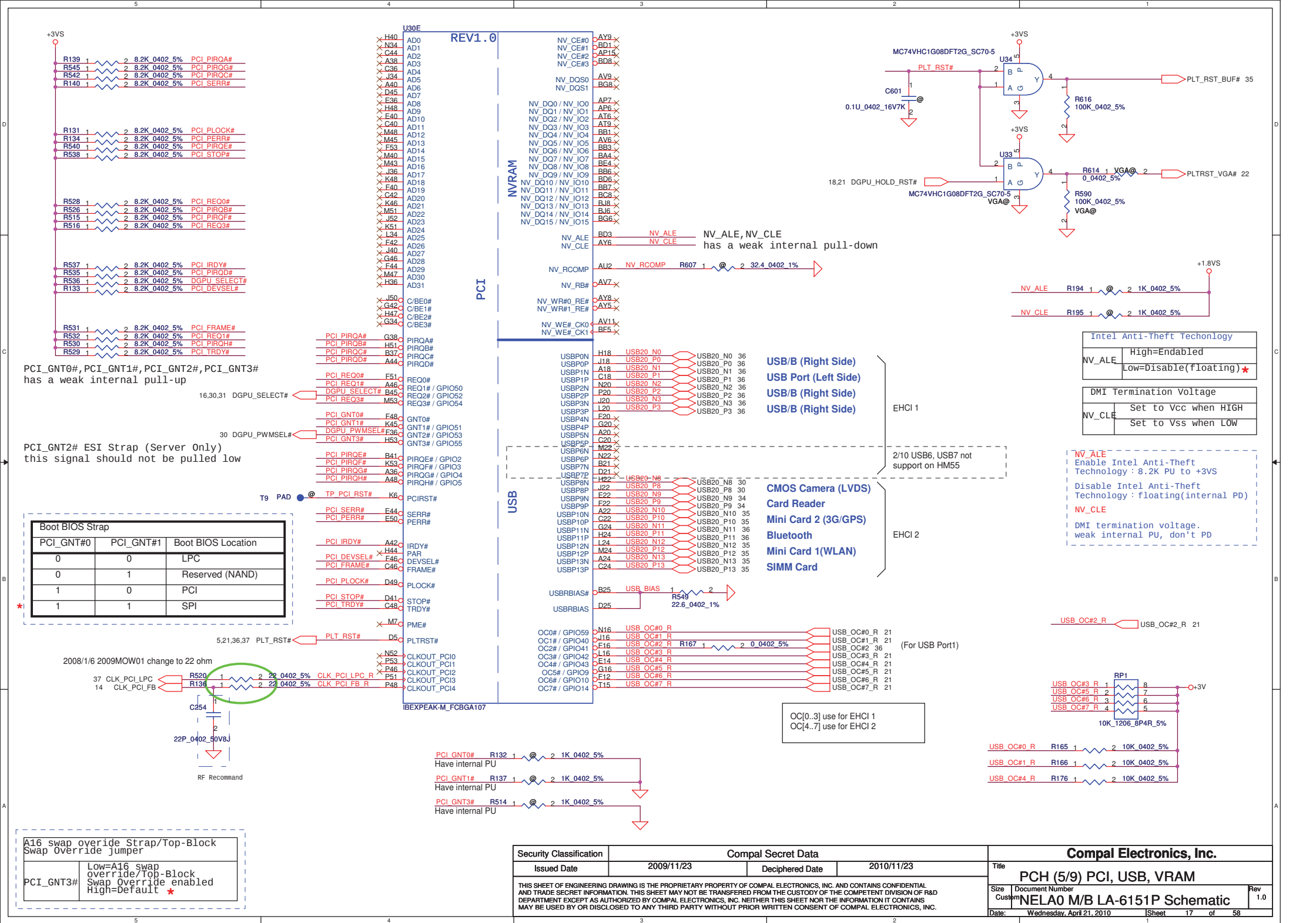
System Power Management

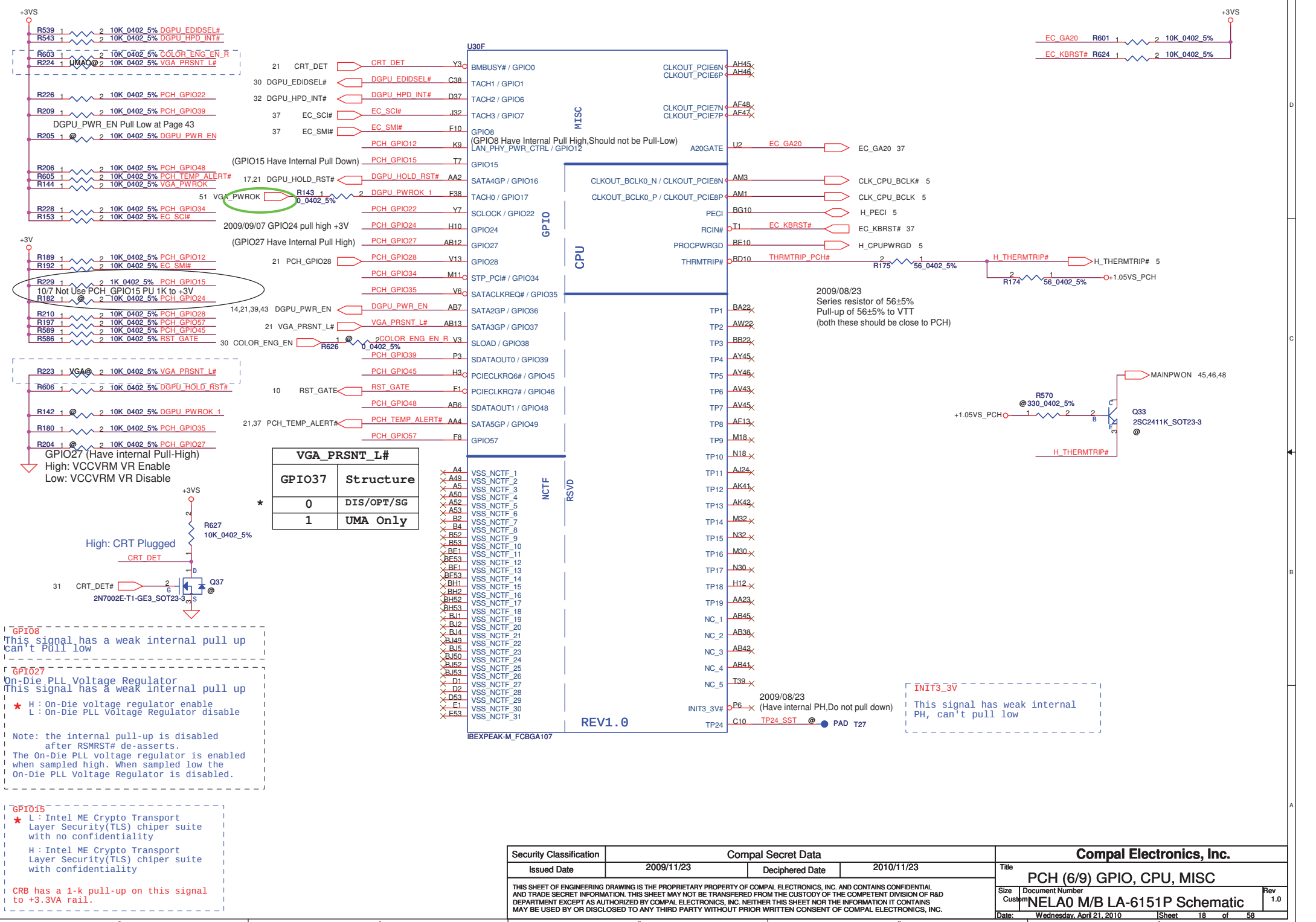
IBEXPEAK-M\_FCBGA107



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |                              |  |                        |  |          |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|--|-----------------|--|--------------------------|--|------------------------------|--|------------------------|--|----------|--|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Compal Secret Data |  |                 |  | Compal Electronics, Inc. |  |                              |  |                        |  |          |  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | 2009/11/23         |  | Deciphered Date |  | 2010/11/23               |  | Title                        |  | PCH (3/9) DMI, FDI, PM |  |          |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  | Customer                 |  | NELA0 M/B LA-6151P Schematic |  | 1.0                    |  |          |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  | Date:                    |  | Wednesday, April 21, 2010    |  | Sheet                  |  | 15 of 58 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                    |  |                 |  |                          |  |                              |  |                        |  |          |  |







| VGA_PRSNT_L# |            |
|--------------|------------|
| GPIO37       | Structure  |
| 0            | DIS/OPT/SG |
| 1            | UMA Only   |

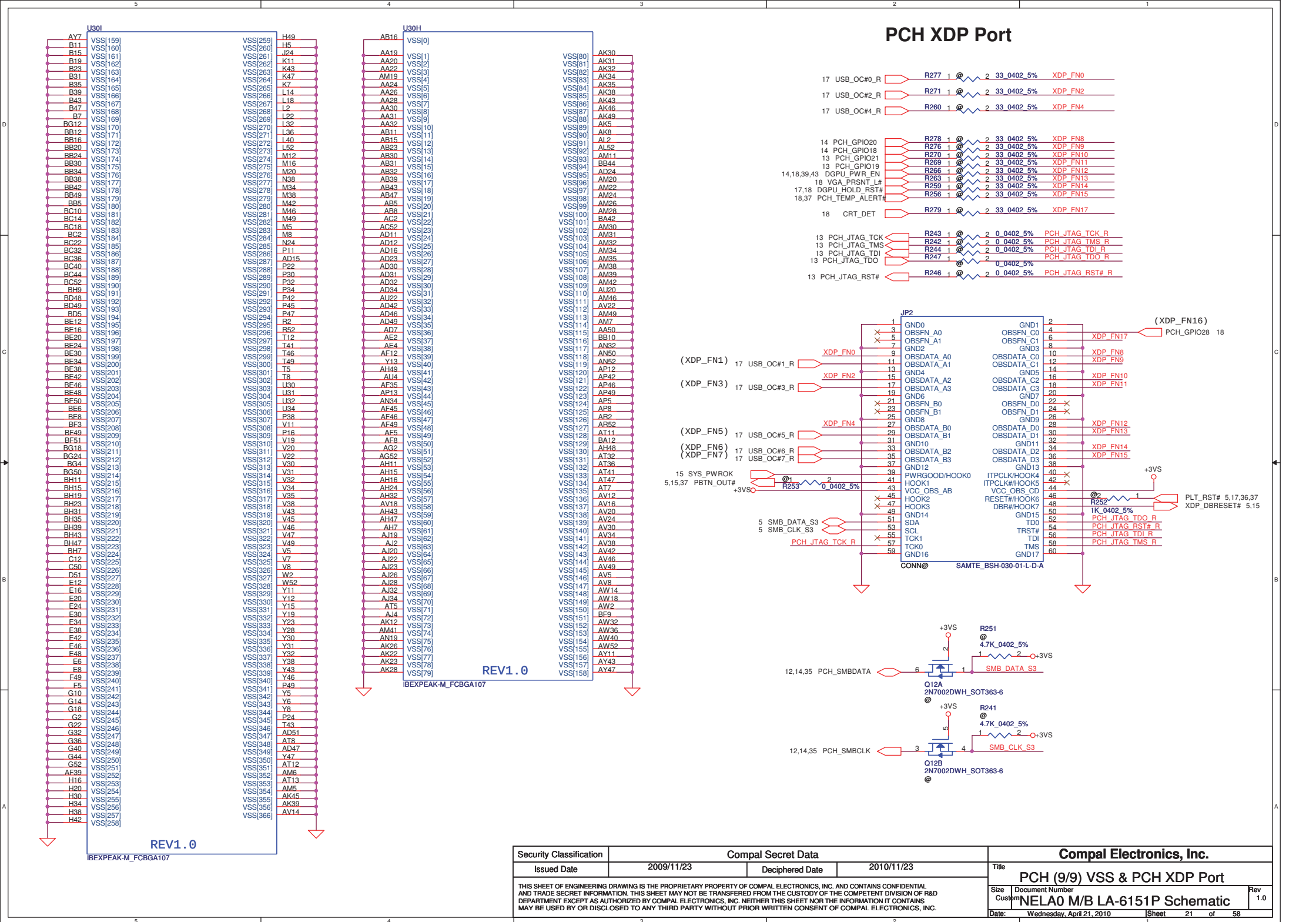
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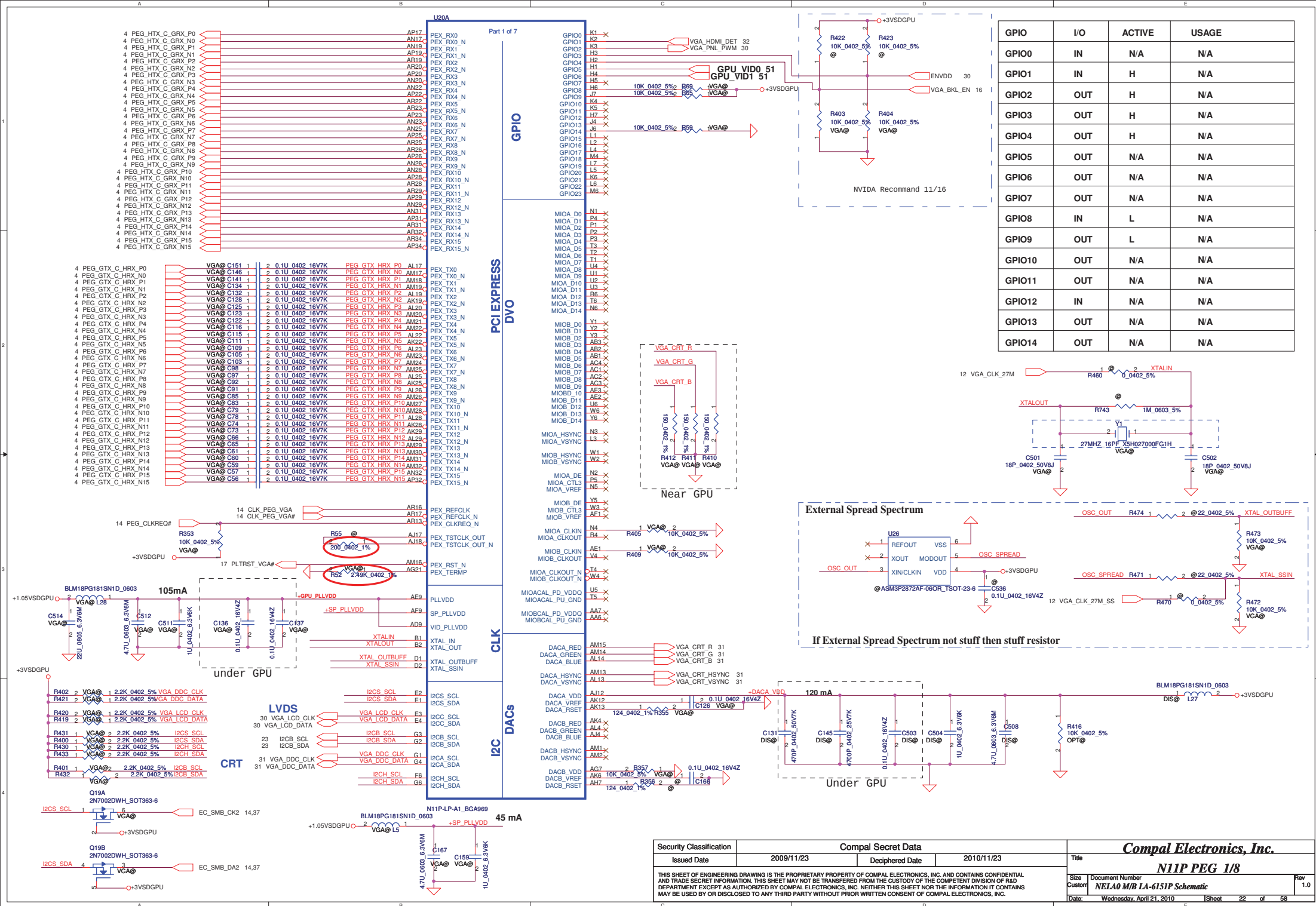
- A4
- A49
- A5
- A50
- A52
- A53
- B2
- B4
- B52
- B53
- BE1
- BE53
- BF1
- BF53
- BH1
- BH2
- BH52
- BH53
- BJ1
- BJ2
- BJ4
- BJ49
- BJ5
- BJ50
- BJ52
- BJ53
- D1
- D2
- DS3
- E1
- E53

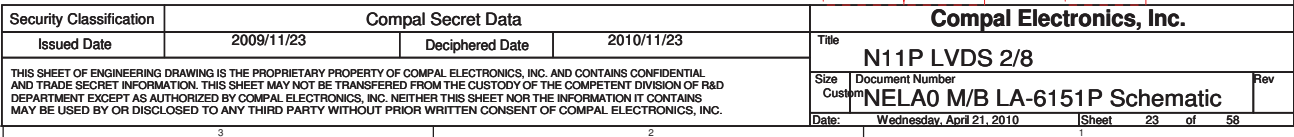
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|-------------------------------------------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/11/23 | Deciphered Date    | 2010/11/23 | Title                    | PCH (6/9) GPIO, CPU, MISC                       |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date                     | Wednesday, April 21, 2010                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 18 of 58                                        |

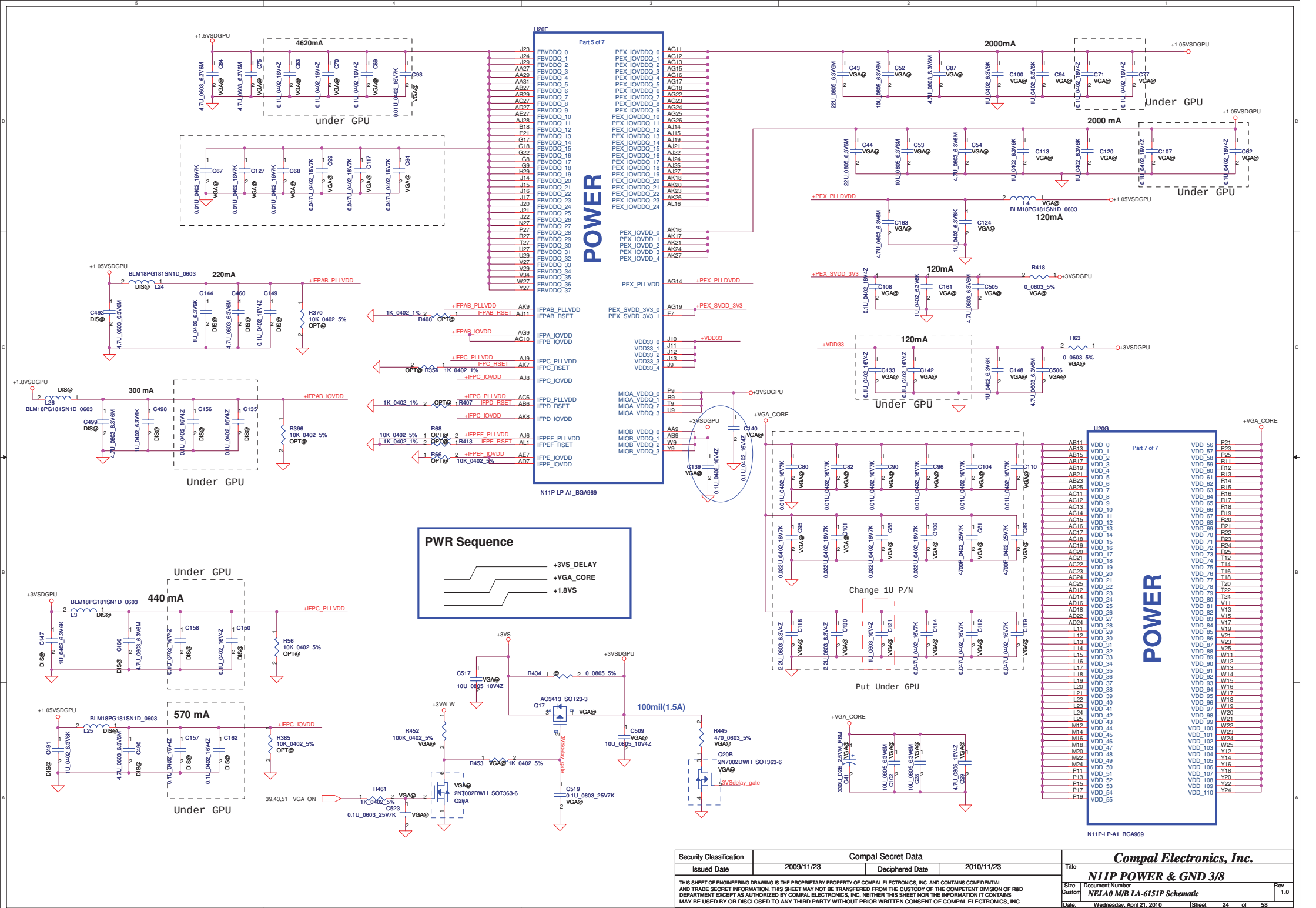






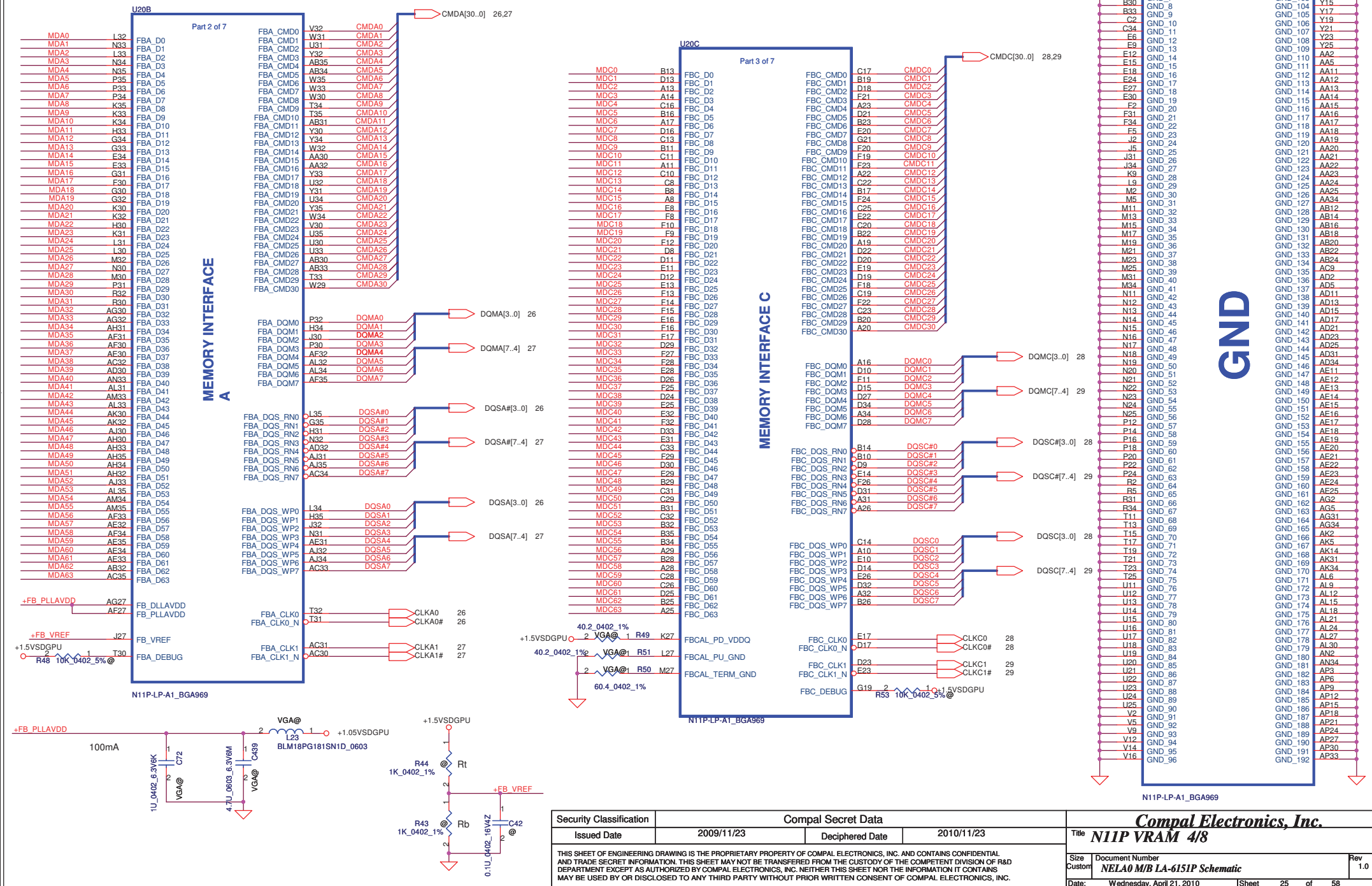






|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                                                                    |                              |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------------------------------------------------|------------------------------|----------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | <b>Compal Electronics, Inc.</b><br><b>N11P POWER &amp; GND 3/8</b> |                              |                |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/11/23         | Deciphered Date | 2010/11/23 | Title                                                              |                              |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Custom                                                             | NELAO M/B LA-6151P Schematic | 1.0            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date:                                                              | Wednesday, April 21, 2010    | Sheet 24 of 58 |

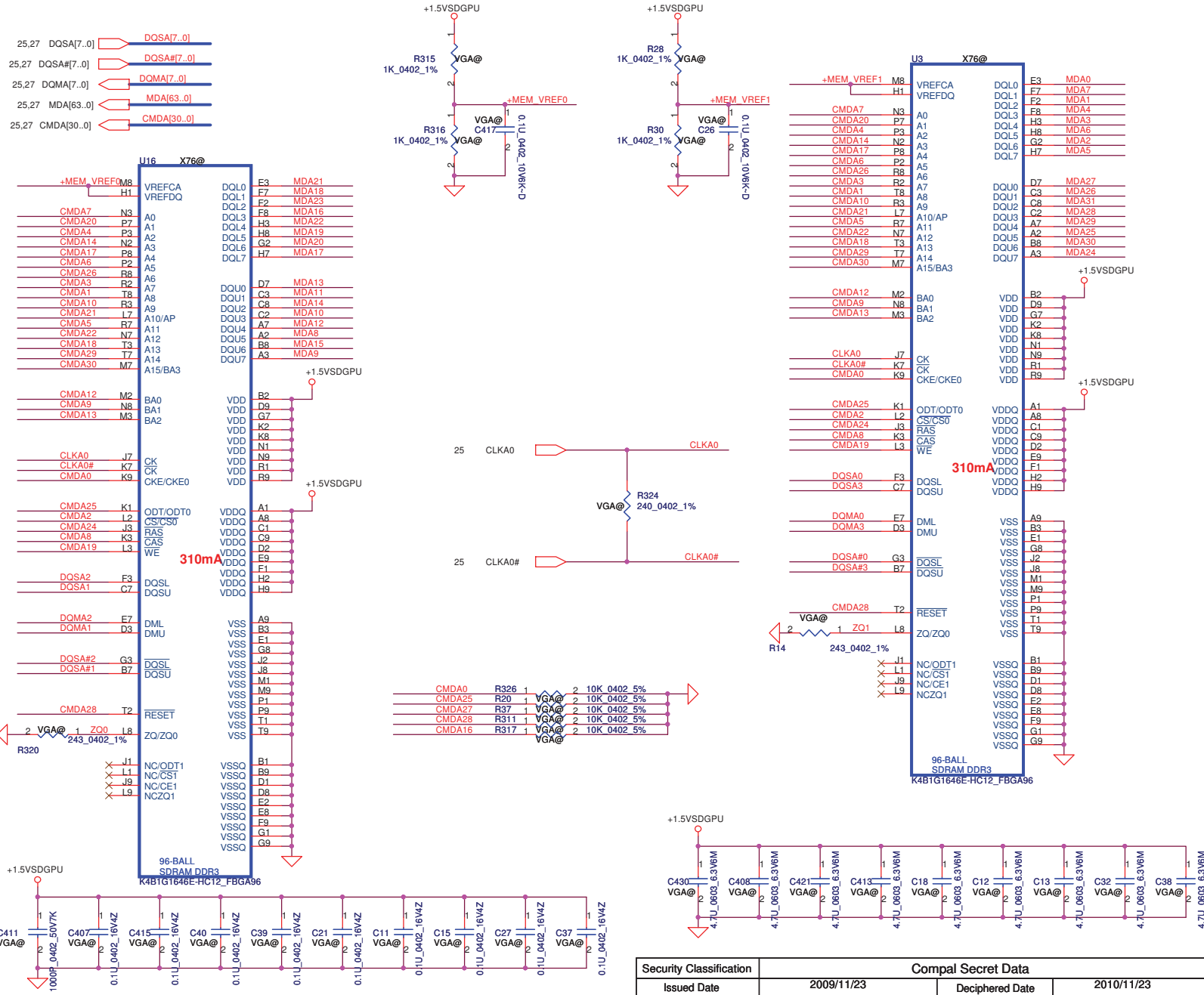
# VRAM Interface



# VRAM DDR3 chips (1GB)

N11M GE1 :64Mx16 DDR3 \*4==>512MB    N11M GE2 :128Mx16 DDR3 \*4==>1GB

N11P LP1:64Mx16 DDR3 \*8==>1GB



| Address | 0..31  | 32..63 |
|---------|--------|--------|
| CMD0    | CKE_L  |        |
| CMD1    | A8     | A8     |
| CMD2    | CS0_L# |        |
| CMD3    | A7     | A6     |
| CMD4    | A2     | A1     |
| CMD5    | A11    | A9     |
| CMD6    | A5     | A4     |
| CMD7    | A0     | A12    |
| CMD8    | CAS*   | CAS*   |
| CMD9    | BA1    | A3     |
| CMD10   | A9     | A11    |
| CMD11   |        | CS0_H# |
| CMD12   | BA0    | BA0    |
| CMD13   | BA2    | A15    |
| CMD14   | A3     | BA1    |
| CMD15   |        | CS1_H# |
| CMD16   |        | ODT_H  |
| CMD17   | A4     | A5     |
| CMD18   | A13    | A14    |
| CMD19   | WE*    | A10    |
| CMD20   | A1     | A2     |
| CMD21   | A10    | WE*    |
| CMD22   | A12    | A0     |
| CMD23   | CS1_L# |        |
| CMD24   | RAS*   | RAS*   |
| CMD25   | ODT_L  |        |
| CMD26   | A6     | A7     |
| CMD27   |        | CKE_H  |
| CMD28   | RST    | RST    |
| CMD29   | A14    | A13    |
| CMD30   | A15    | BA2    |

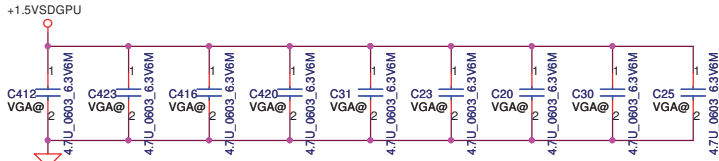
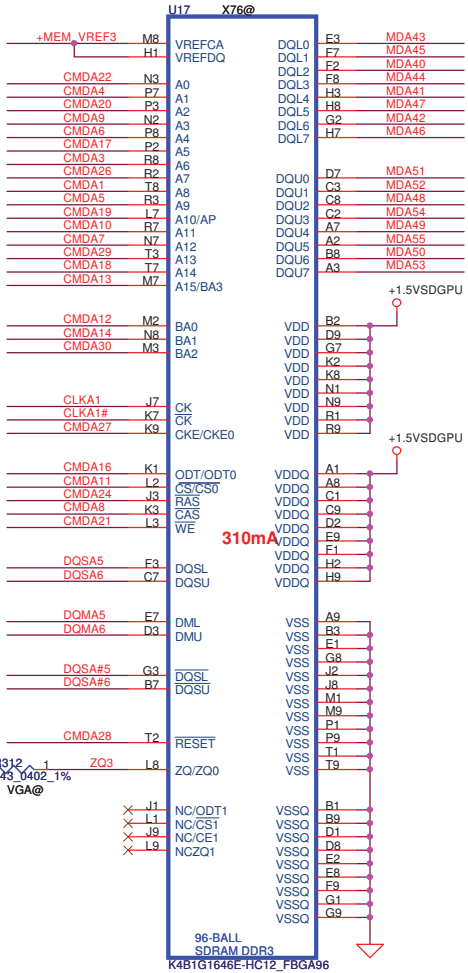
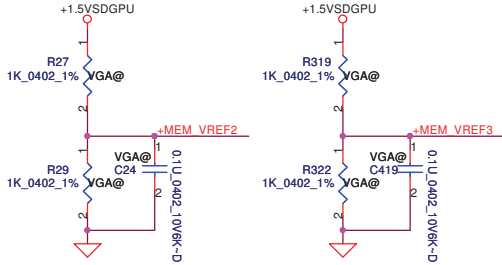
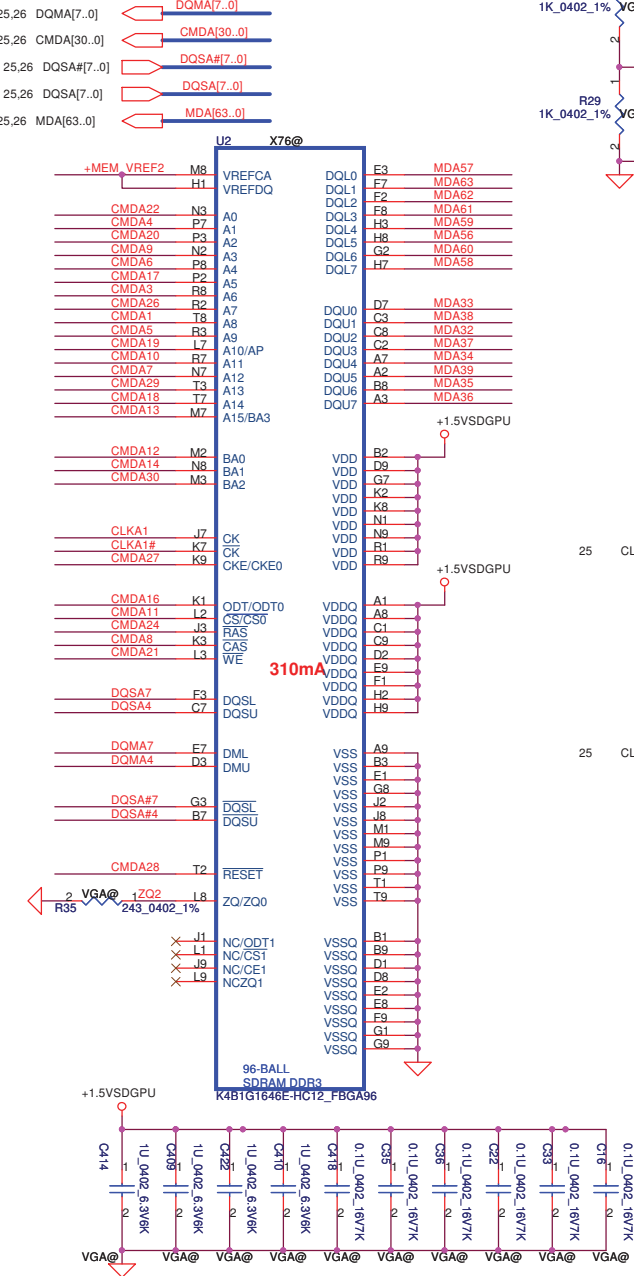
LOW HIGH

| Security Classification |  |            |  | Compal Secret Data |  |            |  | Compal Electronics, Inc.     |  |  |  |
|-------------------------|--|------------|--|--------------------|--|------------|--|------------------------------|--|--|--|
| Issued Date             |  | 2009/11/23 |  | Deciphered Date    |  | 2010/11/23 |  | Title                        |  |  |  |
|                         |  |            |  |                    |  |            |  | N11P DDR3 5/8                |  |  |  |
|                         |  |            |  |                    |  |            |  | Size                         |  |  |  |
|                         |  |            |  |                    |  |            |  | Customer                     |  |  |  |
|                         |  |            |  |                    |  |            |  | NELA0 M/B LA-6151P Schematic |  |  |  |
|                         |  |            |  |                    |  |            |  | Date                         |  |  |  |
|                         |  |            |  |                    |  |            |  | Wednesday, April 21, 2010    |  |  |  |
|                         |  |            |  |                    |  |            |  | Sheet 26 of 58               |  |  |  |

VRAM DDR3 chips (1GB)

64Mx16 DDR3 \*4==>512MB N11M GE2 :128Mx16 DDR3 \*4==>1GB

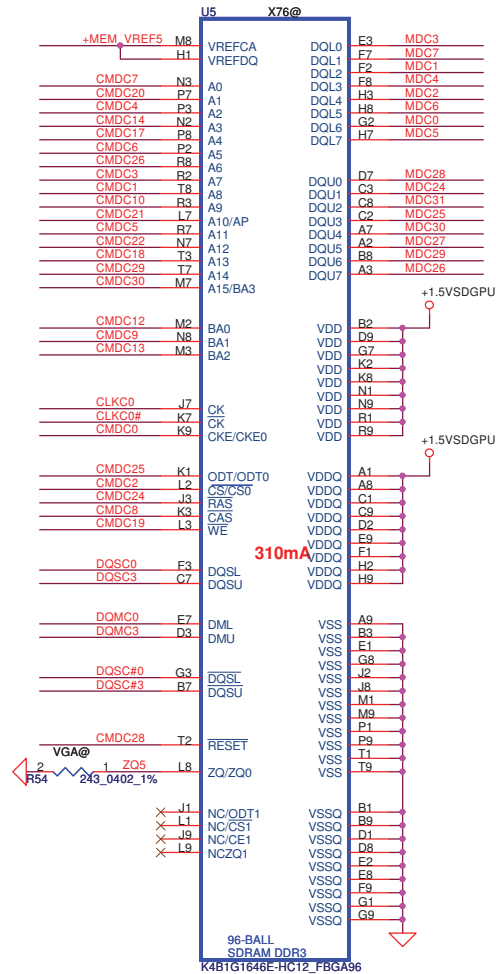
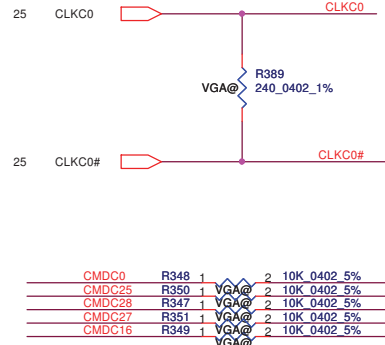
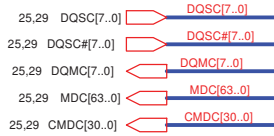
64Mx16 DDR3 \*8==>1GB



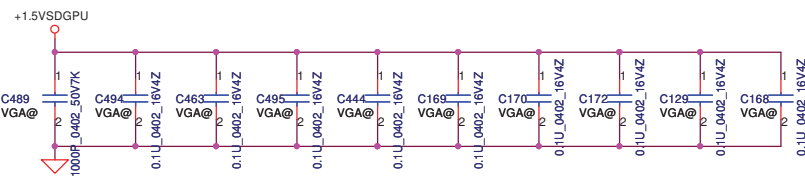
| Address | 0..31  | 32..63 |
|---------|--------|--------|
| CMD0    | CKE_L  |        |
| CMD1    | A8     | A8     |
| CMD2    | CS0_L# |        |
| CMD3    | A7     | A6     |
| CMD4    | A2     | A1     |
| CMD5    | A11    | A9     |
| CMD6    | A5     | A4     |
| CMD7    | A0     | A12    |
| CMD8    | CAS*   | CAS*   |
| CMD9    | BA1    | A3     |
| CMD10   | A9     | A11    |
| CMD11   |        | CS0_H# |
| CMD12   | BA0    | BA0    |
| CMD13   | BA2    | A15    |
| CMD14   | A3     | BA1    |
| CMD15   |        | CS1_H# |
| CMD16   |        | ODT_H  |
| CMD17   | A4     | A5     |
| CMD18   | A13    | A14    |
| CMD19   | WE*    | A10    |
| CMD20   | A1     | A2     |
| CMD21   | A10    | WE*    |
| CMD22   | A12    | A0     |
| CMD23   | CS1_L# |        |
| CMD24   | RAS*   | RAS*   |
| CMD25   | ODT_L  |        |
| CMD26   | A6     | A7     |
| CMD27   |        | CKE_H  |
| CMD28   | RST    | RST    |
| CMD29   | A14    | A13    |
| CMD30   | A15    | BA2    |

LOW HIGH

**64Mx16 DDR3 \*8==>1GB**

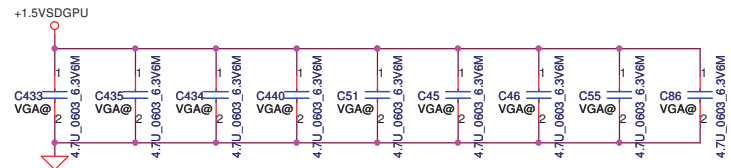
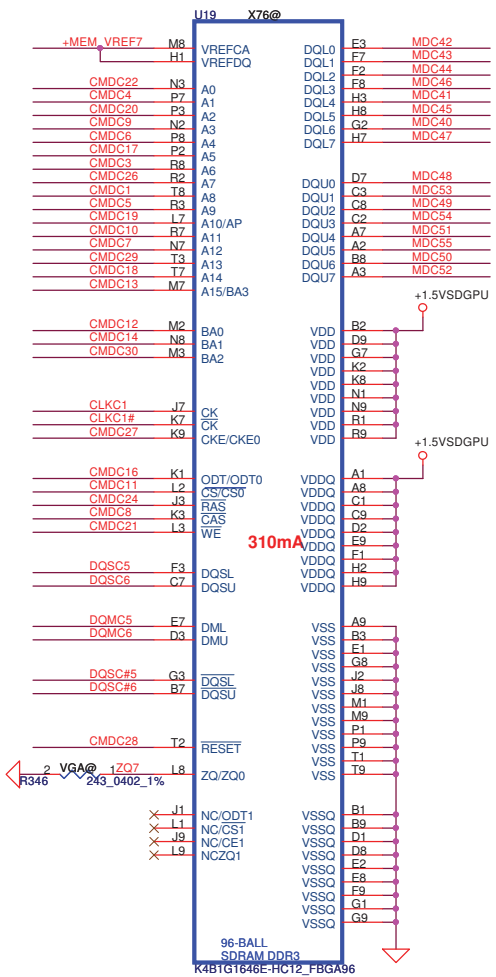
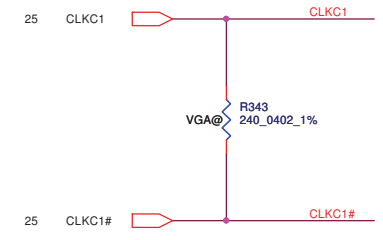
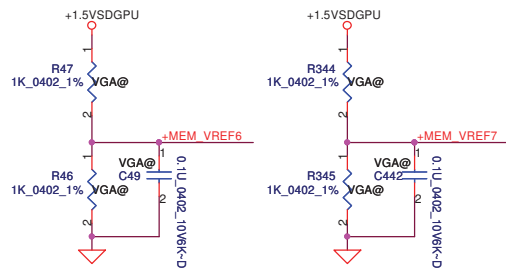
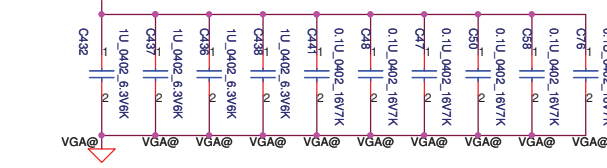
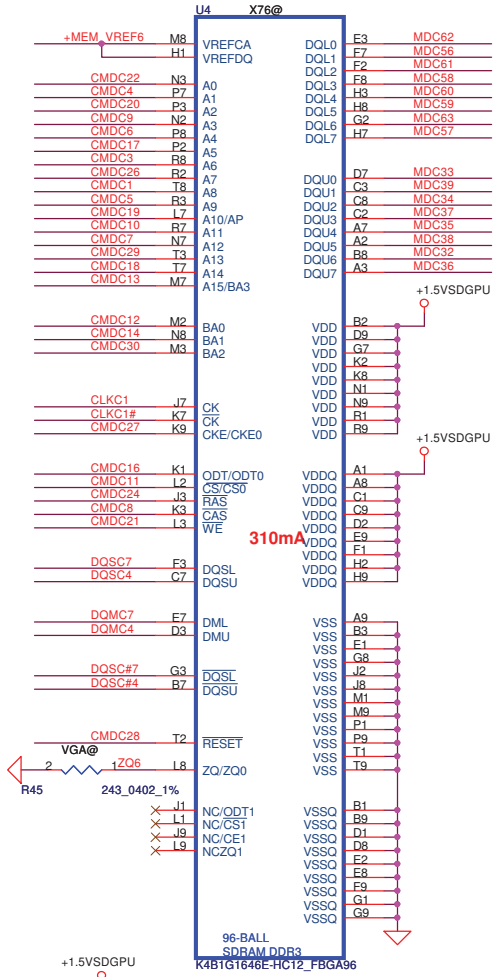
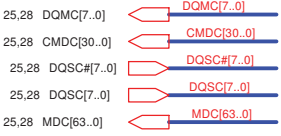


LOW HIGH



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                                          |                           |                |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|------------------------------------------|---------------------------|----------------|--|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc.                 |                           |                |  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/11/23 | Deciphered Date    | 2010/11/23 | Title<br>N11P DDR3 7/8                   |                           |                |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Customer<br>NELA0 M/B LA-6151P Schematic |                           |                |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                                    | Wednesday, April 21, 2010 | Sheet 26 of 58 |  |

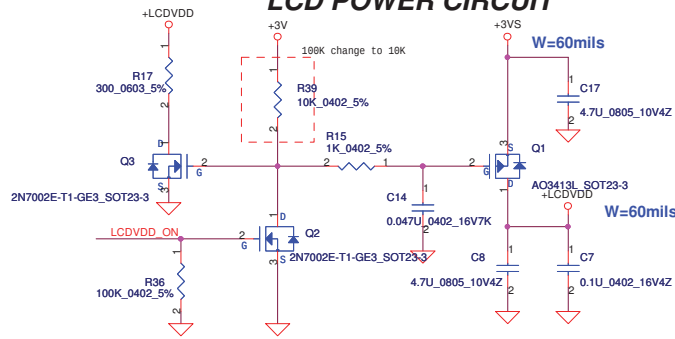
VRAM DDR3 chips (1GB)  
64Mx16 DDR3 \*8==>1GB



| Address | 0..31  | 32..63 |
|---------|--------|--------|
| CMD0    | CKE_L  |        |
| CMD1    | A8     | A8     |
| CMD2    | CS0_L# |        |
| CMD3    | A7     | A6     |
| CMD4    | A2     | A1     |
| CMD5    | A11    | A9     |
| CMD6    | A5     | A4     |
| CMD7    | A0     | A12    |
| CMD8    | CAS*   | CAS*   |
| CMD9    | BA1    | A3     |
| CMD10   | A9     | A11    |
| CMD11   |        | CS0_H# |
| CMD12   | BA0    | BA0    |
| CMD13   | BA2    | A15    |
| CMD14   | A3     | BA1    |
| CMD15   |        | CS1_H# |
| CMD16   |        | ODT_H  |
| CMD17   | A4     | A5     |
| CMD18   | A13    | A14    |
| CMD19   | WE*    | A10    |
| CMD20   | A1     | A2     |
| CMD21   | A10    | WE*    |
| CMD22   | A12    | A0     |
| CMD23   | CS1_L# |        |
| CMD24   | RAS*   | RAS*   |
| CMD25   | ODT_L  |        |
| CMD26   | A6     | A7     |
| CMD27   |        | CKE_H  |
| CMD28   | RST    | RST    |
| CMD29   | A14    | A13    |
| CMD30   | A15    | BA2    |

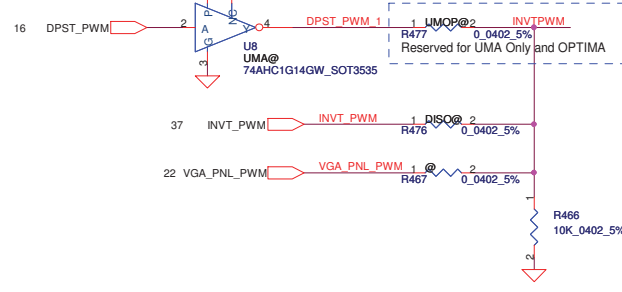
LOW HIGH

## LCD POWER CIRCUIT

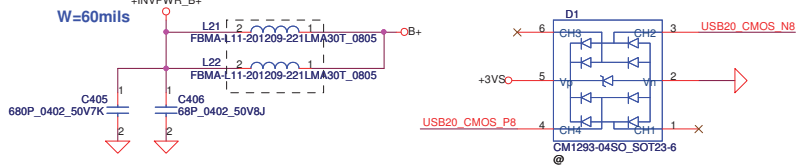


2009/09/08  
change P/N to SA741140100

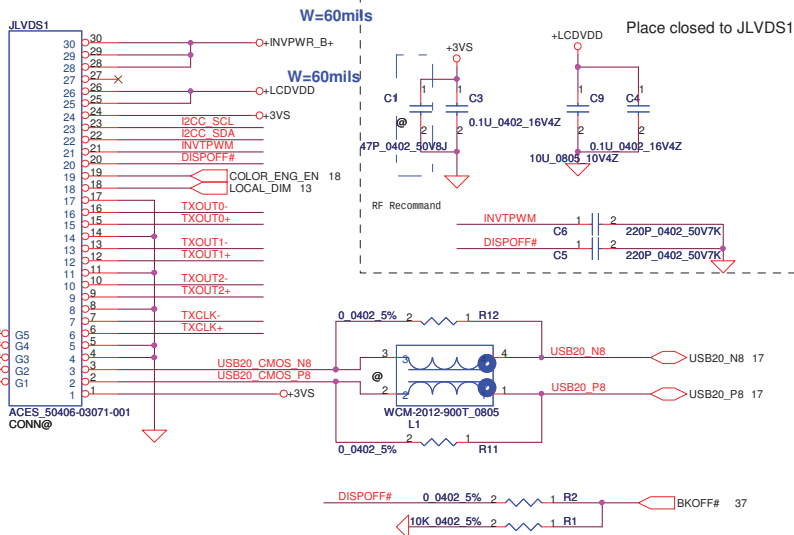
VBIOS PWM SETTING  
CHANGE TO INVERT



SM010014520 3000ma 220ohm@100mhz DCR 0.04



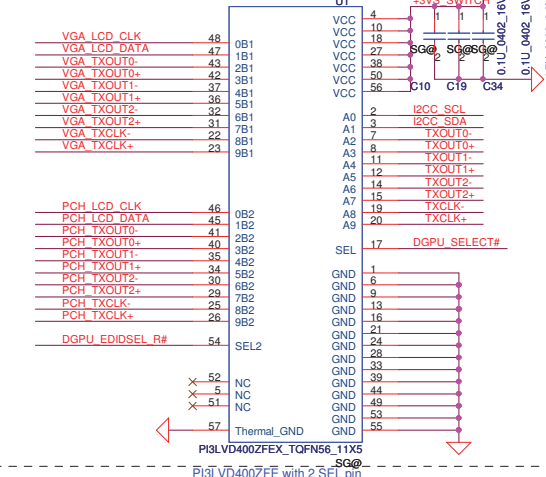
## LCD/LED PANEL Conn.



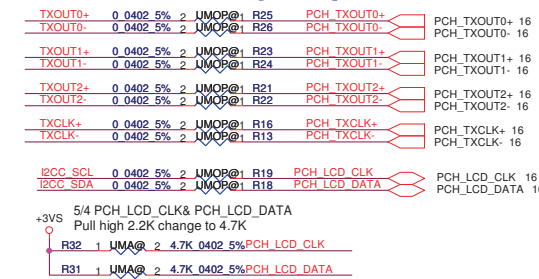
## SWITCHABLE

| 2009/8/27 ADD SWITCHABLE |   |    |     |
|--------------------------|---|----|-----|
| SEL1                     | L | B1 | DIS |
| SEL2                     | H | B2 | UMA |

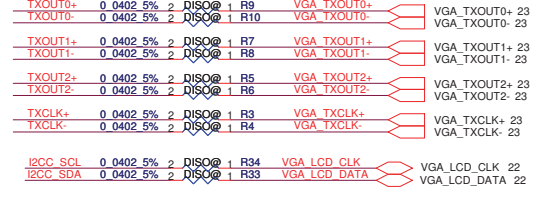
TS3DV520ERHUR with 1 SEL pin



## UMA Only / Optimus



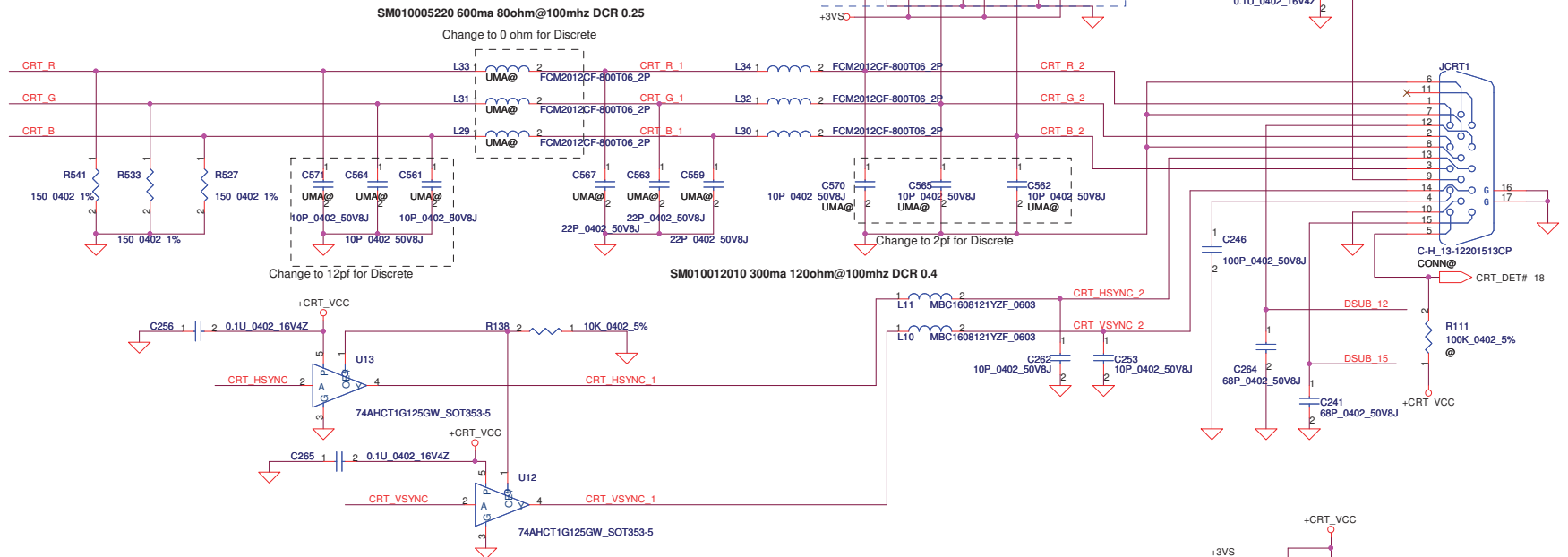
## Discrete ONLY



| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Title            |                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|------------------|-------------------------------------------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/11/23 | Deciphered Date    | 2010/11/23 | LVDS Connector   |                                                 |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date             | Wednesday, April 21, 2010                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet            | 30 of 58                                        |

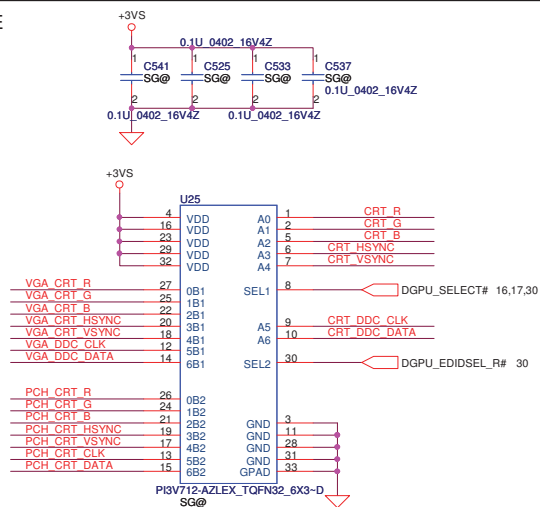
# CRT Connector

EMI suggestion  
SC60000H00 change to SCA00000A00



## SWITCHABLE

2009/08/27



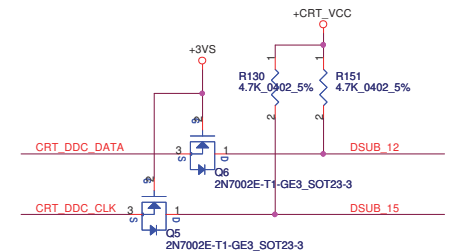
|   |    |     |
|---|----|-----|
| L | B1 | DIS |
| H | B2 | UMA |

## UMA Only & Optimus

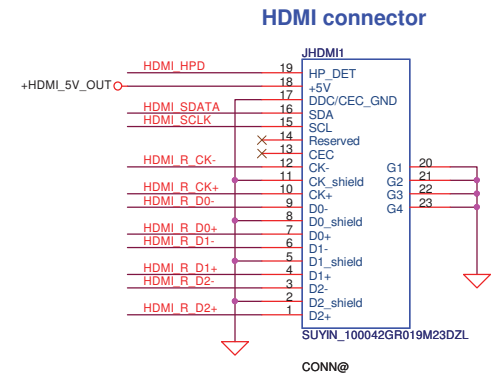
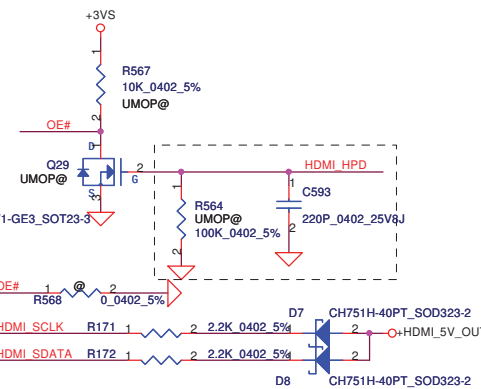
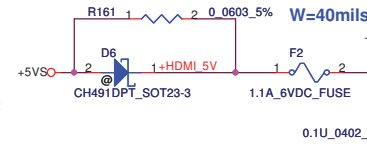
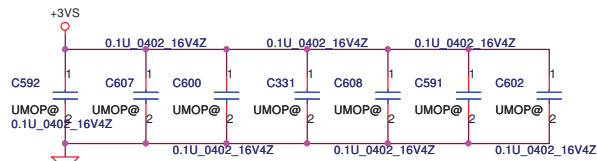
|    |               |               |      |   |      |   |           |              |
|----|---------------|---------------|------|---|------|---|-----------|--------------|
| 16 | PCH_CRT_R     | PCH CRT R     | R493 | 2 | UMOP | 1 | 0.0402 5% | CRT_R        |
| 16 | PCH_CRT_G     | PCH CRT G     | R494 | 2 | UMOP | 1 | 0.0402 5% | CRT_G        |
| 16 | PCH_CRT_B     | PCH CRT B     | R495 | 2 | UMOP | 1 | 0.0402 5% | CRT_B        |
| 16 | PCH_CRT_HSYNC | PCH CRT HSYNC | R496 | 2 | UMOP | 1 | 0.0402 5% | CRT_HSYNC    |
| 16 | PCH_CRT_VSYNC | PCH CRT VSYNC | R497 | 2 | UMOP | 1 | 0.0402 5% | CRT_VSYNC    |
| 16 | PCH_CRT_CLK   | PCH CRT CLK   | R485 | 2 | UMOP | 1 | 0.0402 5% | CRT_DDC_CLK  |
| 16 | PCH_CRT_DATA  | PCH CRT DATA  | R479 | 2 | UMOP | 1 | 0.0402 5% | CRT_DDC_DATA |

## Discrete only

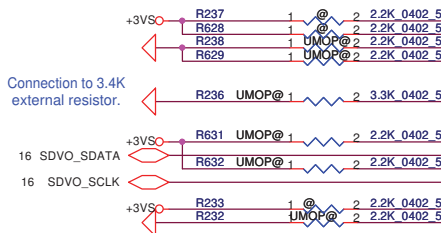
|    |               |               |      |   |      |   |           |              |
|----|---------------|---------------|------|---|------|---|-----------|--------------|
| 22 | VGA_CRT_R     | VGA CRT R     | R455 | 2 | DISC | 1 | 0.0402 5% | CRT_R        |
| 22 | VGA_CRT_G     | VGA CRT G     | R456 | 2 | DISC | 1 | 0.0402 5% | CRT_G        |
| 22 | VGA_CRT_B     | VGA CRT B     | R457 | 2 | DISC | 1 | 0.0402 5% | CRT_B        |
| 22 | VGA_CRT_HSYNC | VGA CRT HSYNC | R458 | 2 | DISC | 1 | 0.0402 5% | CRT_HSYNC    |
| 22 | VGA_CRT_VSYNC | VGA CRT VSYNC | R459 | 2 | DISC | 1 | 0.0402 5% | CRT_VSYNC    |
| 22 | VGA_DDC_CLK   | VGA DDC CLK   | R488 | 2 | DISC | 1 | 0.0402 5% | CRT_DDC_CLK  |
| 22 | VGA_DDC_DATA  | VGA DDC DATA  | R482 | 2 | DISC | 1 | 0.0402 5% | CRT_DDC_DATA |



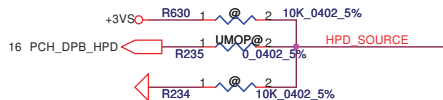
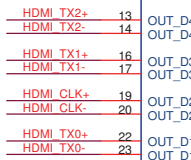
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           | Compal Secret Data |                              | Compal Electronics, Inc. |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|------------------------------|--------------------------|-----|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/11/23                | Deciphered Date    | 2010/11/23                   | Title                    |     |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | B                         | Document Number    | NELA0 M/B LA-6151P Schematic | Rev                      | 1.0 |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Wednesday, April 21, 2010 | Sheet              | 31                           | of                       | 58  |



Vendor Recommend : CFG SETTING 000



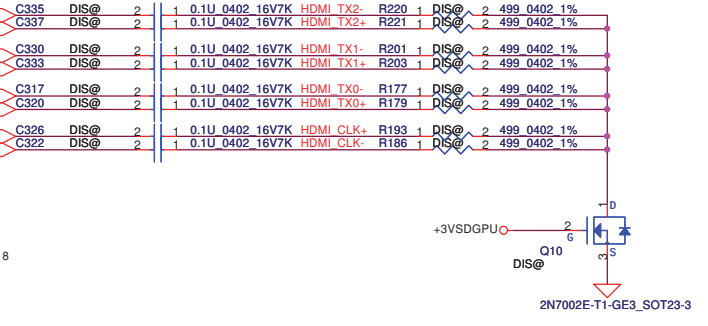
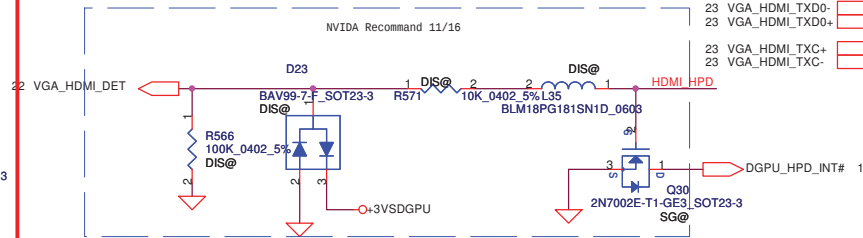
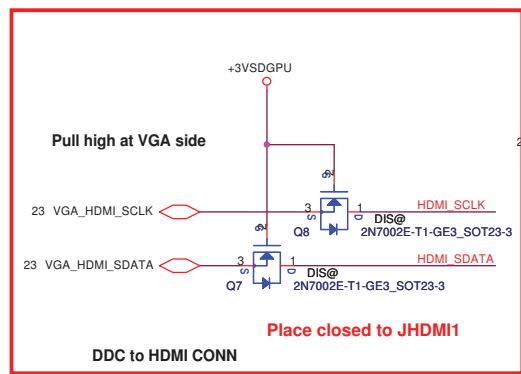
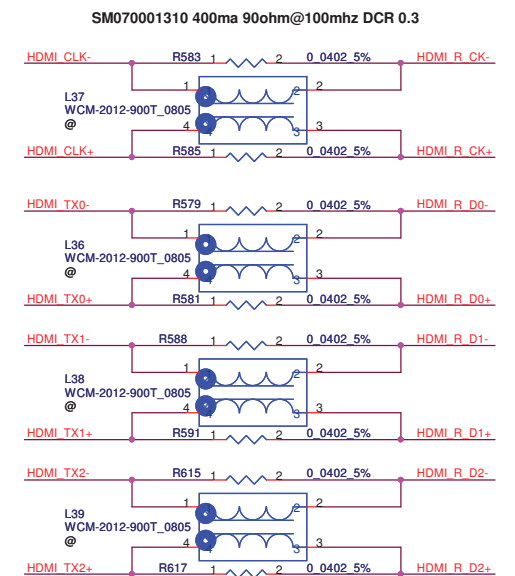
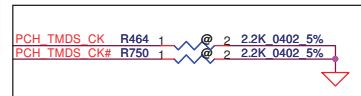
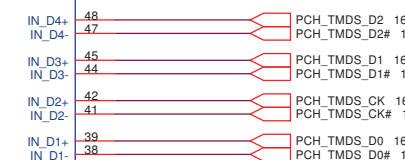
| CG0 | CG1 | CG2 | Swing | Pre-amp | Slew-rate      |
|-----|-----|-----|-------|---------|----------------|
| 0   | 0   | 0   | 450   | 0       | 0              |
| 0   | 0   | 1   | 420   | 0       | -3db           |
| 0   | 1   | 0   | 450   | 0       | -3db (default) |
| 0   | 1   | 1   | 460   | 0       | -4db           |
| 1   | 0   | 0   | 340   | 0       | 0              |
| 1   | 0   | 1   | 400   | 2db     | 0              |
| 1   | 1   | 0   | 400   | 2db     | 0              |
| 1   | 1   | 1   | 420   | 0       | 0              |



ASM1442 PN: SA00003GT00

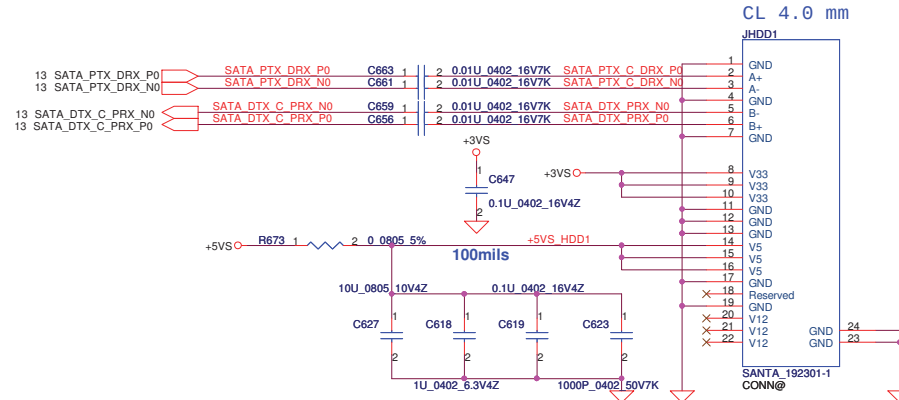
ASM1442T\_QFN48\_7X7 UMOP@

| EQ0 | EQ1 | Equalization  |
|-----|-----|---------------|
| 0   | 0   | 12dB          |
| 0   | 1   | 9dB           |
| 1   | 0   | 6dB           |
| 1   | 1   | 3dB (default) |

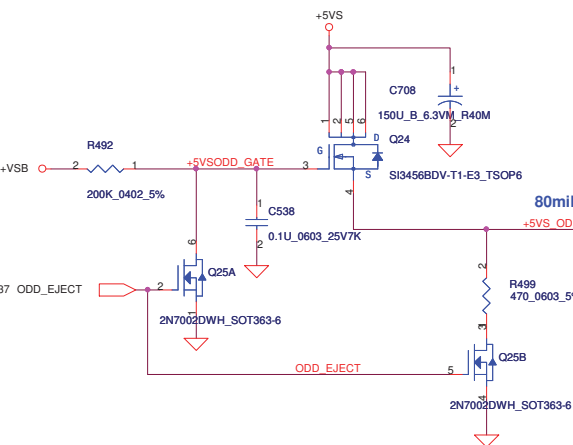
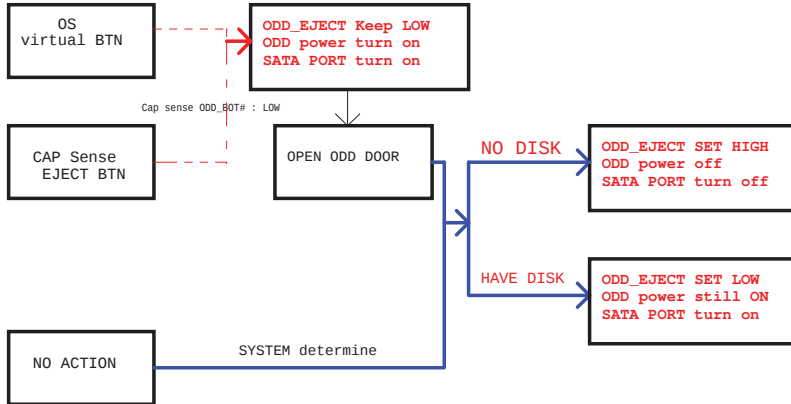
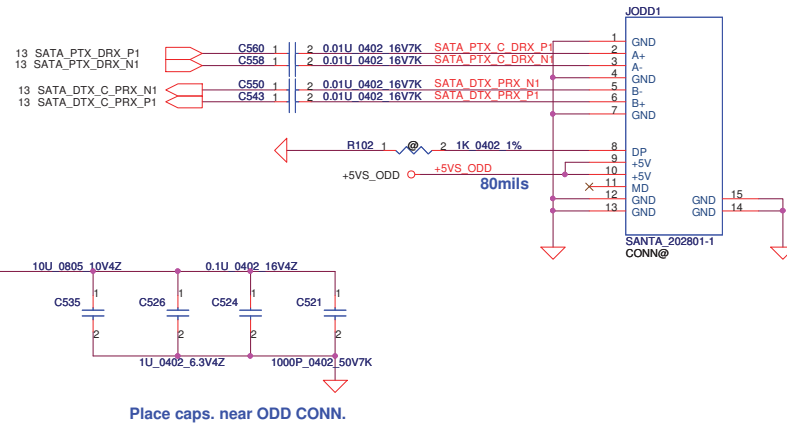


| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                        |            | Compal Secret Data |            | Compal Electronics, Inc. |                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|---------------------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2009/11/23 | Deciphered Date    | 2010/11/23 | HDMI Level Shift & Conn  |                           |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |                    |            | Custom                   | 1.0                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |                    |            | Date                     | Wednesday, April 21, 2010 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |                    |            | Sheet                    | 32 of 58                  |

## SATA HDD1 Conn.



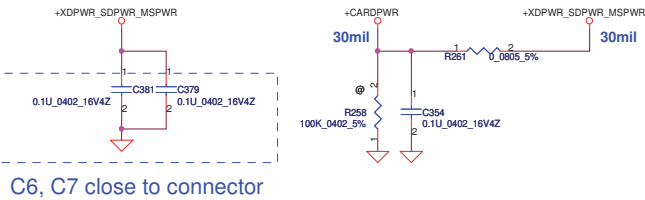
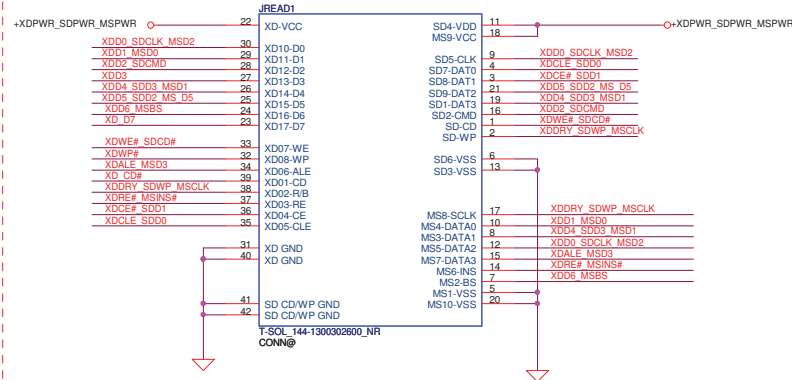
## SATA ODD Conn.



| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|------------------------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/11/23 | Deciphered Date    | 2010/11/23 | Title                    | HDD & ODD Connector          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date                     | Wednesday, April 21, 2010    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 33 of 58                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev                      | 1.0                          |

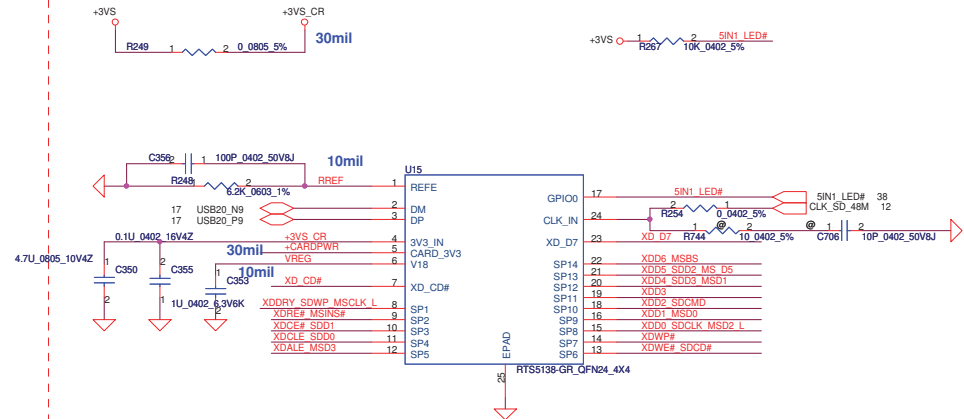
## Card Reader Connector

### Card Reader Connector

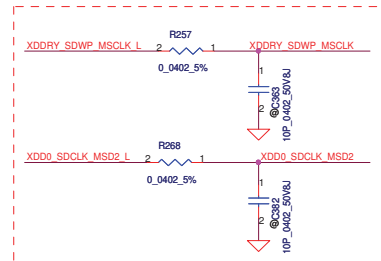


C6, C7 close to connector

## RTS5138



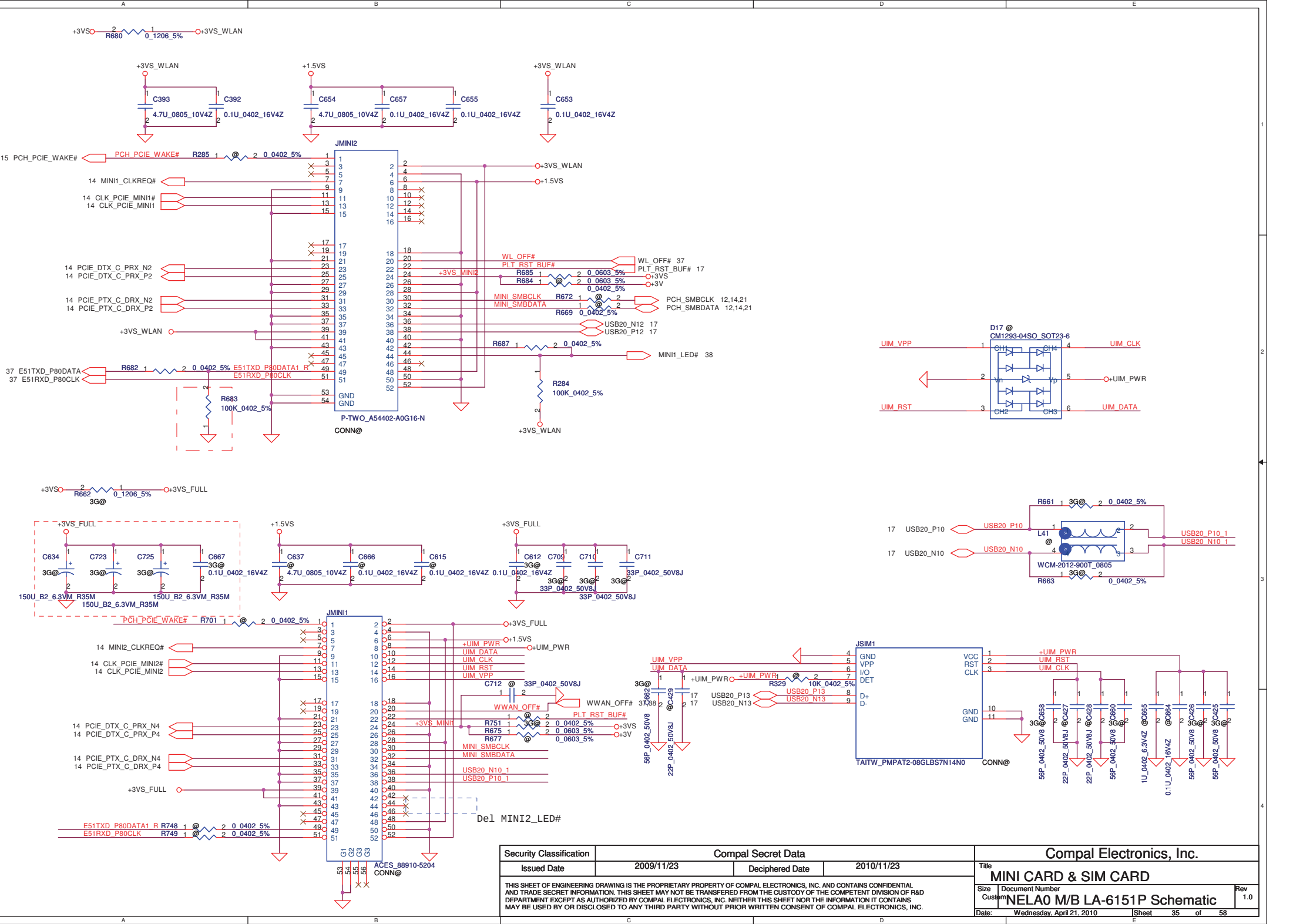
## EMI reserve



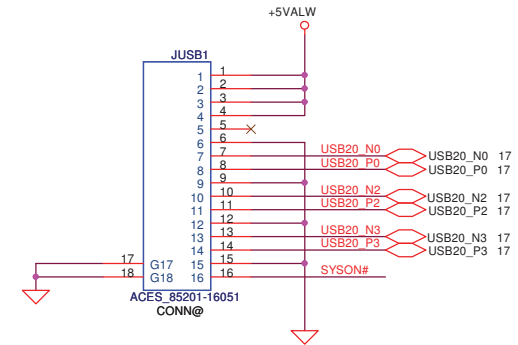
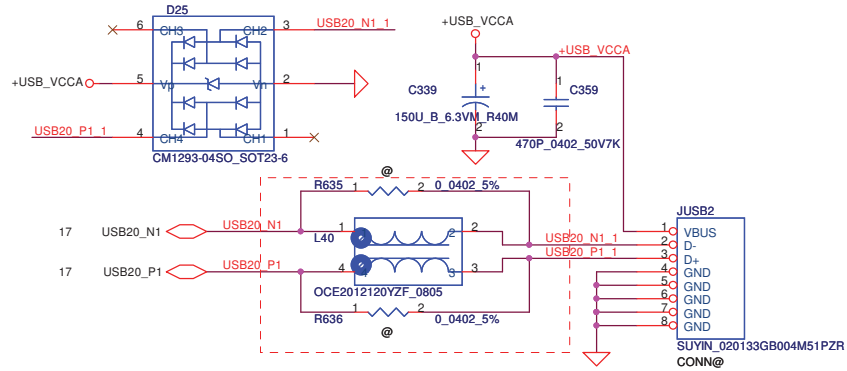
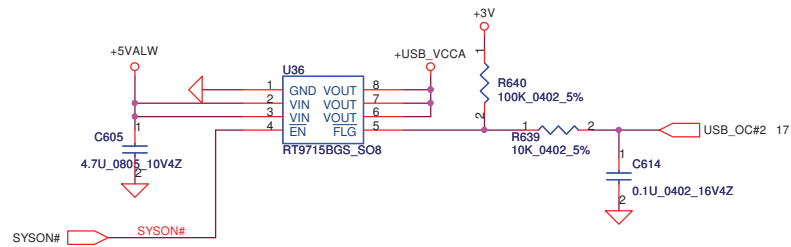
## Share Pin

|      | XD      | SD     | MS      |
|------|---------|--------|---------|
| SP1  | XD_RDY  | SD_WP  | MS_CLK  |
| SP2  | XD_RE#  |        | MS_INSP |
| SP3  | XD_CLE# | SD_D1  |         |
| SP4  | XD_CLE  | SD_D0  |         |
| SP5  | XD_ALE  |        | MS_D3   |
| SP6  | XD_WE#  | SD_CD# |         |
| SP7  | XD_WP   |        |         |
| SP8  | XD_D0   | SD_CLK | MS_D2   |
| SP9  | XD_D1   |        | MS_D0   |
| SP10 | XD_D2   | SD_CMD |         |
| SP11 | XD_D3   |        | MS_D1   |
| SP12 | XD_D4   | SD_D3  | MS_D1   |
| SP13 | XD_D5   | SD_D2  |         |
| SP14 | XD_D6   |        | MS_BS   |
|      | XD_D7   |        |         |

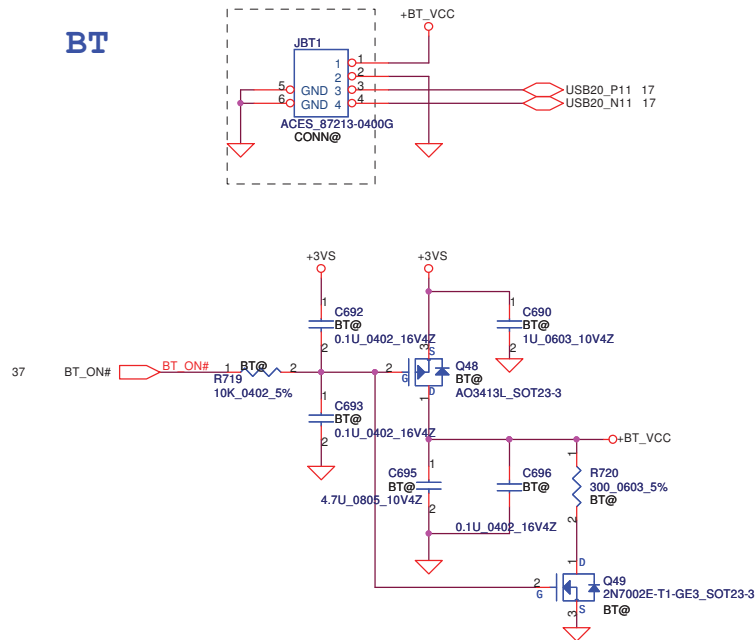
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                 |                              |         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------|------------------------------|---------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data        |                 | Compal Electronics, Inc.     |         |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/11/23                | Deciphered Date | 2010/11/23                   |         |
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| Title                                                                                                                                                                                                                                                                                                                                                                                                                                                         | USB CardReader&CONN       |                 |                              | Rev 1.0 |
| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Custom                    | Document Number | NELA0 M/B LA-6151P Schematic |         |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Wednesday, April 21, 2010 | Sheet           | 34                           | of 58   |



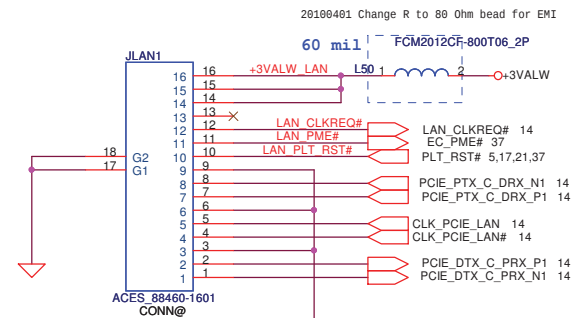
## USB PORT



## BT



## LAN CONN.



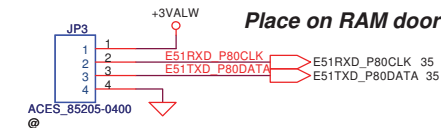
The diagram shows three signal traces, each starting with a red line and a blue line, representing different signal types. The signals are labeled as LAN\_CLKREQ#, LAN\_PME#, and LAN\_PLT\_RST#. Each signal trace is connected to a component labeled C730, C731, or C732, which is in turn connected to a component labeled 0.1U\_0402\_16V4Z. The signals are shown as pulses, indicating they are active-low or active-high signals. The LAN\_CLKREQ# signal is shown as a pulse, indicating it is an active-low signal. The LAN\_PME# and LAN\_PLT\_RST# signals are shown as pulses, indicating they are active-low signals.

CONFIRM LAN CON.

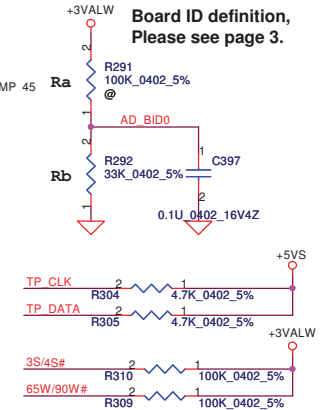
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                           |                              |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|---------------------------|------------------------------|----------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc.  |                              |          |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/11/23         | Deciphered Date | 2010/11/23 | Title                     | USB / BT / LAN CON           |          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Customer                  | NELA0 M/B LA-6151P Schematic | 1.0      |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                 |            | Wednesday, April 21, 2010 | Sheet                        | 36 of 58 |

SM010015410 300ma 80ohm@100mhz DCR 0.3

For EC Tools

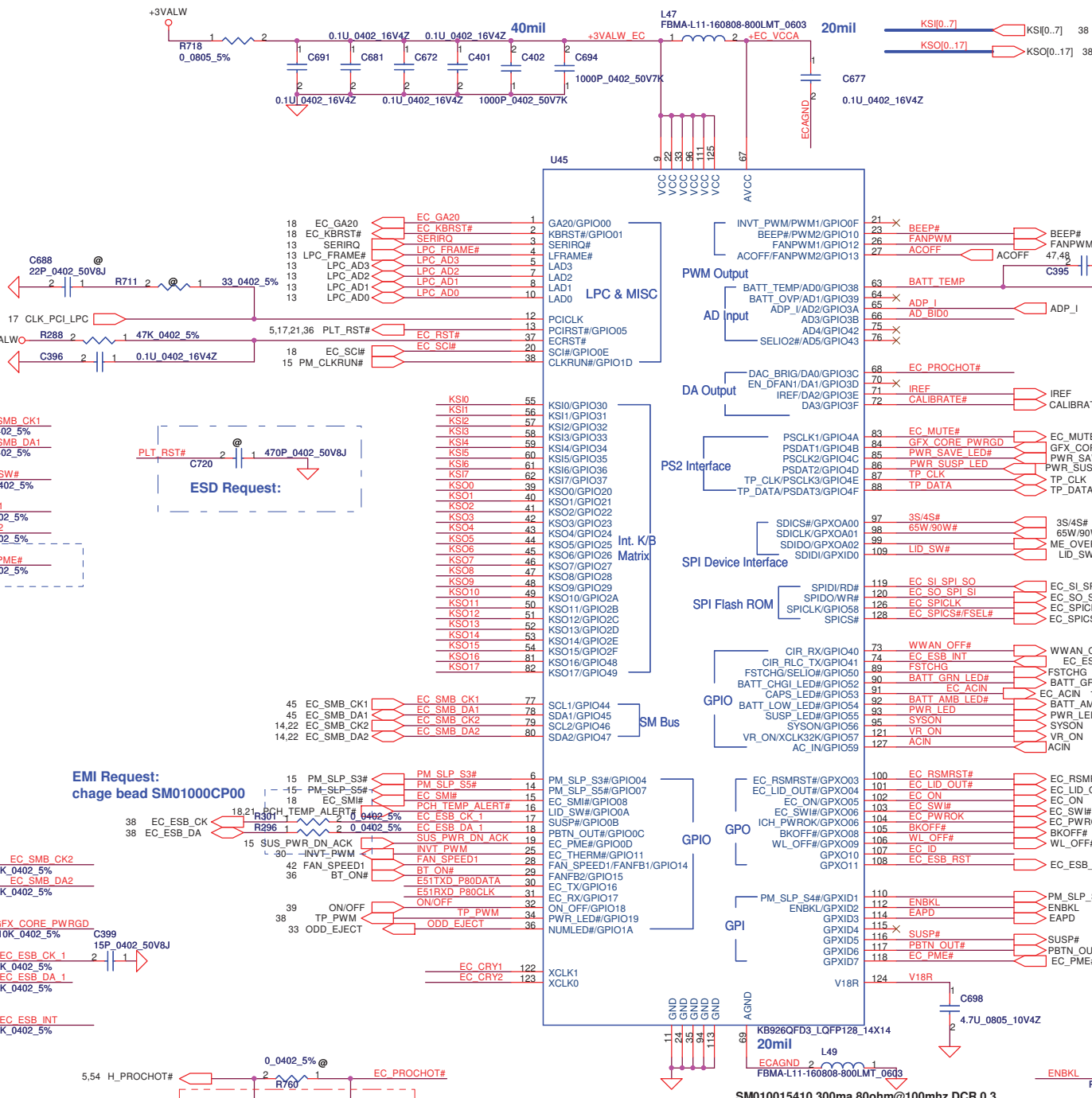
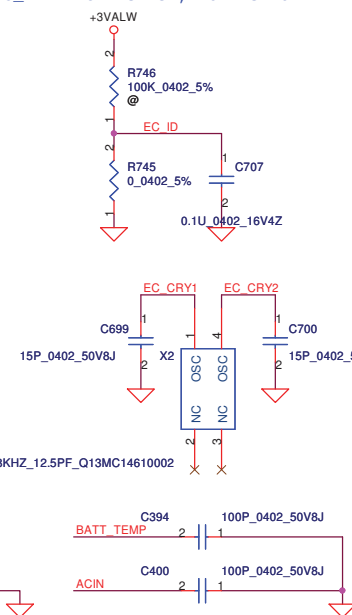


Board ID definition, Please see page 3.

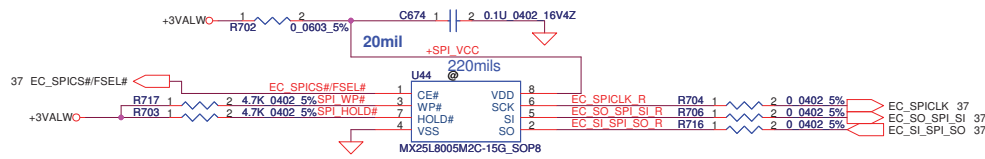


PCH\_TEMP\_ALERT# Pull high at Page 18 (PCH side)

EC\_ID: HIGH is D3 ; LOW is E0

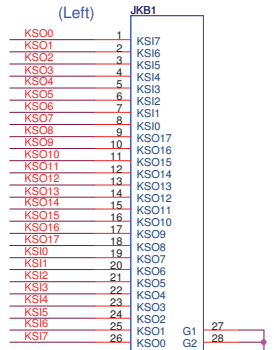


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            |                          |                              |                |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|------------------------------|----------------|--|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                              |                |  |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/11/23 | Deciphered Date    | 2010/11/23 | Title                    | EC ENE KB926                 |                |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | B                        | NELA0 M/B LA-6151P Schematic | 1.0            |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                    | Wednesday, April 21, 2010    | Sheet 37 of 58 |  |



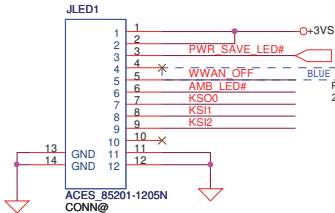
## INT\_KBD Conn.

KSII[0..7] 37  
KSO[0..17] 37

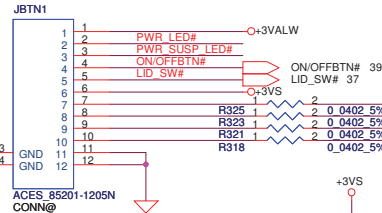


| KSO0  |                   |
|-------|-------------------|
| KSII1 | PWR SAVE BTN      |
| KSII2 | Communication BTN |
| KSII3 |                   |
| KSII4 |                   |

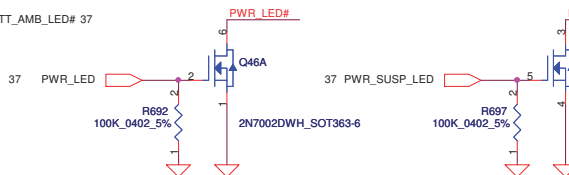
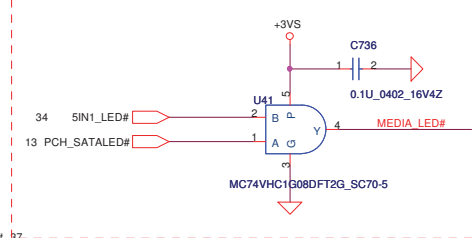
## LED/B LEFT



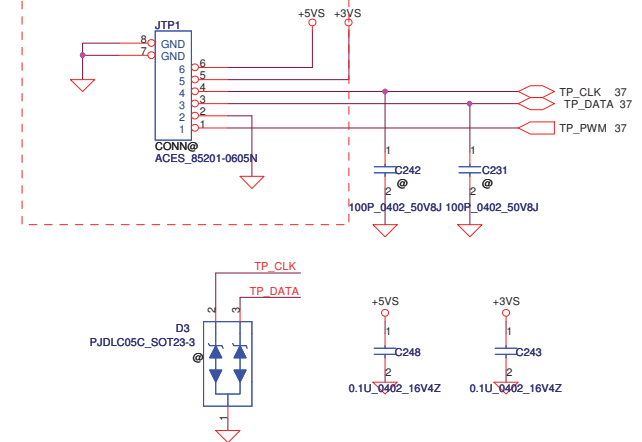
## PWR/B RIGHT



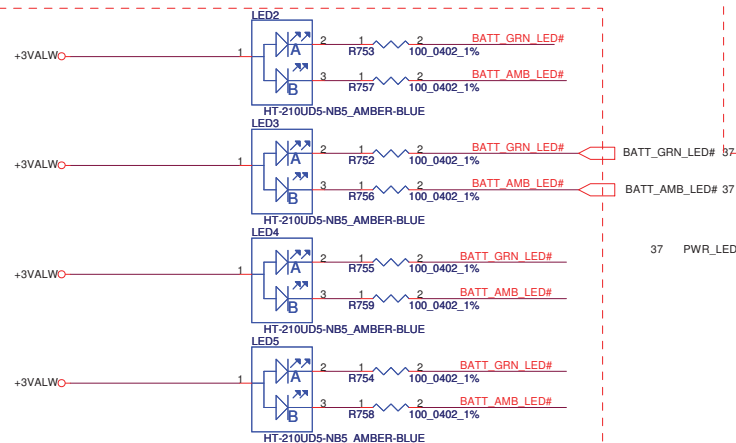
20100331 change mos to AND



## To TP/B Conn.



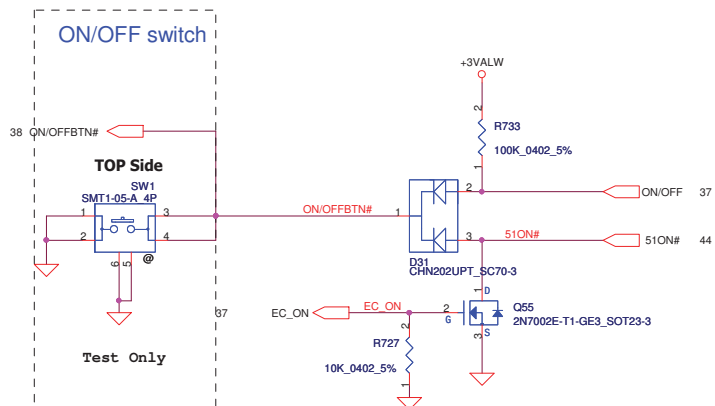
| WLAN | 3G | AMB | BLUE |
|------|----|-----|------|
| L    | L  | H   | L    |
| H    | L  | H   | L    |
| L    | H  | L   | H    |
| H    | H  | H   | H    |



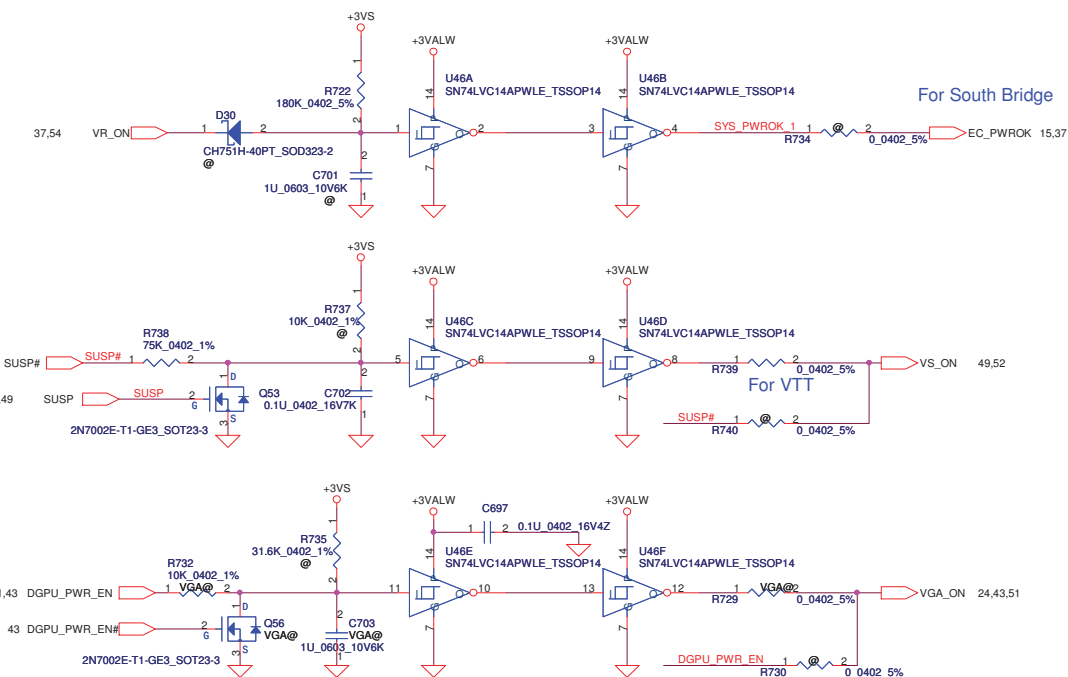
For ME change to 100 ohm

| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc.     |                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|------------------------------|--------------------------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/11/23 | Deciphered Date    | 2010/11/23 | Title                        | BIOS, I/O Port & K/B Connector |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | NELA0 M/B LA-6151P Schematic |                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date                         | Wednesday, April 21, 2010      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                        | 38 of 58                       |

## Power Button

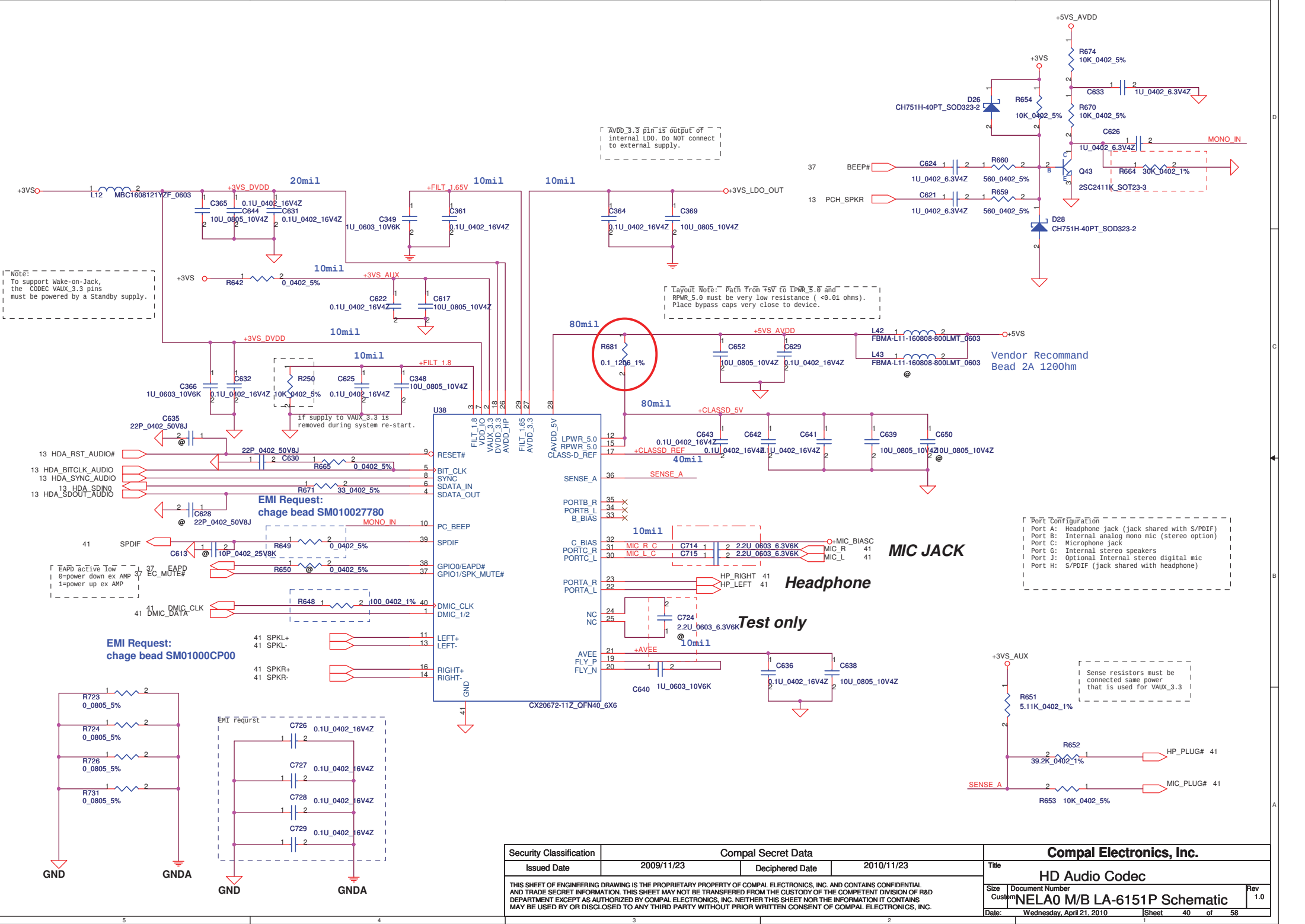


## Power ON Circuit

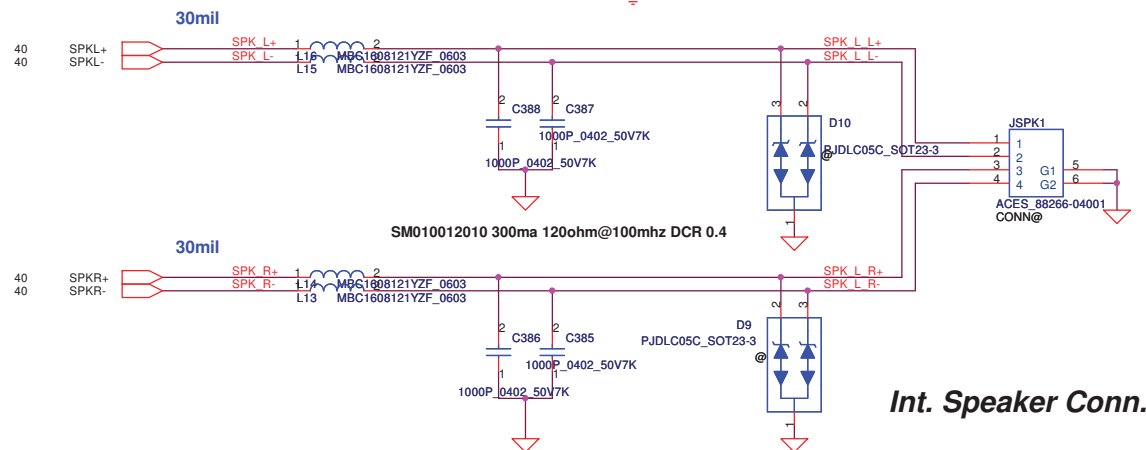
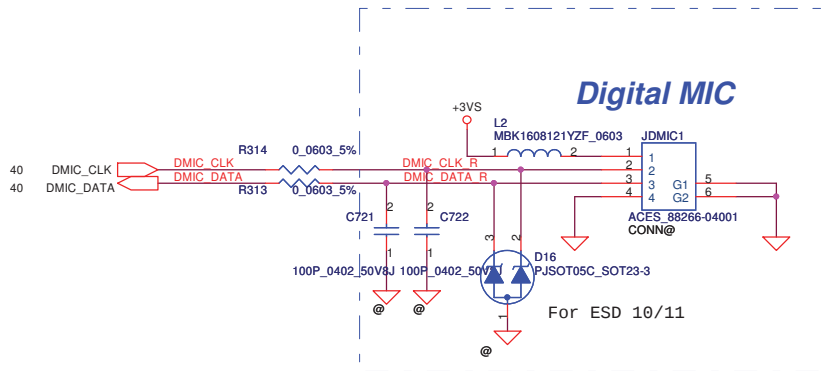
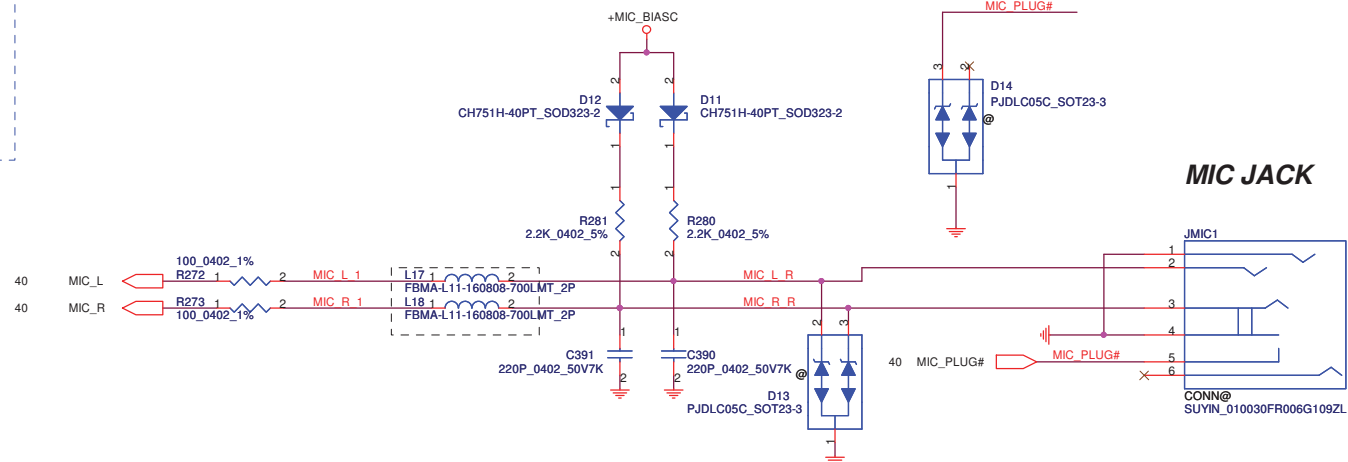
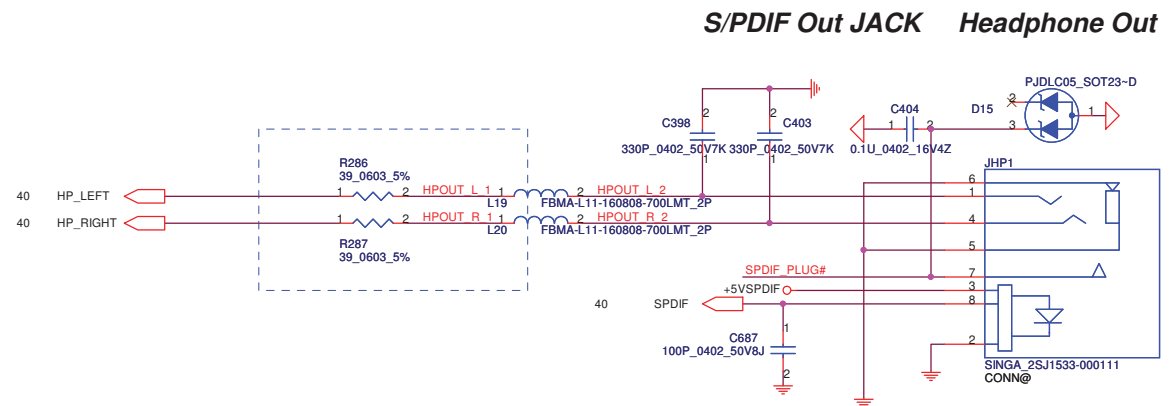
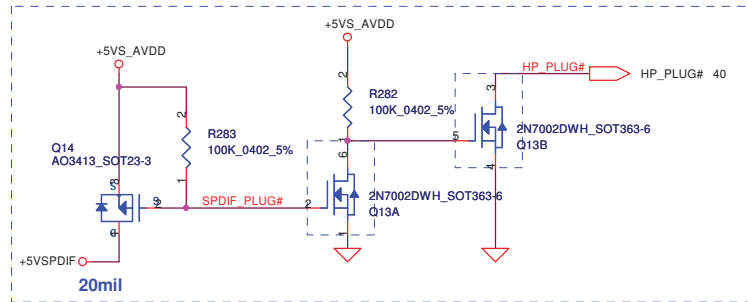


| Security Classification |  |  |  | Compal Secret Data |  |  |  | Compal Electronics, Inc.        |  |  |  |
|-------------------------|--|--|--|--------------------|--|--|--|---------------------------------|--|--|--|
| Issued Date             |  |  |  | 2009/11/23         |  |  |  | Deciphered Date                 |  |  |  |
|                         |  |  |  |                    |  |  |  | 2010/11/23                      |  |  |  |
|                         |  |  |  |                    |  |  |  | Title                           |  |  |  |
|                         |  |  |  |                    |  |  |  | Power OK                        |  |  |  |
|                         |  |  |  |                    |  |  |  | Size B                          |  |  |  |
|                         |  |  |  |                    |  |  |  | Document Number                 |  |  |  |
|                         |  |  |  |                    |  |  |  | NELA0 M/B LA-6151P Schematic    |  |  |  |
|                         |  |  |  |                    |  |  |  | Rev 1.0                         |  |  |  |
|                         |  |  |  |                    |  |  |  | Date: Wednesday, April 21, 2010 |  |  |  |
|                         |  |  |  |                    |  |  |  | Sheet 39 of 58                  |  |  |  |

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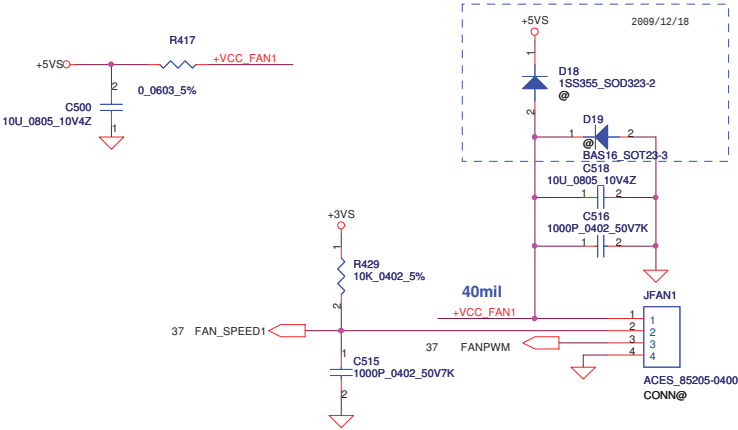


| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           | Compal Secret Data           |            | Compal Electronics, Inc. |  |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number           | NELA0 M/B LA-6151P Schematic |            | Rev                      |  |
| Custom                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                           |                              |            | 1.0                      |  |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Wednesday, April 21, 2010 | Sheet                        | 40         | of 58                    |  |



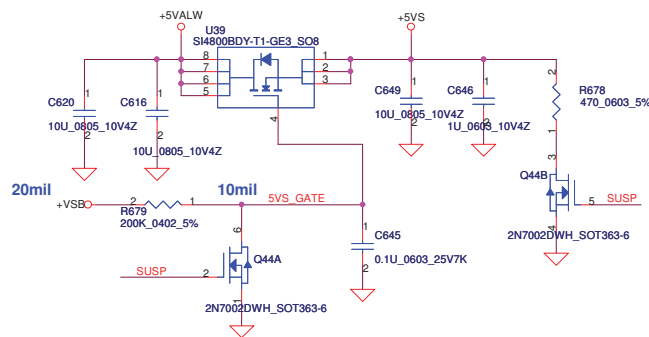
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                    |            |                          |                              |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|------------|--------------------------|------------------------------|-----|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           | Compal Secret Data |            | Compal Electronics, Inc. |                              |     |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/11/23                | Deciphered Date    | 2010/11/23 | Title                    |                              |     |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                    |            | Size                     | Document Number              | Rev |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                    |            | Customer                 | NELA0 M/B LA-6151P Schematic |     |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Wednesday, April 21, 2010 |                    | Sheet      | 41                       | of                           | 58  |

FAN1 Conn

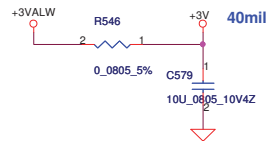


|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            |                          |                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------|--------------------------|---------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 |            | Compal Electronics, Inc. |                           |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/11/23         | Deciphered Date | 2010/11/23 | Title                    |                           |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Date:                    | Wednesday, April 21, 2010 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Sheet                    | 42 of 58                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |            | Rev                      | 1.0                       |

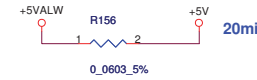
### +5VALW TO +5VS



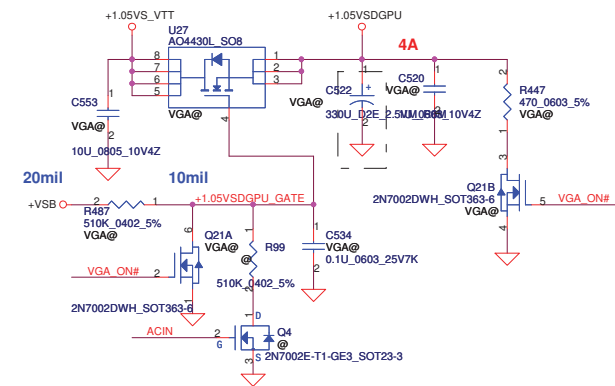
### +3VALW TO +3V(PCH AUX Power)



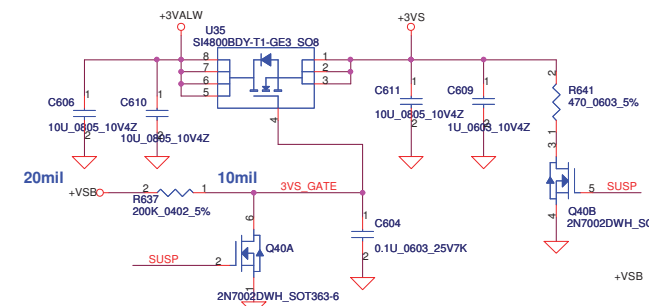
### +5VALW TO +5V(PCH AUX Power)



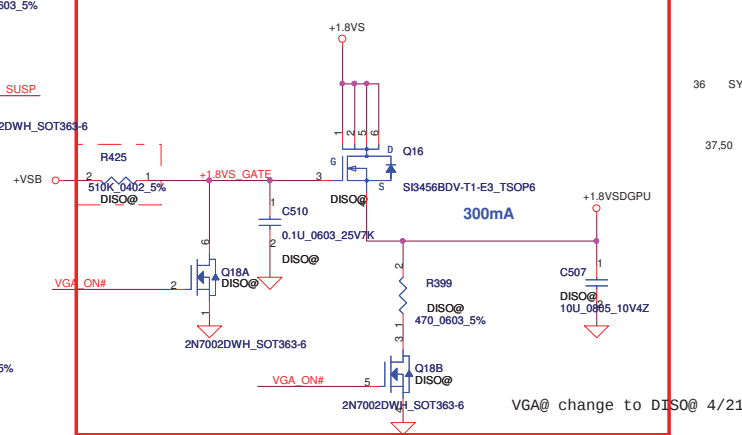
### +1.05VS\_VTT to +1.05VSDGPU for GPU



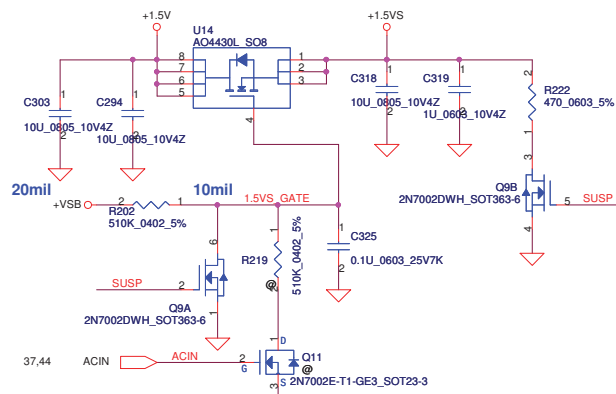
### +3VALW TO +3VS



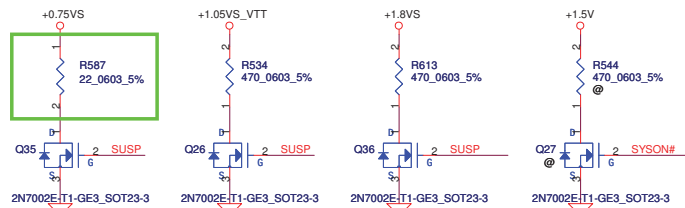
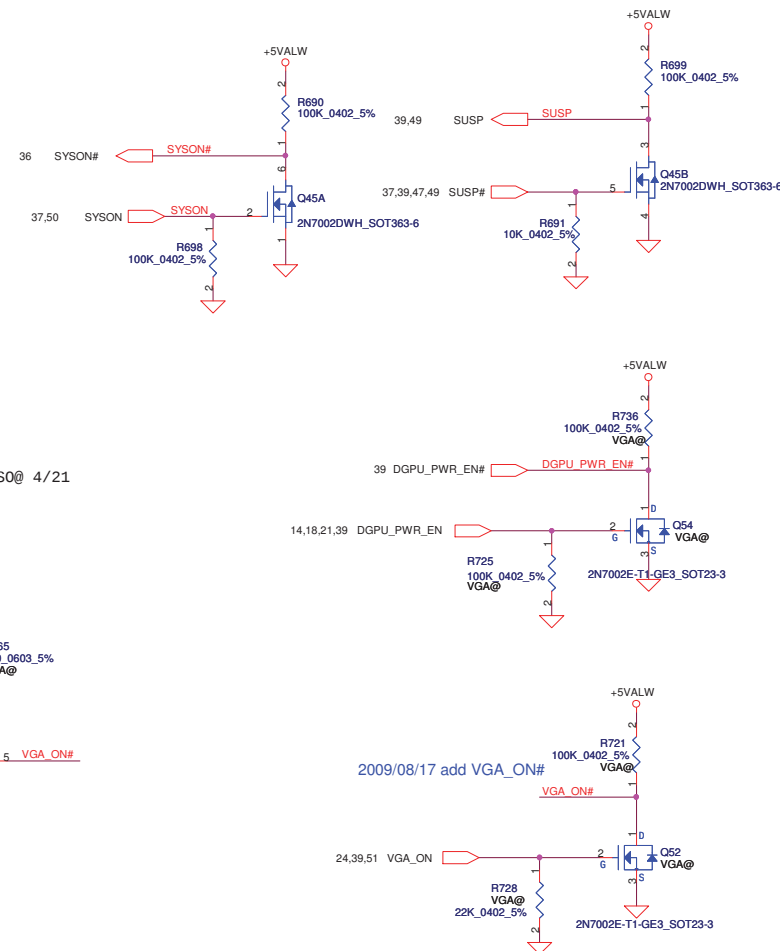
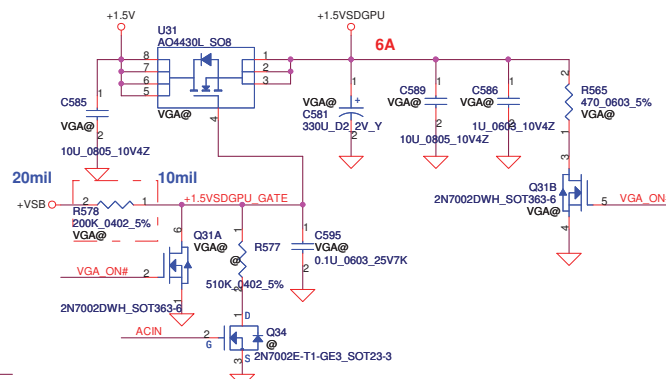
### +1.8VS to +1.8VSDGPU for GPU



### +1.5V to +1.5VS



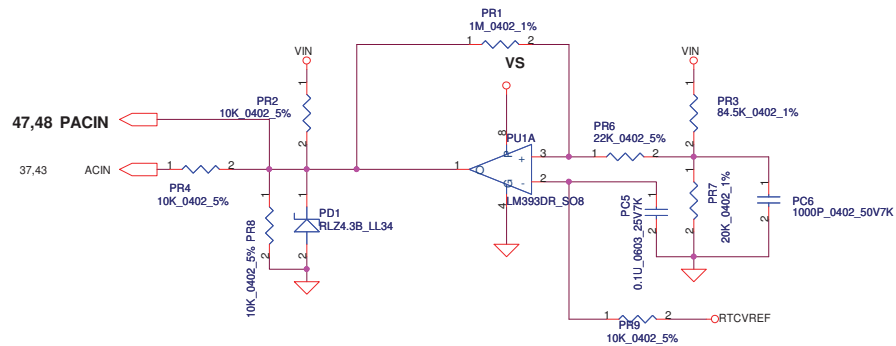
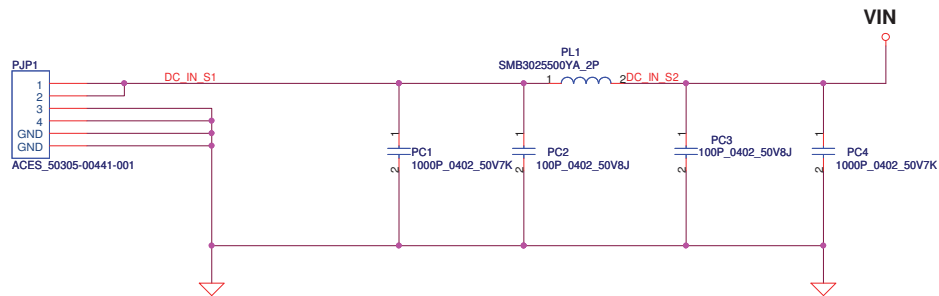
### +1.5V to +1.5VSDGPU for GPU



2009/08/14  
CP\_S3PowerReduction  
WhitePaper\_Rev0.9  
0.75VS speed up discharge

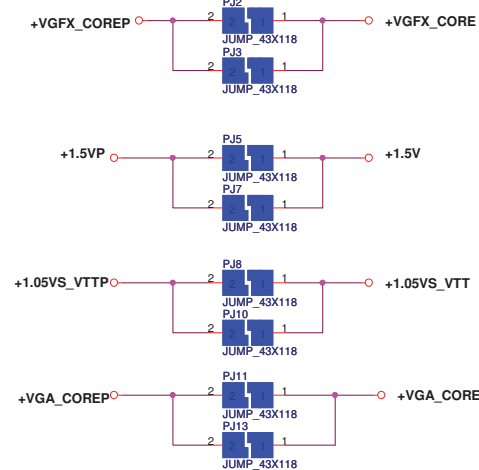
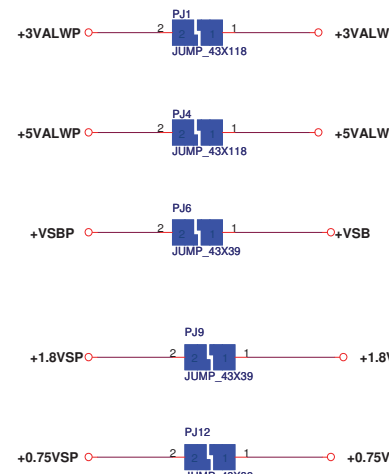
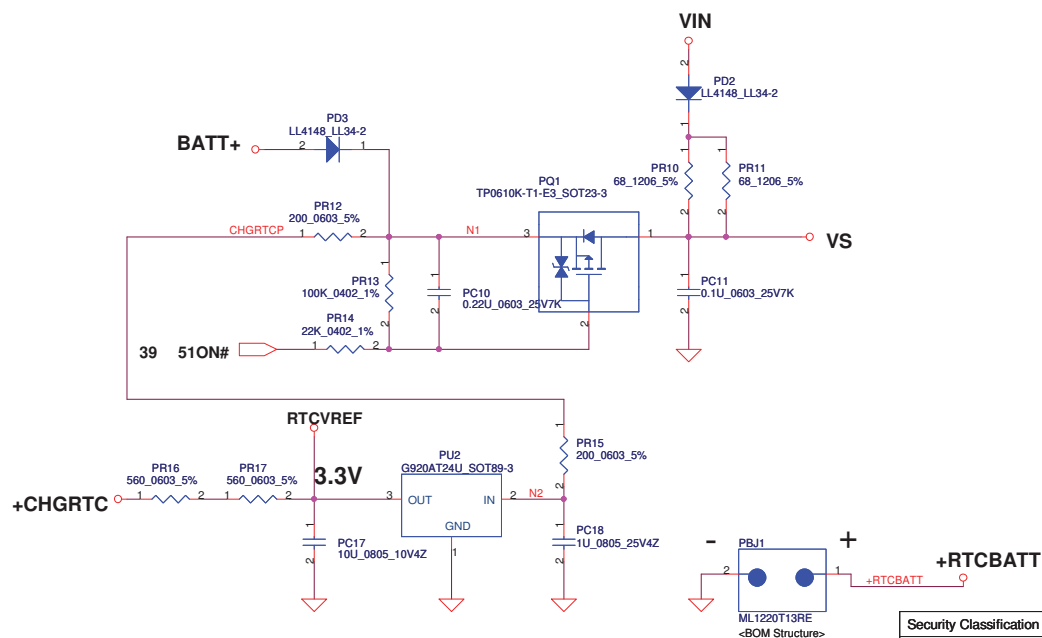
| Security Classification |  |  |  | Compal Secret Data |  |  |  | Compal Electronics, Inc.        |  |  |  |
|-------------------------|--|--|--|--------------------|--|--|--|---------------------------------|--|--|--|
| Issued Date             |  |  |  | 2009/11/23         |  |  |  | Title                           |  |  |  |
|                         |  |  |  | Deciphered Date    |  |  |  | 2010/11/23                      |  |  |  |
|                         |  |  |  |                    |  |  |  | DC Interface                    |  |  |  |
|                         |  |  |  |                    |  |  |  | NELA0 M/B LA-6151P Schematic    |  |  |  |
|                         |  |  |  |                    |  |  |  | Rev 1.0                         |  |  |  |
|                         |  |  |  |                    |  |  |  | Date: Wednesday, April 21, 2010 |  |  |  |
|                         |  |  |  |                    |  |  |  | Sheet 43 of 58                  |  |  |  |

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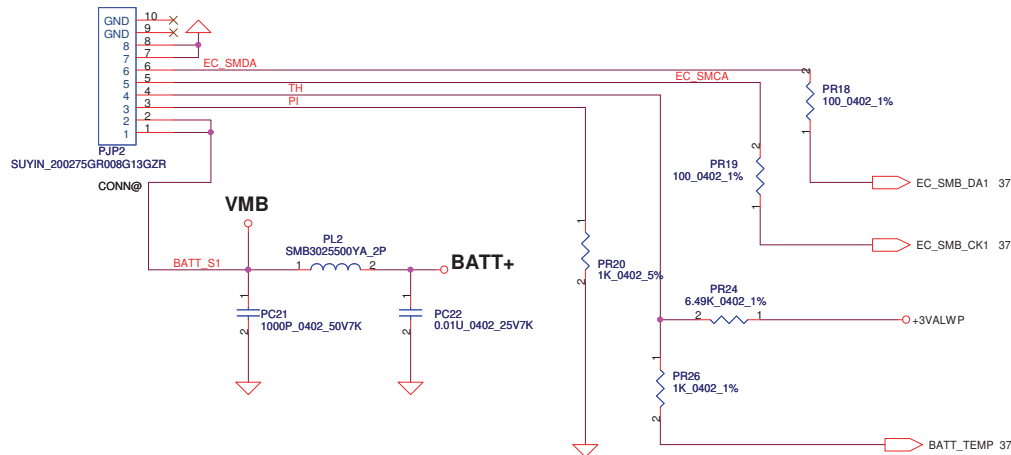


### Vin Dectector

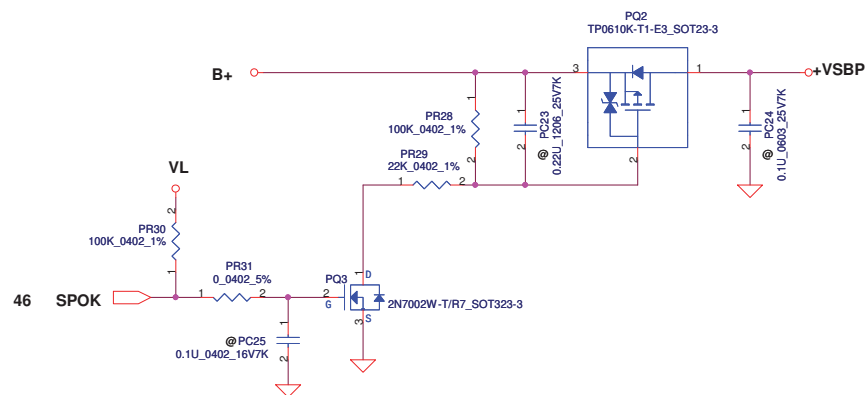
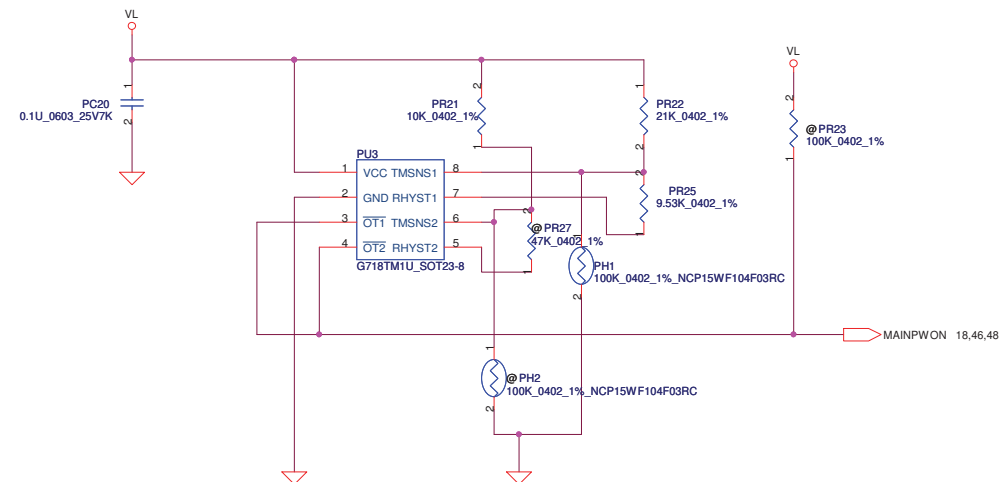
|       | Min.    | Typ     | Max.    |
|-------|---------|---------|---------|
| H-->L | 16.976V | 17.525V | 17.728V |
| L-->H | 17.430V | 17.901V | 18.384V |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |                    |  |  |  |                              |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--------------------|--|--|--|------------------------------|--|--|--|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  | Compal Secret Data |  |  |  | Compal Electronics, Inc.     |  |  |  |
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| Date: Wednesday, April 21, 2010                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  | Sheet 44 of 58     |  |  |  | NELA0 M/B LA-6151P Schematic |  |  |  |
| Date: Wednesday, April 21, 2010                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  | Sheet 44 of 58     |  |  |  | DCIN & DETECTOR              |  |  |  |

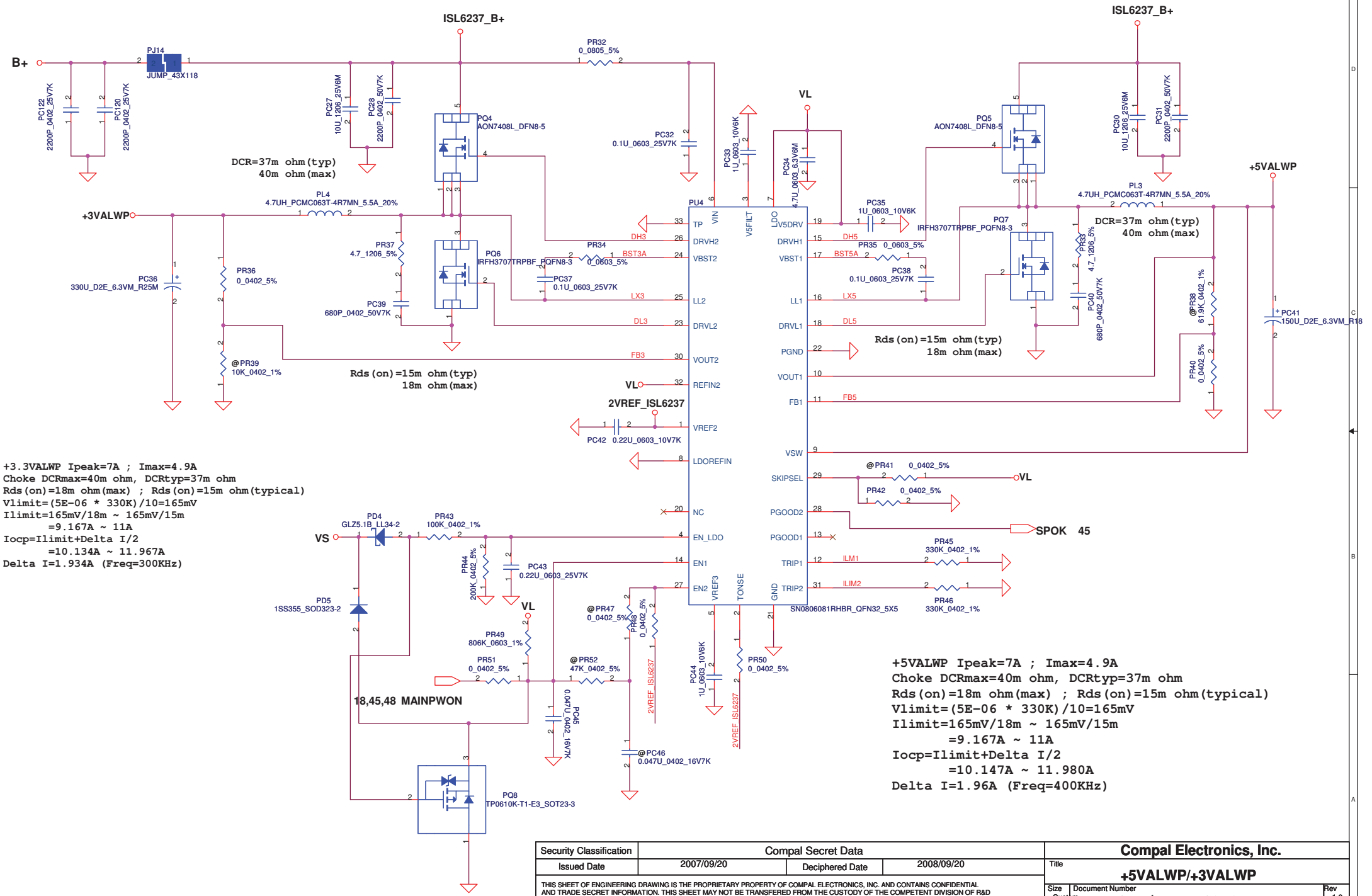


PH1 under CPU botten side :  
CPU thermal protection at 92 degree C  
Recovery at 56 degree C



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |                    |            |                          |                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------|------------|--------------------------|---------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                              | Compal Secret Data |            | Compal Electronics, Inc. |                           |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Document Number              | Rev                |            |                          | 1.0                       |
| Customer                                                                                                                                                                                                                                                                                                                                                                                                                                                      | NELA0 M/B LA-6151P Schematic | Date               |            |                          | Wednesday, April 21, 2010 |
| Sheet                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                              | 45                 |            | of 58                    |                           |

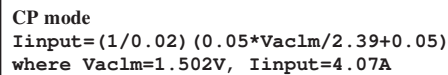
**+3.3VALWP** Ipeak=7A ; Imax=4.9A  
 Choke DCRmax=40m ohm, DCRtyp=37m ohm  
 Rds(on)=18m ohm(max) ; Rds(on)=15m ohm(typical)  
 $V_{limit} = (5E-06 * 330K) / 10 = 165mV$   
 $I_{limit} = 165mV / 18m \sim 165mV / 15m$   
 $= 9.167A \sim 11A$   
 $I_{ocp} = I_{limit} + \Delta I / 2$   
 $= 10.134A \sim 11.967A$   
 $\Delta I = 1.934A$  (Freq=300KHz)



**+5VALWP** Ipeak=7A ; Imax=4.9A  
 Choke DCRmax=40m ohm, DCRtyp=37m ohm  
 Rds(on)=18m ohm(max) ; Rds(on)=15m ohm(typical)  
 $V_{limit} = (5E-06 * 330K) / 10 = 165mV$   
 $I_{limit} = 165mV / 18m \sim 165mV / 15m$   
 $= 9.167A \sim 11A$   
 $I_{ocp} = I_{limit} + \Delta I / 2$   
 $= 10.147A \sim 11.980A$   
 $\Delta I = 1.96A$  (Freq=400KHz)

| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           | Compal Secret Data |                              | Compal Electronics, Inc. |     |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Custom                    | Document Number    | NELA0 M/B LA-6151P Schematic |                          | Rev |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Wednesday, April 21, 2010 | Sheet              | 46                           | of                       | 58  |

CP = 85%\*Iada ; CP = 4.07A  
CP = 85%\*Iada ; CP = 2.91A

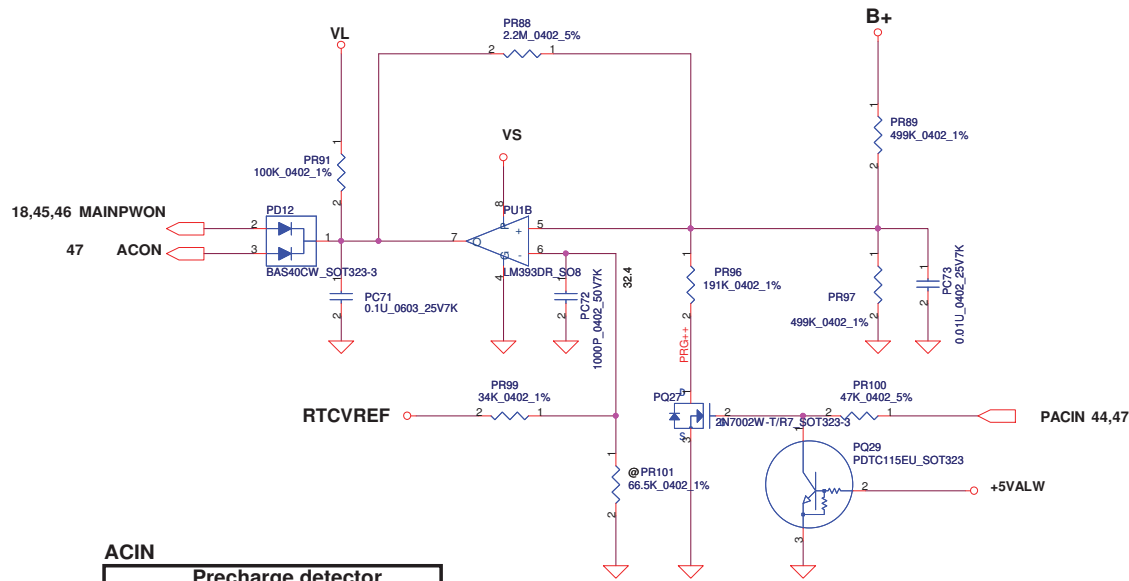


```
Ki
Vchlim=Iref*(PR374/(PR372+PR374))
=Iref*(100K/(80.6K+100K))
=Iref*0.5537
Ichanrg=(165mV/PR369)*(Vchlim/3.3V)
=(165m/20m)*(1/3.3V)*Iref*0.5537
=1.3842*Iref
Iref=0.7224*Ichanrg =>Ki=0.7224
```

```
Kv
Rinternal ic=514K Rec=3K R1=PR379=15.4K R2=PR381=31.6K
R=514K/31.6K/(15.4K+3K)=11.372K
r=514K/514K/31.6K=28.14K
Vcell=0.175*Vadj+3.99V
4.2V=0.175*Vadj+3.99V=>Vadj=1.2V
Vadj=Vref*(R/(R+514K))=>Vref=Vadj*(r/(r+514K))
1.1483=CALIBRATE*0.894=>CALIBRATE=1.899
1.899=(4.2*(Vcell+0.175V))/Kv=(4.2*(4.2*0.175))/Kv
A=Vref*(R/(R+514K))=0.852
Kv=9.451
```

| BATT Type             | Charging Voltage<br>(0x15) | CV mode |
|-----------------------|----------------------------|---------|
| Normal 3S LI-ON Cells | 12600mV                    | 12.60V  |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                 |            |                                             |                 |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------|------------|---------------------------------------------|-----------------|-----|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data       |                 |            | Compal Electronics, Inc.                    |                 |     |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                 |            | Size<br>Custom                              | Document Number | Rev |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                 |            | NELAO M/B LA-6151P Schematic <sup>1.0</sup> |                 |     |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Wachnesrsw April 21 2010 |                 | Sheet      | 47 of 58                                    |                 |     |



#### ACIN

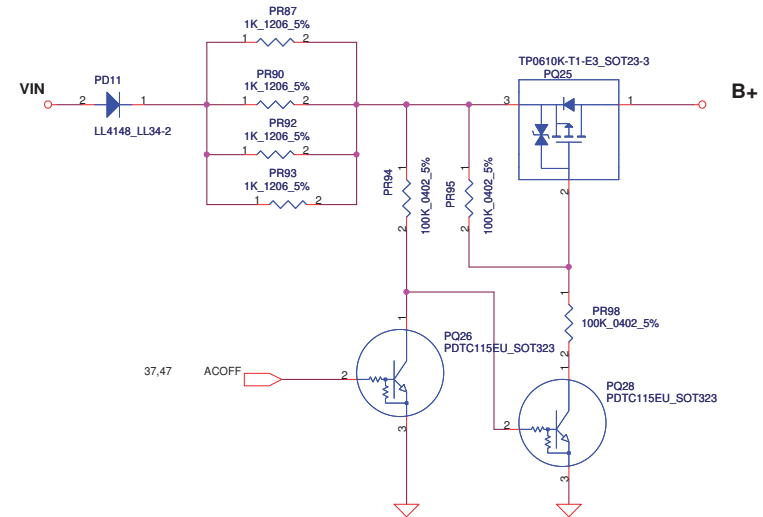
##### Precharge detector

|       | Min.    | typ.   | Max.    |
|-------|---------|--------|---------|
| H-->L | 14.589V | 14.84V | 15.243V |
| L-->H | 15.562V | 15.97V | 16.388V |

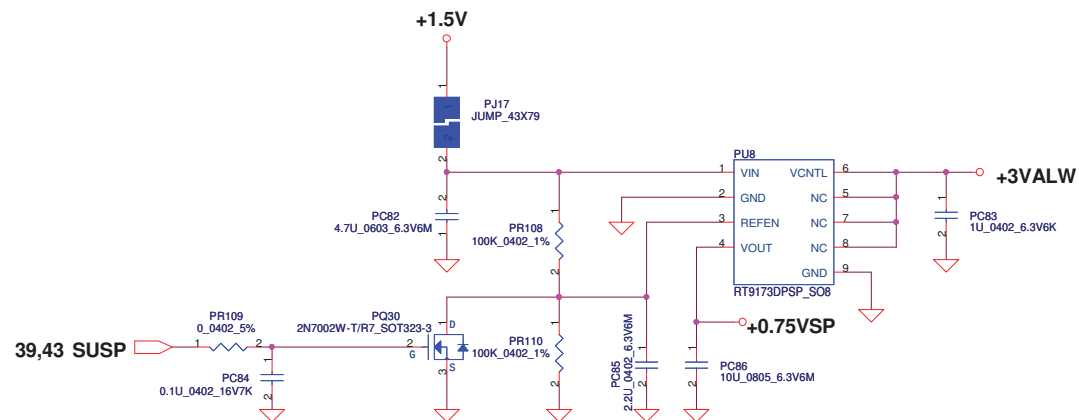
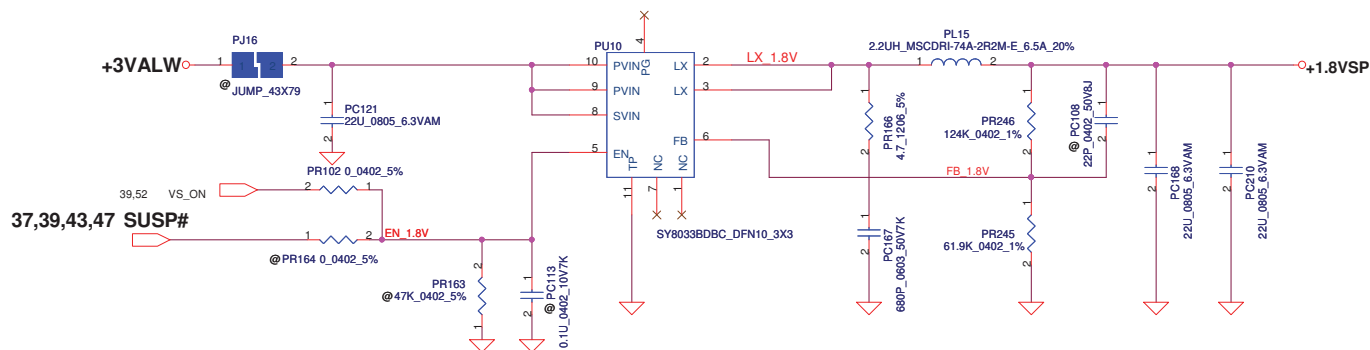
#### BATT ONLY

##### Precharge detector

|       | Min.   | typ.   | Max.   |
|-------|--------|--------|--------|
| H-->L | 6.138V | 6.214V | 6.359V |
| L-->H | 7.196V | 7.349V | 7.505V |



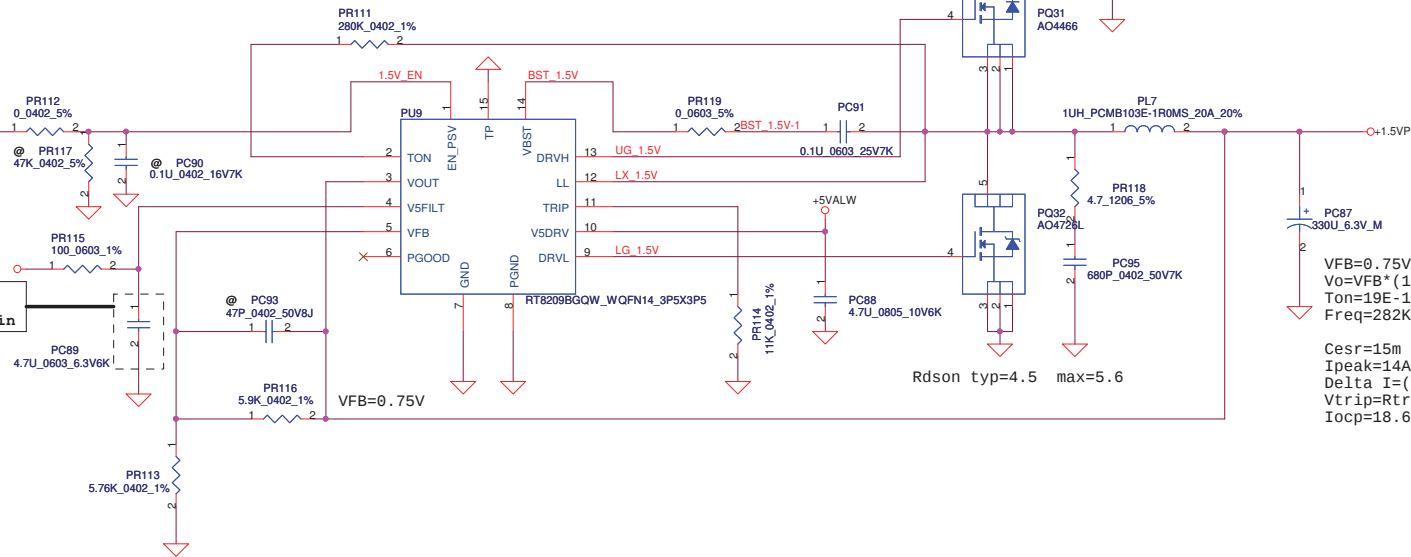
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                 |                          |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------|--------------------------|-----------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data        |                 | Compal Electronics, Inc. |           |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2007/09/20                | Deciphered Date | 2008/09/20               | Title     |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Custom                    | Document Number | Rev                      | 1.0       |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Wednesday, April 21, 2010 | Sheet           | 48                       | of 58     |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          |                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|--------------------------|--------------------------------------------------------|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compal Secret Data |                 | Compal Electronics, Inc. |                                                        |
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/08/25         | Deciphered Date | 2010/08/25               | Title                                                  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          | Document Number<br><b>NELA0 M/B LA-6151P Schematic</b> |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          | Rev<br>1.0                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          | Date: Wednesday, April 21, 2010                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                 |                          | Sheet 49 of 58                                         |

37,43 SYSON

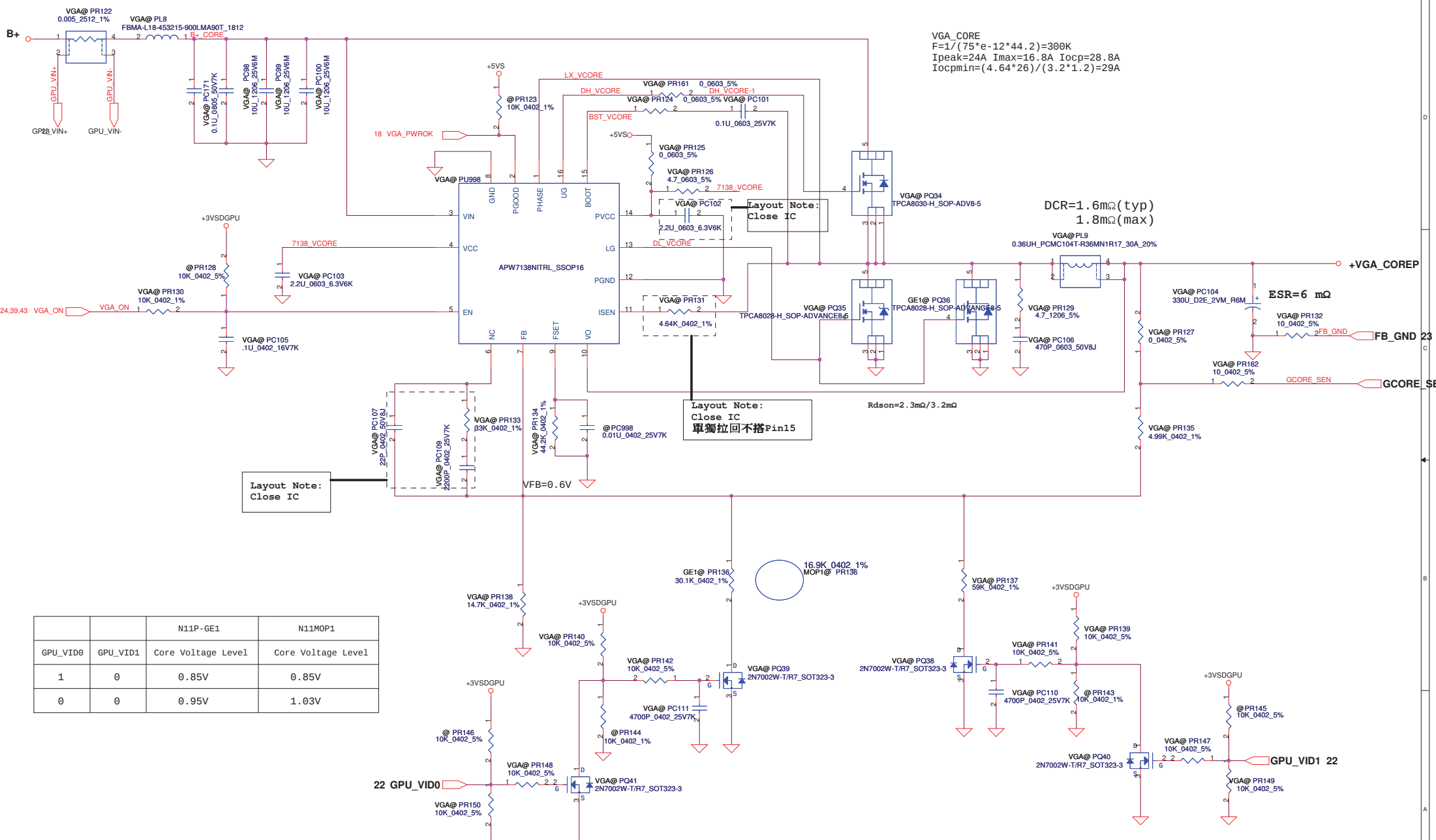
Layout Note:  
Place near V5FILT Pin



$V_{FB}=0.75V$   
 $V_o=V_{FB} \cdot (1 + \frac{PR116}{PR119}) = 1.52V$   
 $Ton = 19E-12 \cdot Ron \cdot ((\frac{2}{3}) \cdot V_o + 100mV) / (Vin) + 50ns = 3.8E-7$   
 $Freq = 282KHz(min), 300KHz(typ)$   
 $Cesr = 15m \text{ ohm}$   
 $I_{peak} = 14A, I_{max} = 9.8A, I_{ocp} = 16.8A$   
 $\Delta I = ((19-1.5) \cdot (1.5/19)) / (L \cdot Freq) = 4.61A$   
 $V_{trip} = R_{trip} \cdot I_{ocp} = 0.11V$   
 $I_{ocp} = 18.674 \sim 22.675A$

Rdson typ=4.5 max=5.6

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                    |                              |                          |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|------------------------------|--------------------------|-----|
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           | Compal Secret Data |                              | Compal Electronics, Inc. |     |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Custom                    | Document Number    | NELA0 M/B LA-6151P Schematic |                          | Rev |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Wednesday, April 21, 2010 | Sheet              | 50                           | of                       | 58  |



VGA\_CORE  
F=1/(75°e-12\*44.2)=300K  
Ipeak=24A Imax=16.8A Iocp=28.8A  
Iocpmin=(4.64\*26)/(3.2\*1.2)=29A

DCR=1.6mΩ (typ)  
1.8mΩ (max)

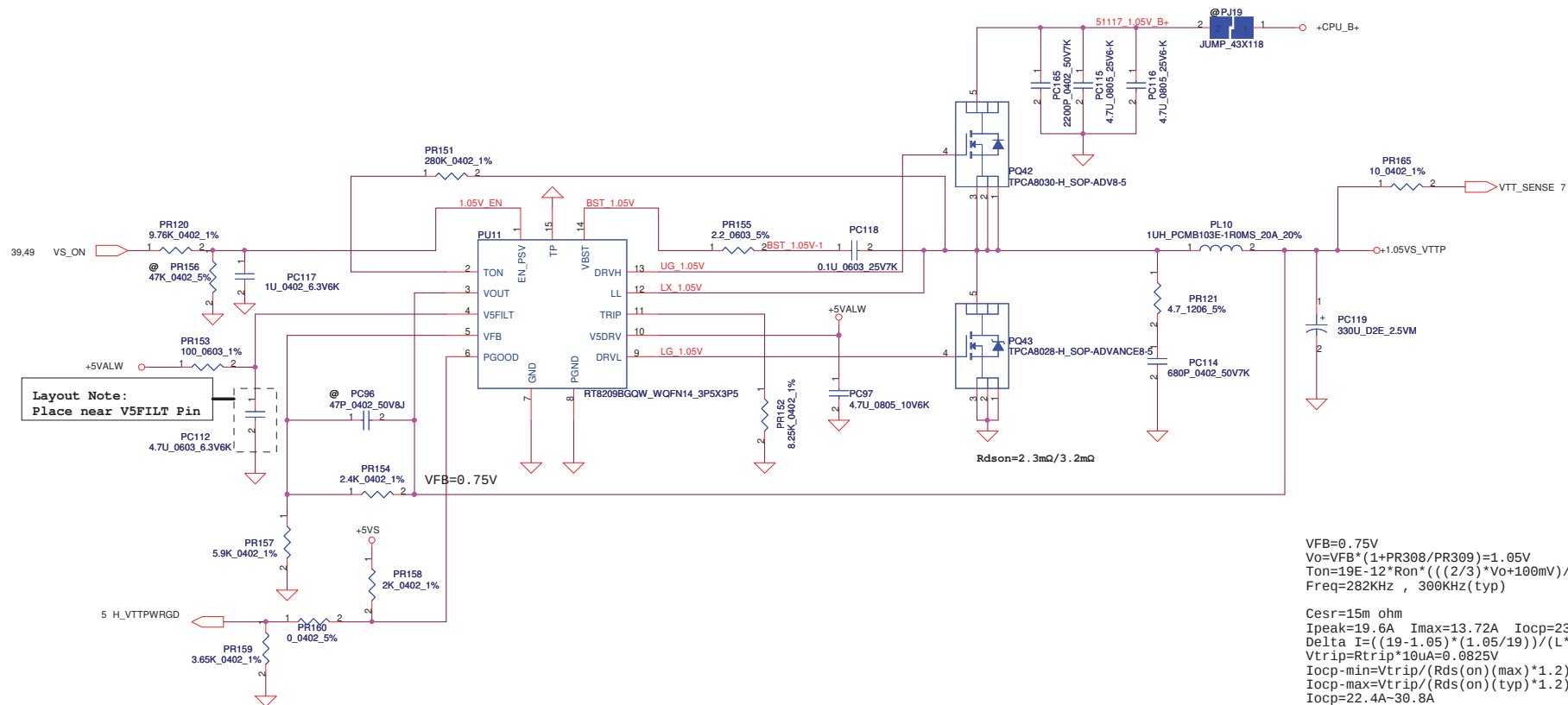
ESR=6 mΩ

Layout Note:  
Close IC  
單獨拉回不搭Pin15

Layout Note:  
Close IC

|          |          | N11P-GE1           | N11MOP1            |
|----------|----------|--------------------|--------------------|
| GPU_VID0 | GPU_VID1 | Core Voltage Level | Core Voltage Level |
| 1        | 0        | 0.85V              | 0.85V              |
| 0        | 0        | 0.95V              | 1.03V              |

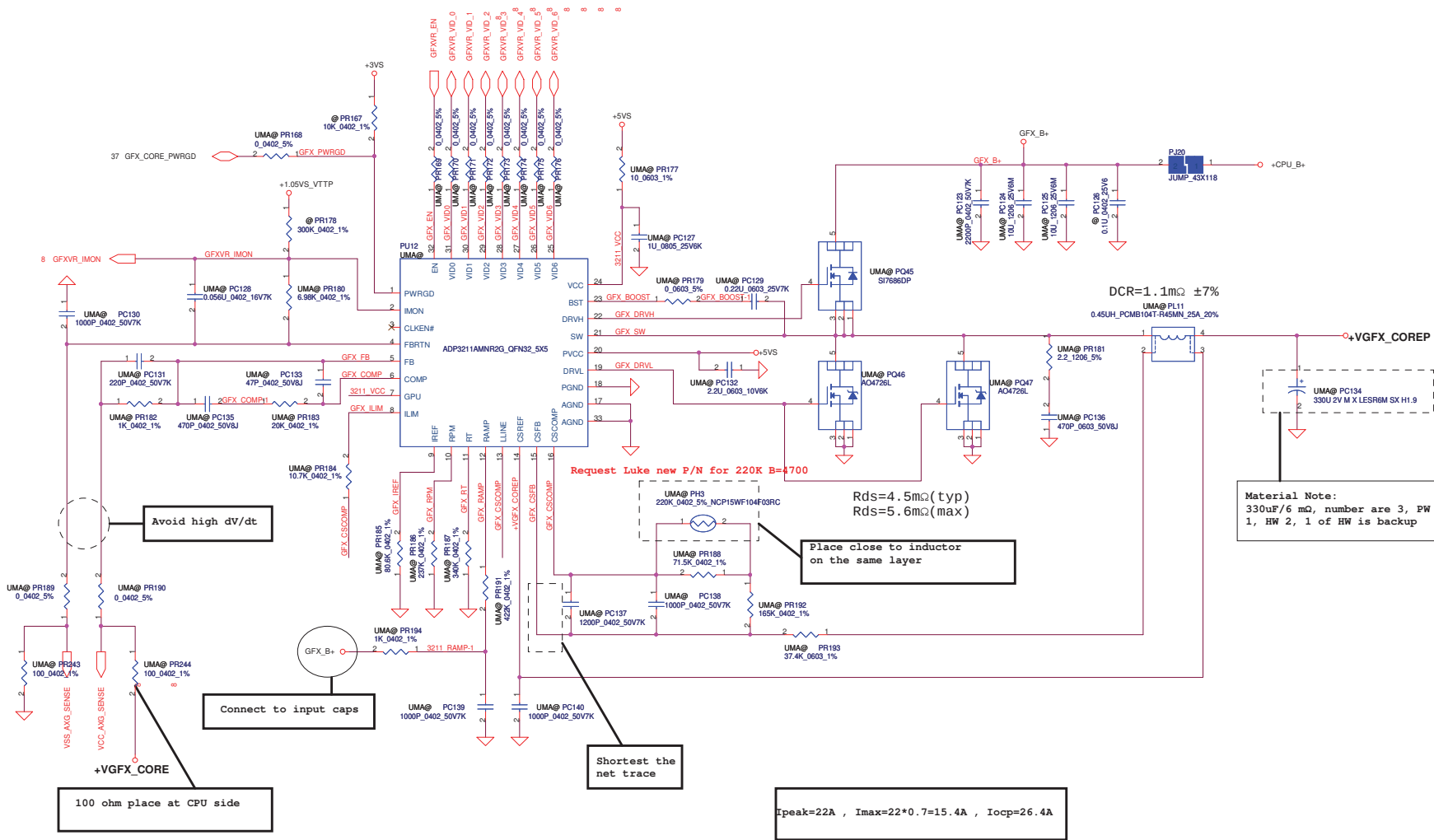
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Title                    |                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|------------|--------------------------|------------------------------|
| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/08/25 | Deciphered Date    | 2010/08/25 | Compal Electronics, Inc. |                              |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Customer                 | NELAO M/B LA-6151P Schematic |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date                     | Wednesday, April 21, 2010    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Sheet                    | 51 of 58                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Rev                      | 1.0                          |

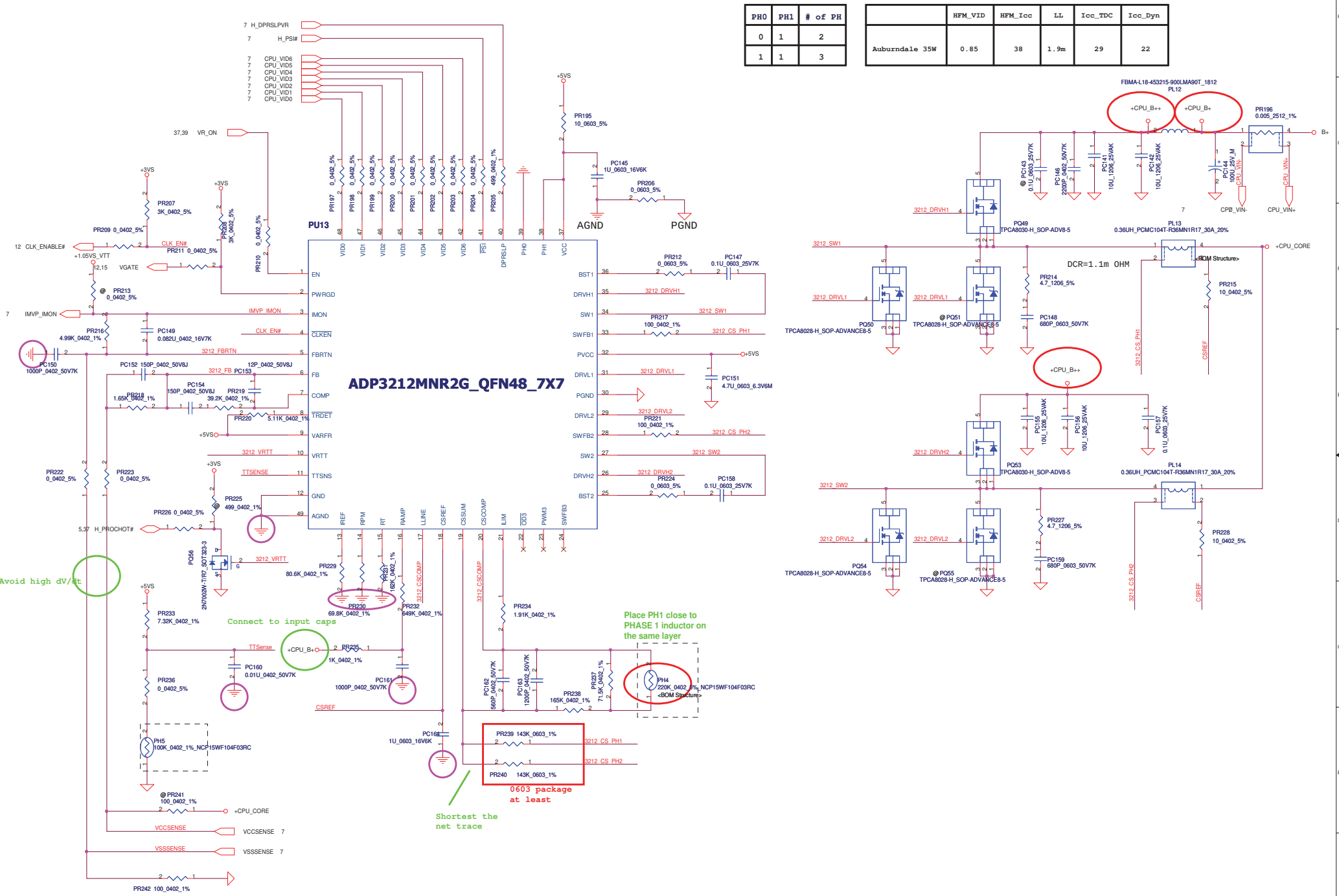


VFB=0.75V  
 $V_o = VFB \cdot (1 + PR308 / PR309) = 1.05V$   
 $Ton = 19E-12 \cdot Ron \cdot ((2/3) \cdot V_o + 100mV) / V_{in} + 50ns = 2.74E-07$   
 $Freq = 282KHz$ , 300KHz(typ)

Cesr=15m ohm  
 $I_{peak} = 19.6A$ ,  $I_{max} = 13.72A$ ,  $I_{ocp} = 23.52A$   
 $\Delta I = ((19 - 1.05) \cdot (1.05 / 19)) / (L \cdot Freq) = 1.837A$   
 $V_{trip} = R_{trip} \cdot 10uA = 0.0825V$   
 $I_{ocp\_min} = V_{trip} / (R_{ds(on)}(max) \cdot 1.2) + \Delta I / 2 = 22.4A$   
 $I_{ocp\_max} = V_{trip} / (R_{ds(on)}(typ) \cdot 1.2) + \Delta I / 2 = 30.81A$   
 $I_{ocp} = 22.4A - 30.8A$

| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data           |            | Compal Electronics, Inc. |  |
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| Size                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | Document Number              |            | Rev                      |  |
| Custom                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            | NELAO M/B LA-6151P Schematic |            | 1.0                      |  |
| Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            | Wednesday, April 21, 2010    |            | Sheet 52 of 58           |  |





| PH0 | PH1 | # of PH |
|-----|-----|---------|
| 0   | 1   | 2       |
| 1   | 1   | 3       |

|                | HFM_VID | HFM_Icc | LL   | Icc_TDC | Icc_Dyn |
|----------------|---------|---------|------|---------|---------|
| Auburndale 35W | 0.85    | 38      | 1.9m | 29      | 22      |

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

| Item | Fixed Issue                        | Reason for change     | Rev. | PG# | Modify List                                                                                                                                                                  | Date | Phase |
|------|------------------------------------|-----------------------|------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------|
| 1    | Modify APW7138 location            | for X76 BOM Level     | 0.1  | 48  | modify PU10 to PU999                                                                                                                                                         |      | DVT   |
| 2    | Modify VGA core ocp setting        | OCp setting           | 0.1  | 50  | modify PR131 to SD00000K980 (S RES 1/16W 4.64K +-1% 0402)                                                                                                                    |      | DVT   |
| 3    | Modify 1.05V PWRGOOD circuit       | BOM error             | 0.1  | 51  | modify PR160 to SD028000080 (S RES 1/16W 0 +-5% 0402)<br>modify PR159 to SD034365180 (S RES 1/16W 3.65K +-1% 0402)<br>modify PR158 to SD034200180 (S RES 1/16W 2K +-1% 0402) |      | DVT   |
| 4    | Modify 1.05V VTT_SENSE circuit     | BOM error             | 0.1  | 51  | Delete PR165 SD034100A80 (S RES 1/16W 10 +-1% 0402)                                                                                                                          |      | DVT   |
| 5    | Modify OTP circuit pull high R     | BOM error             | 0.1  | 52  | Delete PR23 SD034100380 (S RES 1/16W 100K +-1% 0402)                                                                                                                         |      | DVT   |
| 6    | Modify VGA_CORE SENSE circuit      | BOM error             | 0.1  | 53  | modify PR162 to SD028100A80 (S RES 1/16W 10 +-5% 0402)                                                                                                                       |      | DVT   |
| 7    | Modify CPU_CORE choke              | BOM modify            | 0.1  | 46  | modify PL13,PL14 to SH000005680 (S COIL 0.36UH +-20% PCMC104T-R36MMD17)                                                                                                      |      | DVT   |
| 8    | Modify charger choke               | Cyntec burnning issue | 0.1  | 47  | modify PL5 to SH000009R00 (S COIL 10UH +-20% MMD-10DZ-100M-X1 6A)                                                                                                            |      | DVT   |
| 9    | Modify GFX and CPU CORE thermistor | OCp setting           | 0.1  | 52  | Modify PH3,PH4 to SL200000500 (S THERM_ 220K +-5% ERTJ0EV224J 0402)                                                                                                          |      | DVT   |
| 10   | BOM change                         | cost down             | 0.1  | 48  | Modify PL9,PL13,PL14 to SH12036BM00 (S COIL .36UH +-20% ETQP4LR36WFC027A)                                                                                                    |      | DVT   |
| 11   | BOM change                         | cost down             | 0.1  | 52  | Modify PL11 to SH000005080 (S COIL 0.45UH -25+20% ETQP4LR45XFC 25A)                                                                                                          |      | DVT   |
| 12   | BOM change                         | cost down             | 0.1  | 52  | Modify PQ34,PQ45 to SB000008L80 (S TR SI7686DP-T1-E3 1N POWERPAK S080)                                                                                                       |      | DVT   |
| 13   |                                    |                       | 0.2  | 46  |                                                                                                                                                                              |      |       |
| 14   |                                    |                       | 0.2  | 51  |                                                                                                                                                                              |      |       |
| 15   |                                    |                       | 0.2  | 52  |                                                                                                                                                                              |      |       |
| 16   |                                    |                       | 0.2  | 53  |                                                                                                                                                                              |      |       |
| 17   |                                    |                       | 0.2  | 52  |                                                                                                                                                                              |      |       |
| 18   |                                    |                       | 0.2  | 50  |                                                                                                                                                                              |      |       |
| 19   |                                    |                       | 0.2  | 55  |                                                                                                                                                                              |      |       |
| 20   |                                    |                       | 0.2  | 53  |                                                                                                                                                                              |      |       |
| 21   |                                    |                       | 0.2  | 55  |                                                                                                                                                                              |      |       |
| 22   |                                    |                       | 0.2  | 48  |                                                                                                                                                                              |      |       |
| 23   |                                    |                       | 0.2  | 52  |                                                                                                                                                                              |      |       |

0.1->0.2

Reason for change

| PG#        |       | Reason for change                     |                                                                            | Date       | Phase |
|------------|-------|---------------------------------------|----------------------------------------------------------------------------|------------|-------|
| 2010/01/05 | 38    | TP PIN Define error                   | SWAP JTP1 PIN DEFINE                                                       |            |       |
|            | 14    | VGA REQUEST ISSUE                     | CHANGE R668 to VGA@;CHANGE R593 to DIS0@; ADD R747@                        |            |       |
| 2010/01/11 | 40    | EXTERNAL MIC Can't record             | ADD C714,C715                                                              | 2010/01/05 |       |
|            | 43    |                                       | CHANGE C522 to SGA00002380 (6moh)                                          | 2010/01/05 |       |
| 2010/01/13 | 35    | For HUAWEI 3G module Card             | ADD R748,R749,R751                                                         | 2010/01/11 |       |
| 2010/01/14 |       |                                       | Change Q13/19/20 CIS Symbol to 2N7002DWH_S0T363-6                          | 2010/01/11 |       |
|            |       |                                       | CHANGE ALL DUAL 2N7002 P/N to SB00000E010                                  | 2010/01/11 |       |
|            | 43    | VGA Sequence                          | change R425 from 200K to 510K, R578 from 510K to 200K                      | 2010/01/13 |       |
| 2010/01/15 | 8     |                                       | change R88 to 470 ohm                                                      | 2010/01/14 |       |
|            | 32    | asmedia issue                         | ADD R464, R750                                                             | 2010/01/14 |       |
|            | 18    | CRT_DET                               | Q37/R41 Change BOM Structure to @                                          | 2010/01/14 |       |
|            | 30    | DFB ISSUE                             | DEL C2                                                                     | 2010/01/15 |       |
|            | 19    | CRT flick issue                       | CHANGE c229 to 22U, ADD C717 (22U) , Reserve C718(22U)                     | 2010/01/15 |       |
|            | 36/40 | EMI/ESD Request                       | POP D25/L40, Un-pop R635/R636, R649 change to SM010027780                  | 2010/01/15 |       |
|            | 14    | EMI/ESD Request                       | ADD C719 (470Pf)                                                           | 2010/01/15 |       |
|            | 37    | EMI/ESD Request                       | ADD C720 (470Pf)                                                           | 2010/01/15 |       |
|            | 41    | EMI/ESD Request                       | ADD C721/C722(100Pf) for DMIC CLK/DATA, Chage ESD Dioda p/n to SCA00000200 | 2010/01/15 |       |
|            | 12    | RF Request                            | POP C704/705/C713                                                          |            |       |
|            | 13    | RF Request                            | POP C603                                                                   |            |       |
|            | 17    | RF Request                            | POP C254                                                                   |            |       |
|            | 32    | Vendor Recommand ; CFG Setting is 000 | POP R238/R629/R232 ; UnPop R237/R628/R233                                  |            |       |
|            | 40    | Codec No sound issue & beep issue     | Unpop R650; Change R664 to 30K                                             |            |       |
| 2010/01/21 |       | Change P/N                            | Change C104/C110/C127/C67/C68/C80/C82/C90/C93/C96 to SE076103K80           |            |       |
|            |       |                                       | Change C151 to SE076104K80                                                 |            |       |
|            |       |                                       | Change C34 to SE107475M80                                                  |            |       |
|            |       | Change P/N                            | Change C510/C538 to 0603 SIZE                                              |            |       |
| 2010/01/26 | 35    | EC Team recommand                     | Change R683 to 100k                                                        |            |       |

| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Compal Secret Data |            | Compal Electronics, Inc. |                              |                |
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| Issued Date                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2009/11/23 | Deciphered Date    | 2010/11/23 | Title                    |                              |                |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Custom                   | NEW70 M/B LA-5891P Schematic | 1.0            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |            | Date:                    | Wednesday, April 21, 2010    | Sheet 56 of 58 |

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 $0.2 > 0.3$ 

| DATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | PAGE | Reason for change & Action                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------------------------------------|
| 2010/03/04                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 35   | 1. ADD 3G@<br>2. DEL C723;ADDC723,C725,C667                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 41   | MIC NOISE<br>DEL C721,C722                                                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 38   | LED LIGHT<br>DEL R726,R731,R724,R723<br>ADD R753,R757,R752,R756,R755,R759,R754,R758        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      | Change TP Pin define                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 41   | Change R286,R287 to 39ohm                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 36   | Change L40 to SM070001600                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 37   | Change Board ID ; Change R292 to 18K                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 37   | Add R760 Q58 for H_PROCHOT#                                                                |
| 2010/03/09                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 12   | Add C716 RF request                                                                        |
| 2010/03/10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 35   | C709, C710, C711 change to 3G@                                                             |
| 2010/03/11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 40   | EMI request<br>R723, R724, R726, R731 @<br>Add C726, C727, C728, C729 to 0.1U<br>Remove J5 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 36   | EMI request<br>Add C730, C731, C732 to 0.1U                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 12   | RF request<br>reserved C733, C734, C735                                                    |
| <div><div>Security Classification</div><div>Compal Secret Data</div><div><div>Issued Date</div><div>2009/11/23</div><div>Deciphered Date</div><div>2010/11/23</div></div><div><div>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</div><div><div><div>Title</div><div>PIR (PWR)</div><div><div>Size</div><div>Custom</div><div>Document Number</div><div>Rev</div><div>1.0</div></div></div></div><div><div>Date:</div><div>Wednesday, April 21, 2010</div><div>Sheet</div><div>57</div><div>of</div><div>58</div></div></div></div> |      |                                                                                            |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |                                                                                                                                    |                          |                               |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------|--|--------------------------|--|-------------|------------|-----------------|------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--------------------|--|----------------|-------------------------------|---------------------------------|--|--|------------|----------|
| 0.3 --> 1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |                                                                                                                                    |                          |                               |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |
| DATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | PAGE               | Reason for change & Action                                                                                                         |                          |                               |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |
| 2010/03/29                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 35                 | 1. Del R658, R657                                                                                                                  |                          |                               |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 38                 | 1. JLED1 pin5 mini2_LED# change to WWAN_OFF<br>2. Add Q59, R693 for WWAN_OFF<br>3. R398 100K change to 10K                         |                          |                               |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |
| 2010/03/29                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 38                 | 1. Delete Q57 , R688<br>2. Add U41 , C736                                                                                          |                          |                               |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |
| 2010/04/01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 38                 | 1.For EMI : Delete R741 , add L50                                                                                                  |                          |                               |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 7                  | <del>1.R79, R61 10ohm change to 0ohm</del><br><del>2.C164 0.1U change to @</del>                                                   |                          |                               |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 23                 | <del>1.R331, R330 10ohm change to 0ohm</del><br><del>2.C431 0.1U change to @</del>                                                 |                          |                               |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |
| 2010/04/19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 13                 | 1.R625 change to @ ,No VENTURA need to pop<br>2.R602 change to VENTURA@                                                            |                          |                               |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 22                 | 1.R401, R432 Ventura@ change to VGA@<br>2.R402, R421, R420, R419 DIS@ change to VGA@<br>3.R402, R421, R420, R419 2K change to 2.2K |                          |                               |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 7                  | 1.R372 , R384 Ventura@ change to @                                                                                                 |                          |                               |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |
| 2010/04/20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 30                 | 1.R39 100K change to 10K                                                                                                           |                          |                               |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 7                  | 1.R79, R61 0ohm change to 1ohm<br>2.C164 0.1U change to 1U change to VENTURA@                                                      |                          |                               |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 23                 | 1.R331, R330 0ohm change to 1ohm<br>2.C431 0.1U change to 1U change to VENTURA@                                                    |                          |                               |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |
| 2010/04/21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 43                 | 1.Q16, Q18, R399, R425, C510, C507 VGA@ change to DIS0@                                                                            |                          |                               |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |
| <table><tr><td>Security Classification</td><td colspan="2">Compal Secret Data</td><td colspan="2">Compal Electronics, Inc.</td></tr><tr><td>Issued Date</td><td>2009/11/23</td><td>Deciphered Date</td><td colspan="2">2010/11/23</td></tr><tr><td colspan="3" rowspan="2">THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</td><td colspan="2">Title<br/>PIR (PWR)</td></tr><tr><td>Size<br/>Custom</td><td>Document Number<br/>Rev<br/>1.0</td></tr><tr><td colspan="3">Date: Wednesday, April 21, 2010</td><td>Sheet<br/>1</td><td>58 of 58</td></tr></table> |                    |                                                                                                                                    | Security Classification  | Compal Secret Data            |  | Compal Electronics, Inc. |  | Issued Date | 2009/11/23 | Deciphered Date | 2010/11/23 |  | THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. |  |  | Title<br>PIR (PWR) |  | Size<br>Custom | Document Number<br>Rev<br>1.0 | Date: Wednesday, April 21, 2010 |  |  | Sheet<br>1 | 58 of 58 |
| Security Classification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Compal Secret Data |                                                                                                                                    | Compal Electronics, Inc. |                               |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |
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| Date: Wednesday, April 21, 2010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |                                                                                                                                    | Sheet<br>1               | 58 of 58                      |  |                          |  |             |            |                 |            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                    |  |                |                               |                                 |  |  |            |          |