

DBQ01 Rev0.1 Schematics Document

Intel Prescott uFCPGA-478 / P4 Northwood

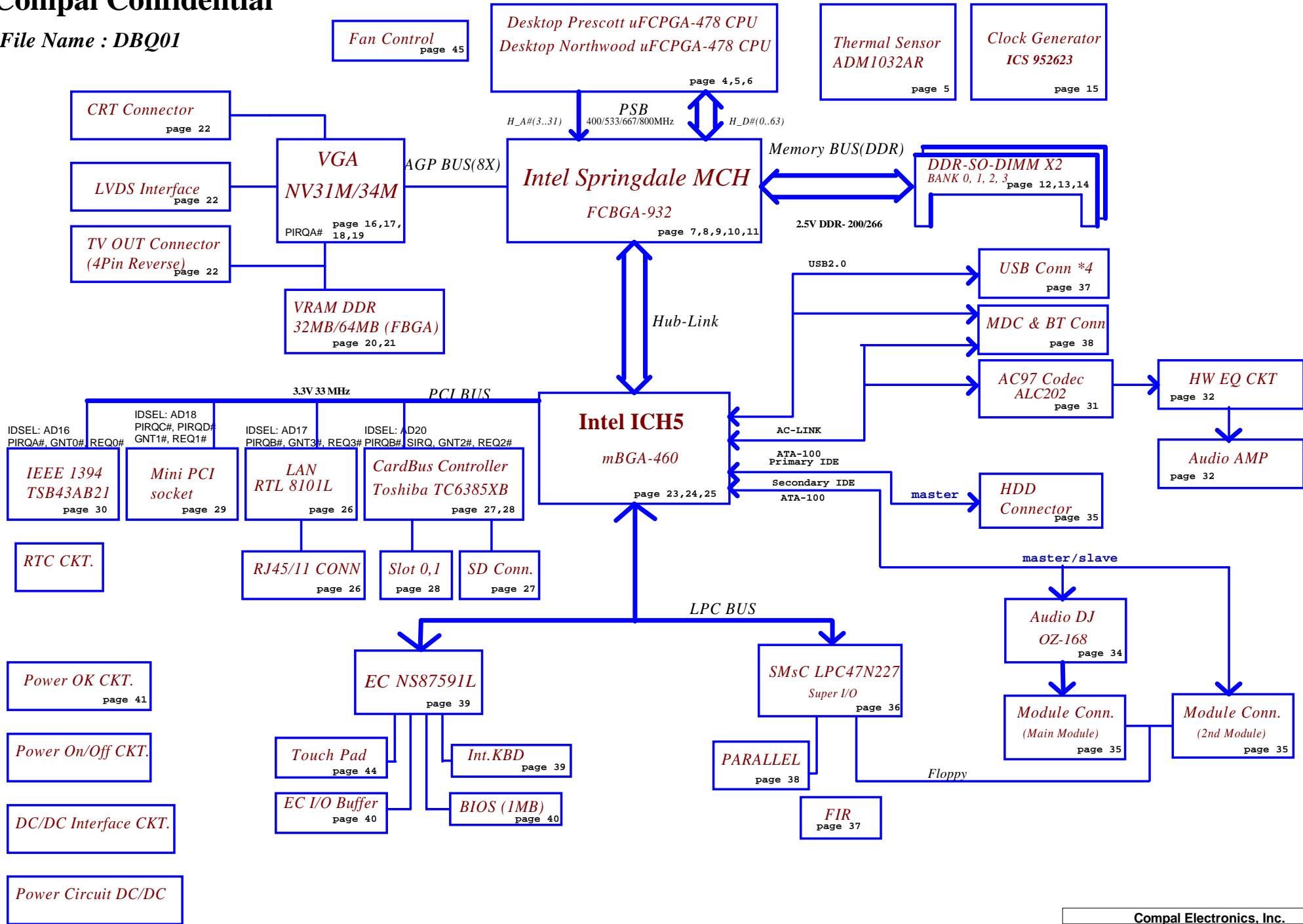
with Springdale / ICH5 / nVIDIA NV34M/31M chipset

2003/07/01

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| Compal Electronics, Inc. | | |
| Title | | |
| Cover Sheet | | |
| Size B | Document Number LA-2041 | Rev 0.1 |
| Date: ~P星期三, 七月 09, 2003 | Sheet 1 | of 56 |

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| Block Diagram | | |
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| | LA-2041 | 0.1 |
| Date: | 星期三, 七月 09, 2003 | Sheet 2 of 56 |

Voltage Rails

| Power Plane | Description | S1 | S3 | S5 |
|-------------|---------------------------------------------|-----|-----|-----|
| VIN | Adapter power supply (19V) | 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 |
| +CPU_VID | 1.2V switched power rail for CPU AGTL Bus | ON | OFF | OFF |
| +VTT_GMCH | +1.225V (Prescott) / +1.45V (Northwood) | ON | OFF | OFF |
| +VGA_CORE | 1.3V switched power rail for VGA chip | ON | OFF | OFF |
| +1.25VS | 1.25V switched power rail | ON | OFF | OFF |
| +1.5VS | AGP 4X/8X | ON | OFF | OFF |
| +2.5V | 2.5V power rail | ON | ON | OFF |
| +2.5VS | 2.5V switched power rail | ON | OFF | OFF |
| +3VALW | 3.3V always on power rail | ON | ON | ON* |
| +3V | 3.3V power rail | ON | ON | OFF |
| +3VS | 3.3V switched power rail | ON | OFF | OFF |
| +5VALW | 5V always on power rail | ON | ON | ON* |
| +5V | 5V power rail | ON | ON | OFF |
| +5VS | 5V switched power rail | ON | OFF | OFF |
| +12VALW | 12V always on power rail | 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.

External PCI Devices

| Device | IDSEL# | REQ#/GNT# | Interrupts |
|----------|--------|-----------|-------------|
| VGA | | | PIRQA |
| CardBus | AD20 | 2 | PIRQA/PIRQB |
| LAN | AD17 | 3 | PIRQB |
| Mini-PCI | AD18 | 1/4 | PIRQC/PIRQD |
| 1394 | AD16 | 0 | PIRQA |
| SD | AD22 | | |

EC SM Bus1 address

| Device | Address |
|------------------|-------------|
| Smart Battery | 0001 011X b |
| EEPROM(24C16/02) | 1010 000X b |
| (24C04) | 1011 000Xb |

EC SM Bus2 address

| Device | Address |
|---------|-------------|
| ADM1032 | 1001 110X b |
| OZ168 | 0011 0100 b |

ICH5 SM Bus address

| Device | Address |
|----------------------------------|------------|
| Clock Generator (ICS 952623) | 1101 001Xb |
| DDR DIMM0 | 1001 000Xb |
| DDR DIMM2 | 1001 001Xb |

| 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 |

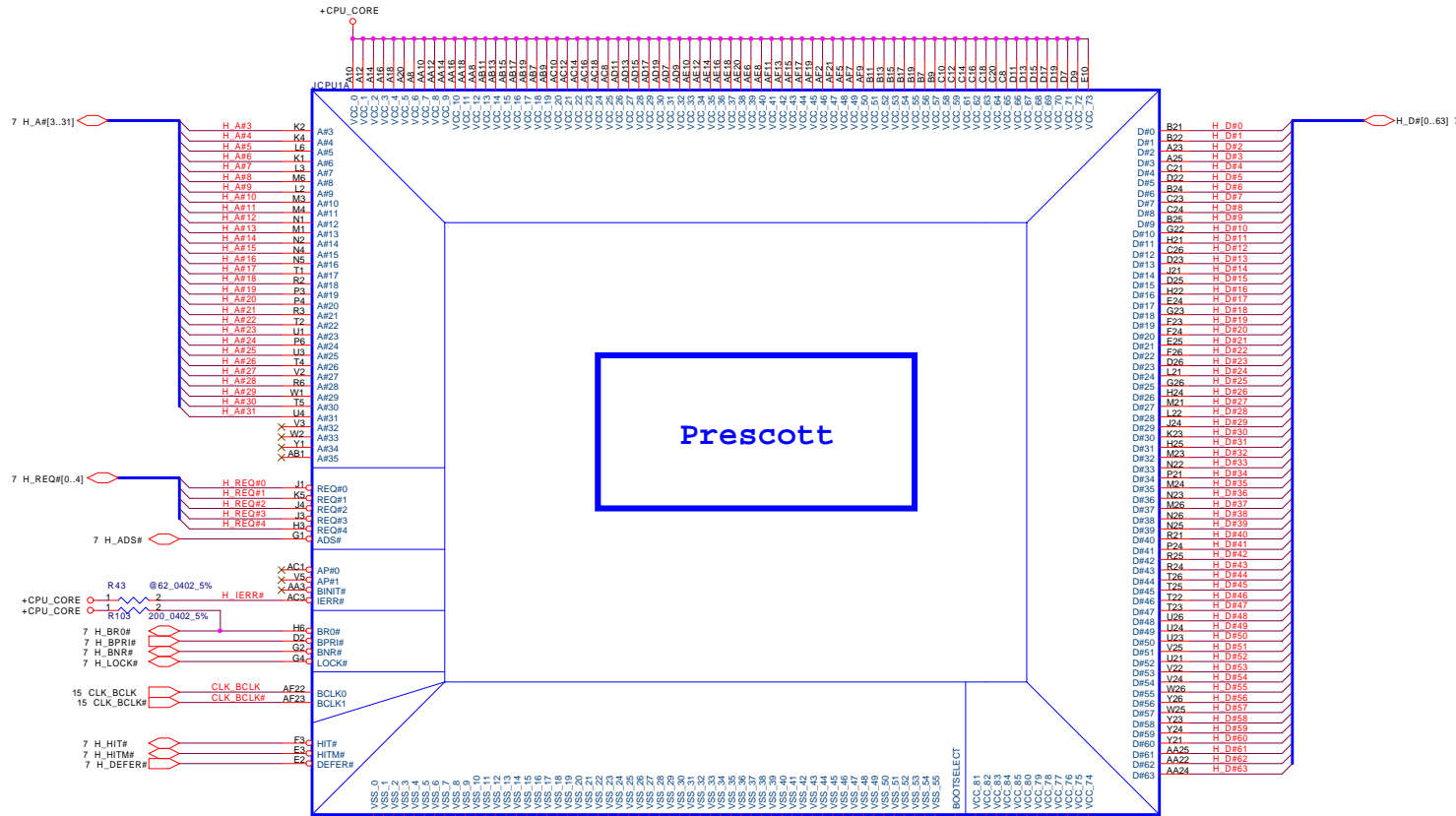
Board ID Table for AD channel

| Vcc | 3.3V +/- 5% | | | |
|----------|-------------|-------------------------|-------------------------|-------------------------|
| Ra | 100K +/- 5% | | | |
| Board ID | Rb | V _{AD_BID min} | V _{AD_BID typ} | V _{AD_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 | PCB Revision |
|----------|--------------|
| 0 | 0.1 |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |

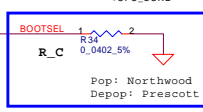
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| | | |
|--------|-------------------|---------------|
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| Notes | | |
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| | LA-2041 | 0.1 |
| Date: | ~P期三, 七月 09, 2003 | Sheet 3 of 56 |



Reference Intel document
 Desktop P4 Spec.: 10988 P4 0.13u 512KB L2 EMTS Rev.2.0
 Desktop Prescott Spec.: 11910 Prescott EMTS Rev.0.5

| Pin number | Northwood Pin name | Comment | Prescott Pin name | Comment | Northwood | Prescott |
|------------|--------------------|----------------------------|-------------------|--------------------------------------------|-----------|----------|
| B6 | FERR# | Pull-up 62ohm to +VCC_CORE | FERR#/PBE# | Pull-up 62ohm to +VCC_CORE | Pop | Pop |
| AA20 | ITPCLKOUT0 | Pull-up 56ohm to +VCC_CORE | TESTH16 | Pull-up 62ohm to +VCC_CORE | Pop | Pop |
| AB22 | ITPCLKOUT1 | Pull-up 56ohm to +VCC_CORE | TESTH17 | Pull-up 62ohm to +VCC_CORE | Pop | Pop |
| AD2 | NC | float | VIDPWRGD | Pull-up 8.2Kohm to +VCCVID | Depop | Pop |
| AD3 | NC | float | VID5 | Pull-up 1Kohm to +3VRUN & connect to PWRIC | Depop | Pop |
| AF3 | NC | float | VCCVIDLB | Connect to +VCCVID | Depop | Pop |
| AD20 | VCCA | Connect to CPU Filter | VCCIOPLL | Connect to CPU Filter | | |
| AF23 | VCCIOPLL | Connect to CPU Filter | VCCA | Connect to CPU Filter | | |
| AD1 | VSS | Connect to GND | BOOTSELECT | CPU determine | Pop | Depop |
| AE26 | VSS | Connect to GND | OPTIMIZED/COMPAT# | float | Pop | Depop |



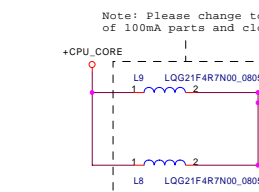
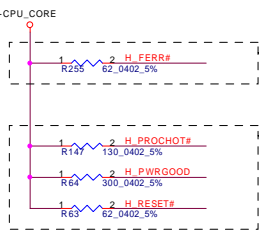
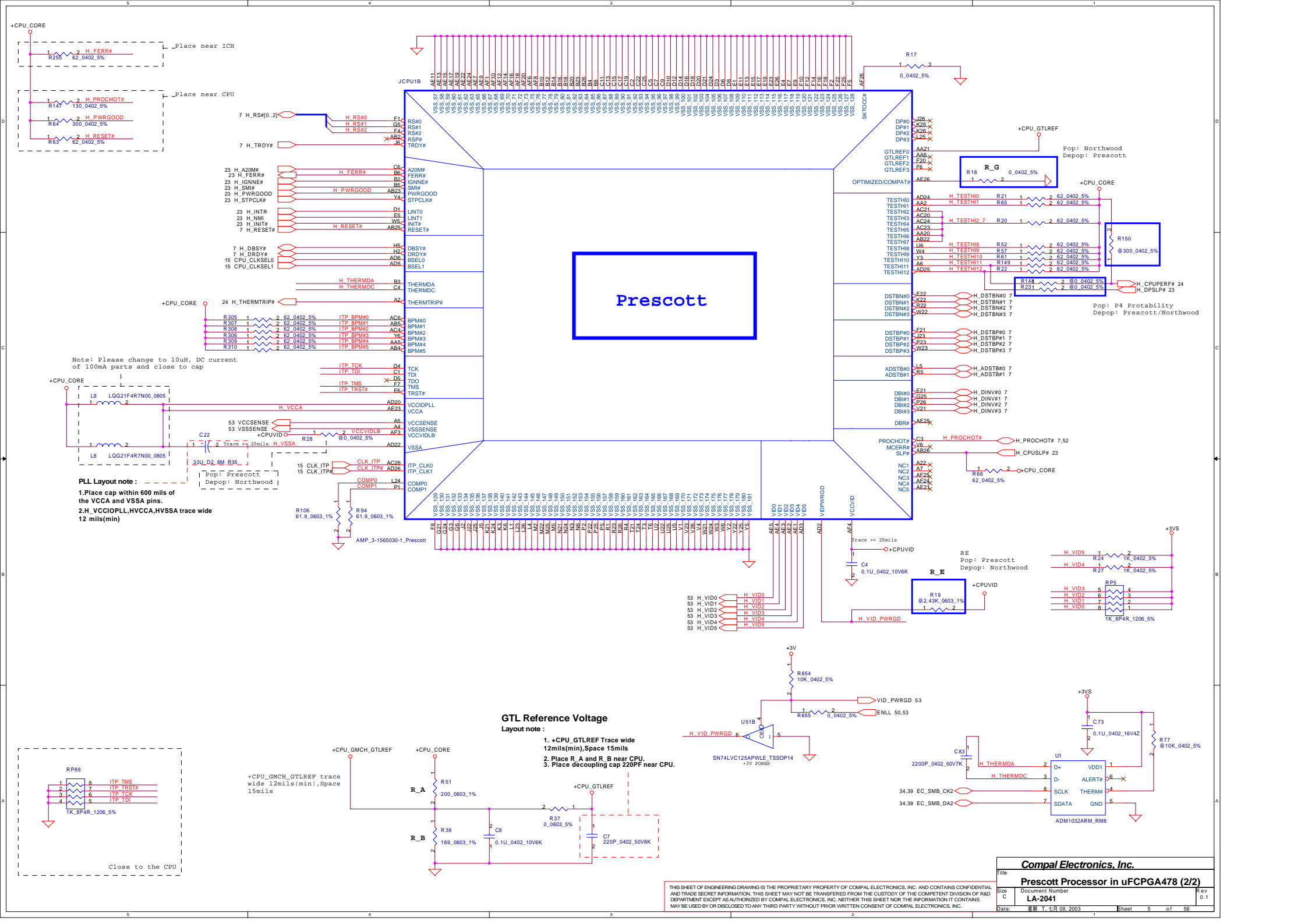
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Title: **Prescott Processor in uFCPGA478 (1/2)**

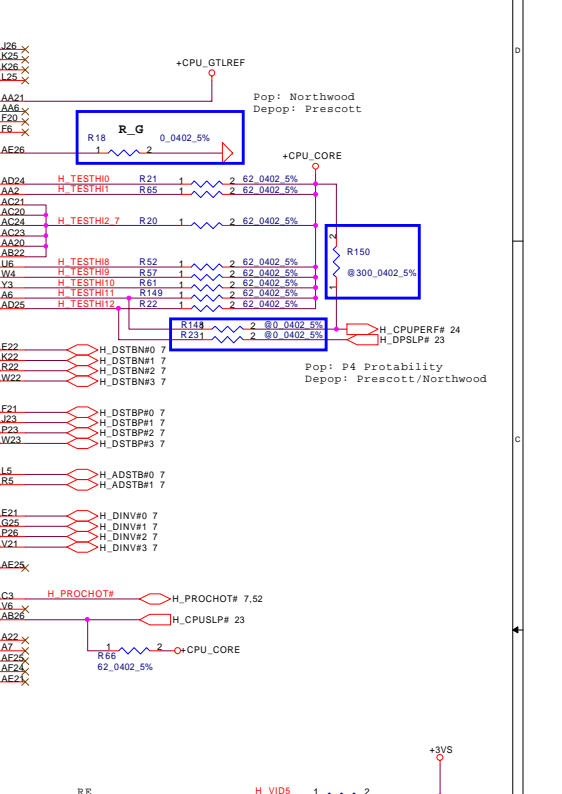
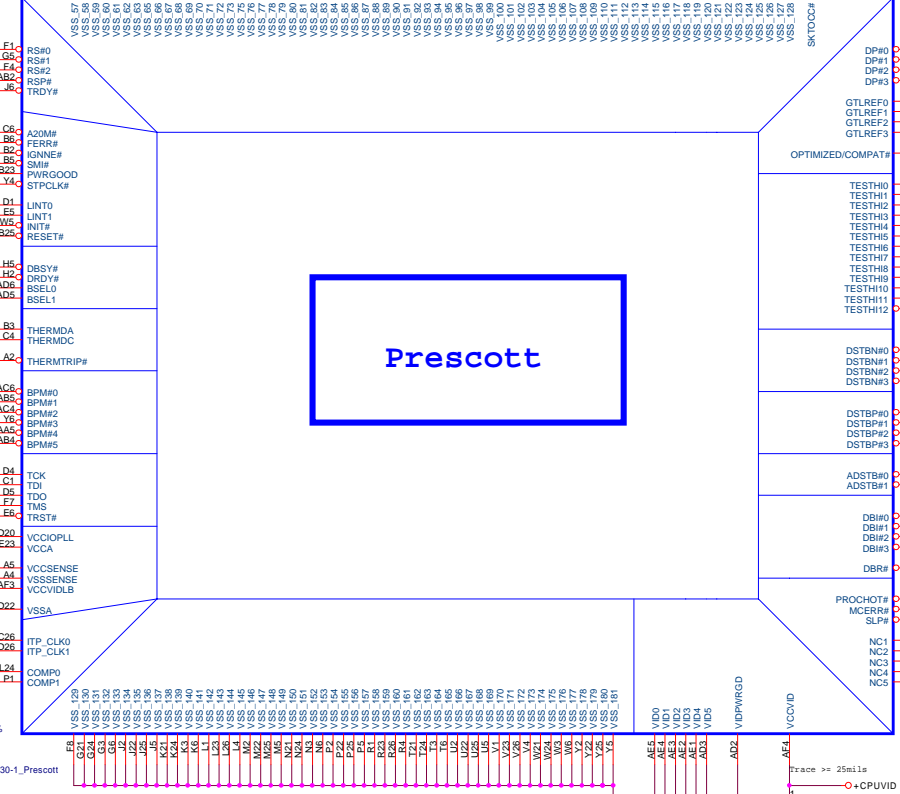
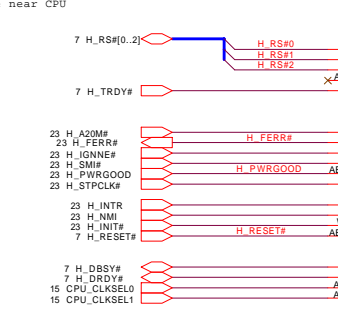
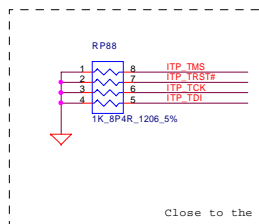
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Date: 星期二 七月 09, 2003 Sheet 4 of 56



PLL Layout note:

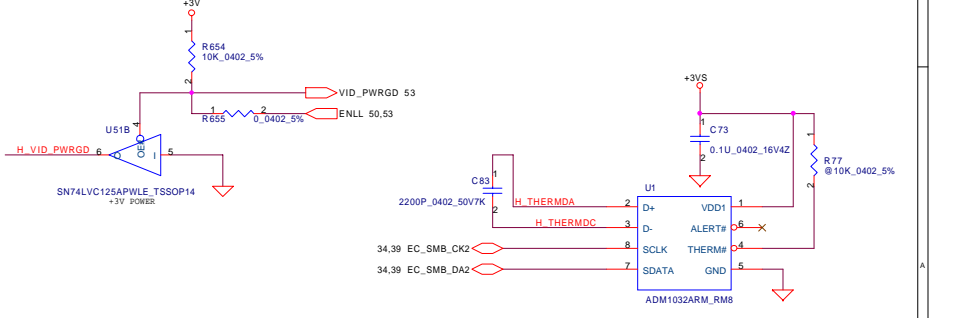
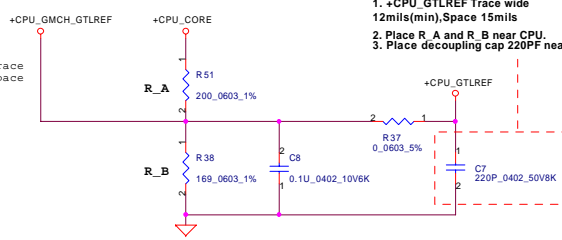
1. Place cap within 600 mils of the VCCA and VSSA pins.
2. H_VCCIOPLL, HVCCA, HVSSA trace wide 12 mils(min)



GTL Reference Voltage

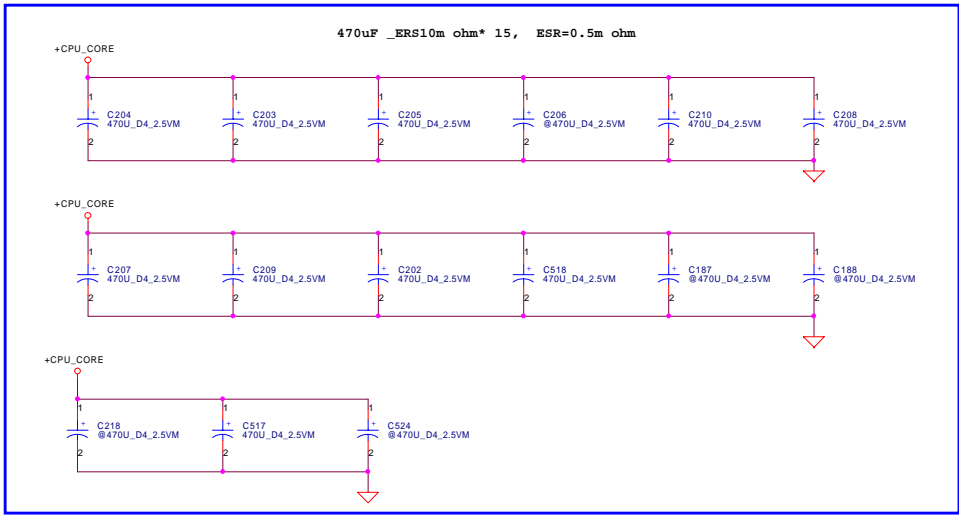
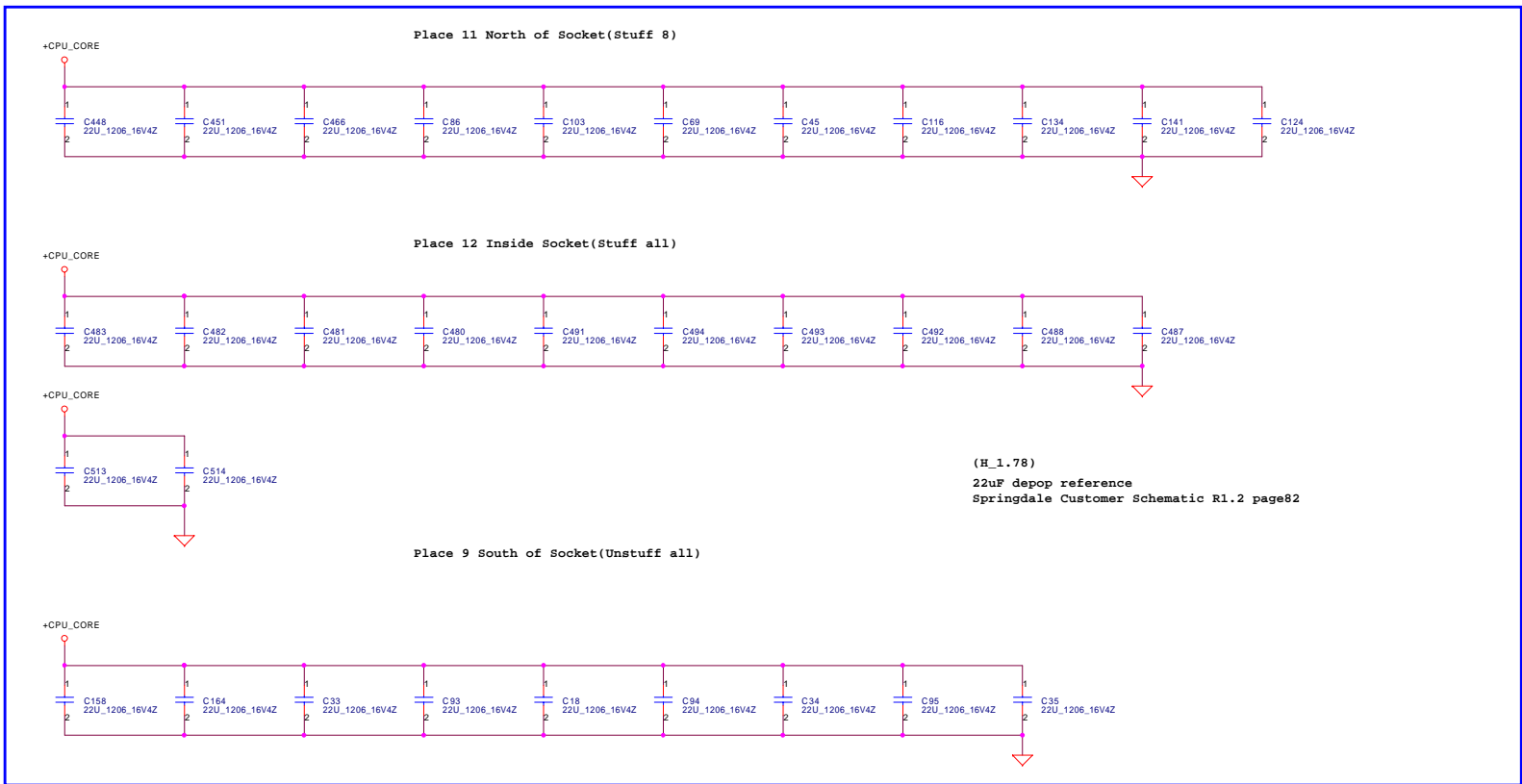
Layout note:

1. +CPU_GTLREF Trace wide 12mils(min), Space 15mils
2. Place R_A and R_B near CPU.
3. Place decoupling cap 220PF near CPU.



| | | | |
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| File | Prescott Processor in uFCPGA478 (2/2) | | |
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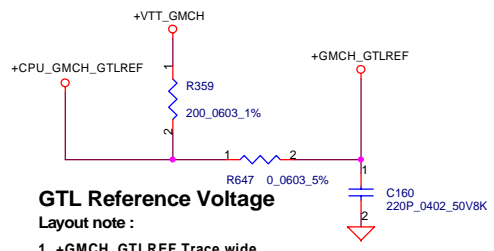
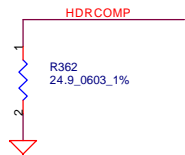
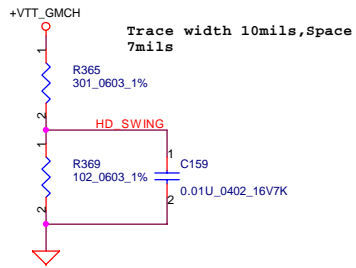


Decoupling Reference Document:
Springdale Chipset Platform Design guide Rev1.11 (12474)page239

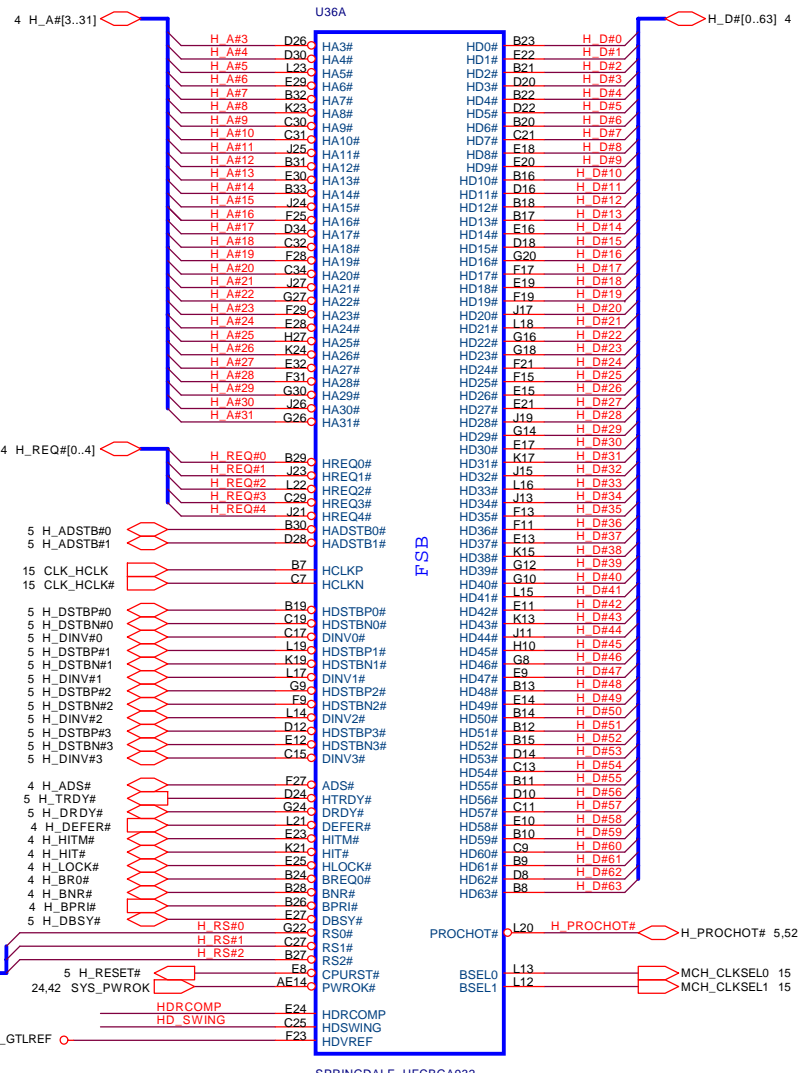
Decoupling Reference Requirement:
560uF Polymer, ESR:5m ohm(each) * 10
22uF X5R * 32

| | | |
|--------------------------|-------------------------|---------|
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| CPU Decoupling | | |
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| Date: 2003.09.09 | Sheet 6 | of 56 |

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GTL Reference Voltage
 Layout note:
 1. +GMCH_GTLREF Trace wide 12mils(min), Space 15mils.
 2. Place decoupling cap 220PF near GMCH.



| | | |
|----------------------------------|-------------------|---------------|
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| Springdale-Host/GND (1/4) | | |
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| | LA-2041 | 0.1 |
| Date: | ~P期三, 七月 09, 2003 | Sheet 7 of 56 |

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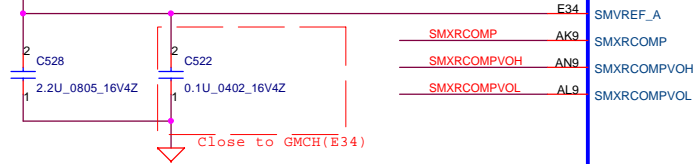
12,14 DDR_A_SMA[0..12] **DDR_A_SMA[0..12]**

- DDR_A_SMA0 A134
- DDR_A_SMA1 AL33
- DDR_A_SMA2 AK29
- DDR_A_SMA3 AN31
- DDR_A_SMA4 AL30
- DDR_A_SMA5 AL26
- DDR_A_SMA6 AL28
- DDR_A_SMA7 AP25
- DDR_A_SMA8 AP26
- DDR_A_SMA9 AP24
- DDR_A_SMA10 AJ33
- DDR_A_SMA11 AN23
- DDR_A_SMA12 AN21

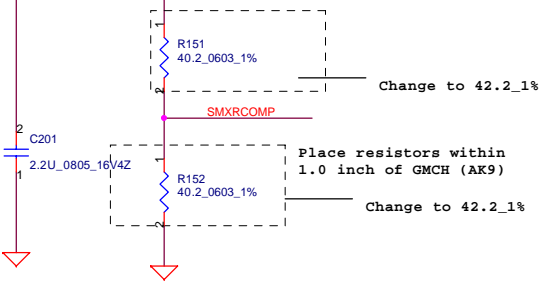
- 12,14 DDR_A_SWE# AB34
- 12,14 DDR_A_SCAS# Y34
- 12,14 DDR_A_SRAS# AC33
- 12,14 DDR_A_SBS0 AE33
- 12,14 DDR_A_SBS1 AH34
- 12,14 DDR_A_SCS#0 AA34
- 12,14 DDR_A_SCS#1 Y31
- 12,14 DDR_A_SCS#2 Y32
- 12,14 DDR_A_SCS#3 W34
- 12,14 DDR_A_CKE0 DDRA_CKE0
- 12,14 DDR_A_CKE1 DDRA_CKE1

- 12 DDR_A_CLK1 AK32
- 12 DDR_A_CLK1# AK31
- 12 DDR_A_CLK2 AN17
- 12 DDR_A_CLK2# N33
- 12 DDR_A_CLK2# AK33
- 12 DDR_A_CLK2# AK34
- 12 DDR_A_CLK2# AL16
- 12 DDR_A_CLK2# P31
- 12 DDR_A_CLK2# P32

+SM_VREF_A **+SM_VREF_A trace width of 12mils and space 12mils(min)**



+2.5V Trace width of 12mils and space 10mils(min)

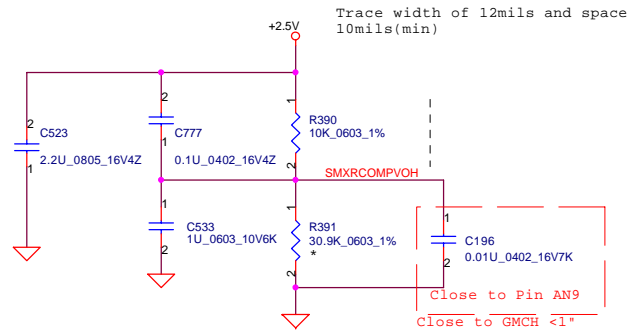


U36B

DDR Channel A

- SDQS_A0 AP12
- SDM_A0 AP10
- SDQ_A0 AP11
- SDQ_A1 SDQ_A2
- SDQ_A2 AM12
- SDQ_A3 AN13
- SDQ_A4 AM10
- SDQ_A5 AL10
- SDQ_A6 AL12
- SDQ_A7 AP13
- SDQS_A1 AP15
- SDM_A1 AP16
- SDQ_A8 AP14
- SDQ_A9 AM14
- SDQ_A10 AL18
- SDQ_A11 AP19
- SDQ_A12 AL14
- SDQ_A13 AN15
- SDQ_A14 AP18
- SDQ_A15 AM18
- SDQS_A2 AP23
- SDM_A2 AM24
- SDQ_A16 AP22
- SDQ_A17 AM22
- SDQ_A18 AL24
- SDQ_A19 AN27
- SDQ_A20 AP21
- SDQ_A21 AL22
- SDQ_A22 AP25
- SDQ_A23 AP27
- SDQS_A3 AM30
- SDM_A3 AP30
- SDQ_A24 AP28
- SDQ_A25 AP29
- SDQ_A26 AP23
- SDQ_A27 AM28
- SDQ_A28 AN29
- SDQ_A29 AP21
- SDQ_A30 AL22
- SDQ_A31 AN34
- SDQS_A4 AF34
- SDM_A4 AF31
- SDQ_A32 AH32
- SDQ_A33 AG34
- SDQ_A34 AF32
- SDQ_A35 AD32
- SDQ_A36 AH31
- SDQ_A37 AG33
- SDQ_A38 AE34
- SDQ_A39 AD34
- SDQS_A5 V33
- SDM_A5 W33
- SDQ_A40 AC34
- SDQ_A41 AB31
- SDQ_A42 V32
- SDQ_A43 V31
- SDQ_A44 AD31
- SDQ_A45 AB32
- SDQ_A46 U34
- SDQ_A47 U33
- SDQS_A6 M32
- SDM_A6 M34
- SDQ_A48 T32
- SDQ_A49 T32
- SDQ_A50 K34
- SDQ_A51 K32
- SDQ_A52 T31
- SDQ_A53 F34
- SDQ_A54 L34
- SDQ_A55 L33
- SDQS_A7 H31
- SDM_A7 H32
- SDQ_A56 J33
- SDQ_A57 H34
- SDQ_A58 E33
- SDQ_A59 F33
- SDQ_A60 K31
- SDQ_A61 J34
- SDQ_A62 G34
- SDQ_A63 F34
- DDRA_SDQS0 12,14
- DDRA_SDM0 12,14
- DDRA_SDQ0 12,14
- DDRA_SDQ1 12,14
- DDRA_SDQ2 12,14
- DDRA_SDQ3 12,14
- DDRA_SDQ4 12,14
- DDRA_SDQ5 12,14
- DDRA_SDQ6 12,14
- DDRA_SDQ7 12,14
- DDRA_SDQS1 12,14
- DDRA_SDM1 12,14
- DDRA_SDQ8 12,14
- DDRA_SDQ9 12,14
- DDRA_SDQ10 12,14
- DDRA_SDQ11 12,14
- DDRA_SDQ12 12,14
- DDRA_SDQ13 12,14
- DDRA_SDQ14 12,14
- DDRA_SDQ15 12,14
- DDRA_SDQS2 12,14
- DDRA_SDM2 12,14
- DDRA_SDQ16 12,14
- DDRA_SDQ17 12,14
- DDRA_SDQ18 12,14
- DDRA_SDQ19 12,14
- DDRA_SDQ20 12,14
- DDRA_SDQ21 12,14
- DDRA_SDQ22 12,14
- DDRA_SDQ23 12,14
- DDRA_SDQS3 12,14
- DDRA_SDM3 12,14
- DDRA_SDQ24 12,14
- DDRA_SDQ25 12,14
- DDRA_SDQ26 12,14
- DDRA_SDQ27 12,14
- DDRA_SDQ28 12,14
- DDRA_SDQ29 12,14
- DDRA_SDQ30 12,14
- DDRA_SDQ31 12,14
- DDRA_SDQS4 12,14
- DDRA_SDM4 12,14
- DDRA_SDQ32 12,14
- DDRA_SDQ33 12,14
- DDRA_SDQ34 12,14
- DDRA_SDQ35 12,14
- DDRA_SDQ36 12,14
- DDRA_SDQ37 12,14
- DDRA_SDQ38 12,14
- DDRA_SDQ39 12,14
- DDRA_SDQS5 12,14
- DDRA_SDM5 12,14
- DDRA_SDQ40 12,14
- DDRA_SDQ41 12,14
- DDRA_SDQ42 12,14
- DDRA_SDQ43 12,14
- DDRA_SDQ44 12,14
- DDRA_SDQ45 12,14
- DDRA_SDQ46 12,14
- DDRA_SDQ47 12,14
- DDRA_SDQS6 12,14
- DDRA_SDM6 12,14
- DDRA_SDQ48 12,14
- DDRA_SDQ49 12,14
- DDRA_SDQ50 12,14
- DDRA_SDQ51 12,14
- DDRA_SDQ52 12,14
- DDRA_SDQ53 12,14
- DDRA_SDQ54 12,14
- DDRA_SDQ55 12,14
- DDRA_SDQS7 12,14
- DDRA_SDM7 12,14
- DDRA_SDQ56 12,14
- DDRA_SDQ57 12,14
- DDRA_SDQ58 12,14
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- DDRA_SDQ62 12,14
- DDRA_SDQ63 12,14

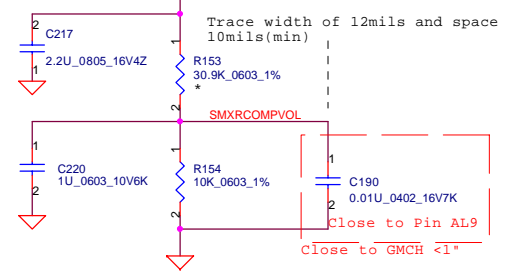
DDR_A_SDQ[0..63] DDR_A_SDQ[0..63] 12,14



* Change to 31.12K

Follow Intel design guide R1.11(12474) page124,125

+2.5V Trace width of 12mils and space 10mils(min)



Compal Electronics, Inc.

Springdale-DDR Interface-A(2/5)

| | | |
|--------|---------------------------------|---------------|
| Title | Springdale-DDR Interface-A(2/5) | |
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13,14 DDRB_SMA[0..12] DDRB_SMA[0..12]

U36C

- DDRB_SMA0 AG31
- DDRB_SMA1 AJ31
- DDRB_SMA2 AD27
- DDRB_SMA3 AE24
- DDRB_SMA4 AK27
- DDRB_SMA5 AG25
- DDRB_SMA6 AL25
- DDRB_SMA7 AF21
- DDRB_SMA8 AJ23
- DDRB_SMA9 AJ22
- DDRB_SMA10 AF29
- DDRB_SMA11 AL21
- DDRB_SMA12 AJ20

- AE27
- AD26
- AL29
- AL27
- AE23

- 13,14 DDRB_SWE# W27
- 13,14 DDRB_SCAS# W31
- 13,14 DDRB_SRAS# W26

- 13,14 DDRB_SBS0 Y25
- 13,14 DDRB_SBS1 AA25

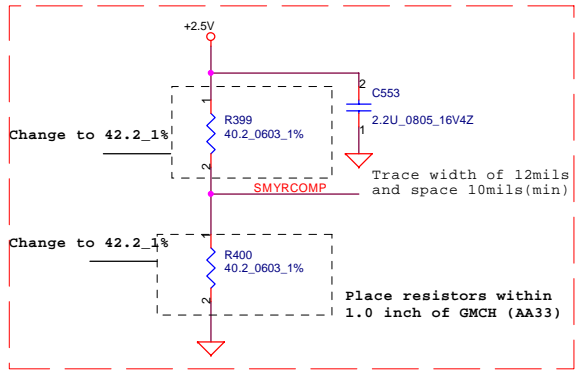
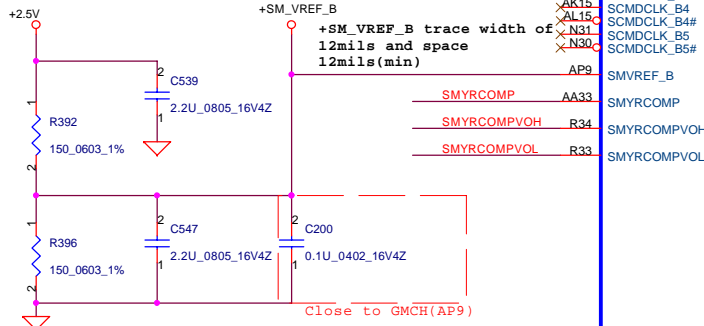
- 13,14 DDRB_SCS#0 U26
- 13,14 DDRB_SCS#1 T29
- W25
- W25
- W25

- 13,14 DDRB_CKE0 DDRB_CKE0 AK19
- 13,14 DDRB_CKE1 DDRB_CKE1 AF18

- AG19
- AE18

- 13 DDRB_CLK1
- 13 DDRB_CLK1#
- 13 DDRB_CLK2
- 13 DDRB_CLK2#

SM_VREF_B and SM_VREF_A are connected inside GMCH.

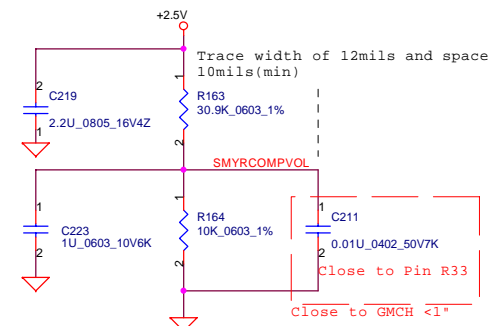
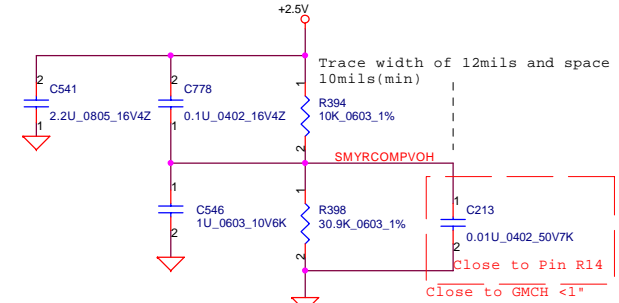


SPRINGDALE_UFCBGA932

DDR Channel B

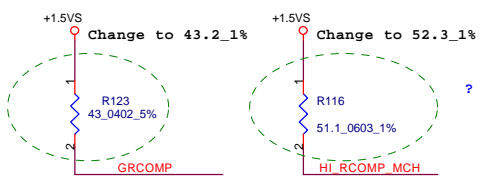
- SDQS_B0 AF15
- SDM_B0 AG11
- SDQ_B0 AE15
- SDQ_B1 AL11
- SDQ_B2 SDA_A_B4
- SDQ_B3 SDA_A_B5
- SDQ_B4 SDA_A_B6
- SDQ_B5 SDA_A_B7
- SDQ_B6 SDA_A_B8
- SDQ_B7 SDA_A_B9
- SDQS_B1 AG13
- SDM_B1 AG15
- SDQ_B8 AE17
- SDQ_B9 AL13
- SDQ_B10 AK17
- SDQ_B11 AL17
- SDQ_B12 AK13
- SDQ_B13 AJ14
- SDQ_B14 AI16
- SDQ_B15 AJ18
- SDQS_B2 AG21
- SDM_B2 AE21
- SDQ_B16 AE19
- SDQ_B17 AE20
- SDQ_B18 AK23
- SDQ_B19 AL19
- SDQ_B20 AK21
- SDQ_B21 AJ24
- SDQ_B22 AJ22
- SDQ_B23 AE22
- SDQS_B3 AH27
- SDM_B3 AJ28
- SDQ_B24 AK25
- SDQ_B25 AH26
- SDQ_B26 AG27
- SDQ_B27 AK26
- SDQ_B28 AJ27
- SDQ_B29 AD25
- SDQ_B30 AF28
- SDQS_B4 AD29
- SDM_B4 AC31
- SDQ_B32 AE30
- SDQ_B33 AC27
- SDQ_B34 AC30
- SDQ_B35 Y29
- SDQ_B36 AE31
- SDQ_B37 AB29
- SDQ_B38 AA26
- SDQ_B39 AA27
- SDQS_B5 U30
- SDM_B5 U31
- SDQ_B40 AA30
- SDQ_B41 W30
- SDQ_B42 U27
- SDQ_B43 T25
- SDQ_B44 AA31
- SDQ_B45 V29
- SDQ_B46 U25
- SDQ_B47 R27
- SDQS_B6 L27
- SDM_B6 M29
- SDQ_B48 P29
- SDQ_B49 R30
- SDQ_B50 K28
- SDQ_B51 L30
- SDQ_B52 R31
- SDQ_B53 R26
- SDQ_B54 P25
- SDQ_B55 I32
- SDQS_B7 J30
- SDM_B7 J31
- SDQ_B56 K30
- SDQ_B57 H29
- SDQ_B58 F32
- SDQ_B59 G33
- SDQ_B60 N25
- SDQ_B61 M25
- SDQ_B62 J29
- SDQ_B63 G32
- DDRB_SDQS0 13,14
- DDRB_SDM0 13,14
- DDRB_SDO0
- DDRB_SDO1
- DDRB_SDO2
- DDRB_SDO3
- DDRB_SDO4
- DDRB_SDO5
- DDRB_SDO6
- DDRB_SDO7
- DDRB_SDQS1 13,14
- DDRB_SDM1 13,14
- DDRB_SDO8
- DDRB_SDO9
- DDRB_SDO10
- DDRB_SDO11
- DDRB_SDO12
- DDRB_SDO13
- DDRB_SDO14
- DDRB_SDO15
- DDRB_SDQS2 13,14
- DDRB_SDM2 13,14
- DDRB_SDO16
- DDRB_SDO17
- DDRB_SDO18
- DDRB_SDO19
- DDRB_SDO20
- DDRB_SDO21
- DDRB_SDO22
- DDRB_SDO23
- DDRB_SDQS3 13,14
- DDRB_SDM3 13,14
- DDRB_SDO24
- DDRB_SDO25
- DDRB_SDO26
- DDRB_SDO27
- DDRB_SDO28
- DDRB_SDO29
- DDRB_SDO30
- DDRB_SDO31
- DDRB_SDQS4 13,14
- DDRB_SDM4 13,14
- DDRB_SDO32
- DDRB_SDO33
- DDRB_SDO34
- DDRB_SDO35
- DDRB_SDO36
- DDRB_SDO37
- DDRB_SDO38
- DDRB_SDO39
- DDRB_SDQS5 13,14
- DDRB_SDM5 13,14
- DDRB_SDO40
- DDRB_SDO41
- DDRB_SDO42
- DDRB_SDO43
- DDRB_SDO44
- DDRB_SDO45
- DDRB_SDO46
- DDRB_SDO47
- DDRB_SDQS6 13,14
- DDRB_SDM6 13,14
- DDRB_SDO48
- DDRB_SDO49
- DDRB_SDO50
- DDRB_SDO51
- DDRB_SDO52
- DDRB_SDO53
- DDRB_SDO54
- DDRB_SDO55
- DDRB_SDQS7 13,14
- DDRB_SDM7 13,14
- DDRB_SDO56
- DDRB_SDO57
- DDRB_SDO58
- DDRB_SDO59
- DDRB_SDO60
- DDRB_SDO61
- DDRB_SDO62
- DDRB_SDO63

DDRB_SDQ[0..63] DDRB_SDQ[0..63] 13,14

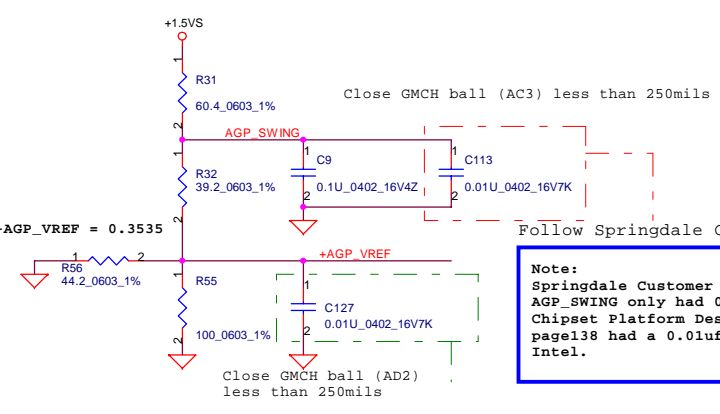
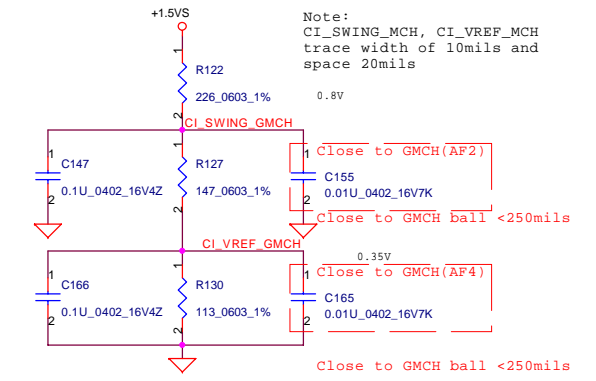
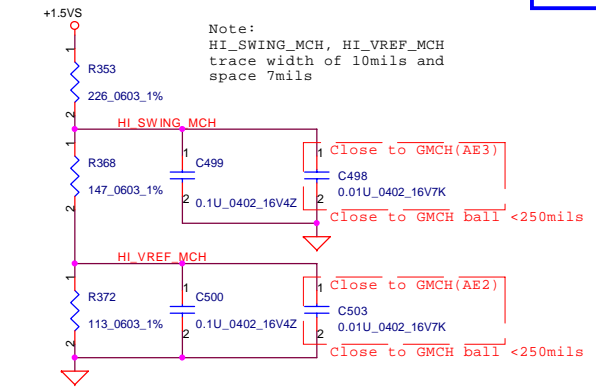


| | | |
|---------------------------------|-------------------|---------------|
| Compal Electronics, Inc. | | |
| Springdale-DDR Interface-B(3/5) | | |
| Title | Document Number | Rev |
| | LA-2041 | 0.1 |
| Date: | ~P期三, 七月 09, 2003 | Sheet 9 of 56 |

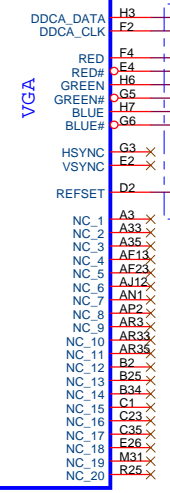
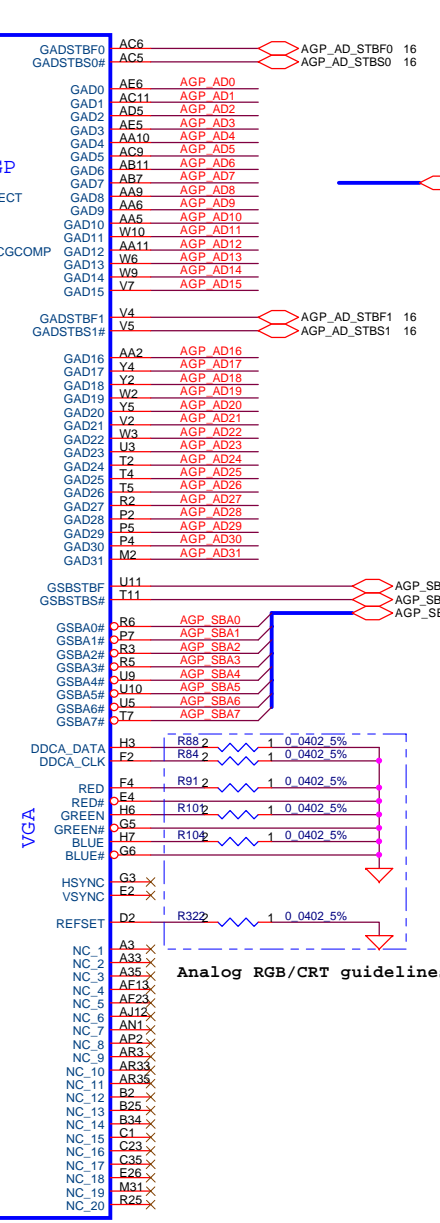
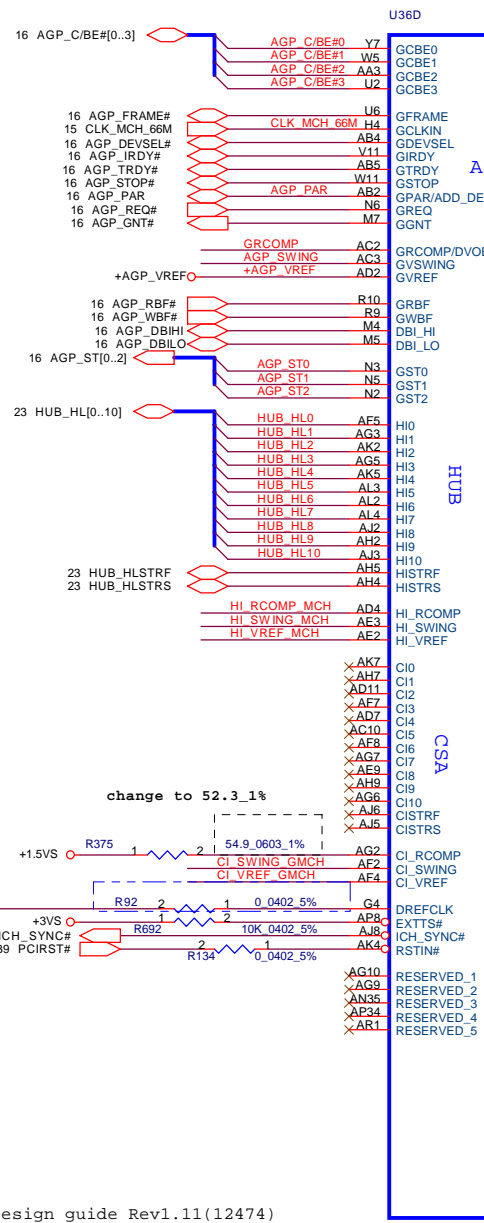
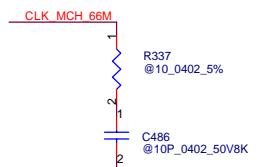
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1: External AGP
0: Internal Graphics



Note:
Springdale Customer Schematic R1.2 page18
AGP_SWING only had 0.1u cap ; But Springdale
Chipset Platform Design guide Rev.1.1(12474)
page138 had a 0.01uf cap. need confirm with
Intel.

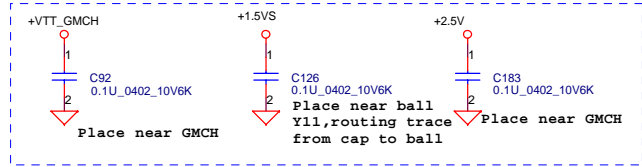
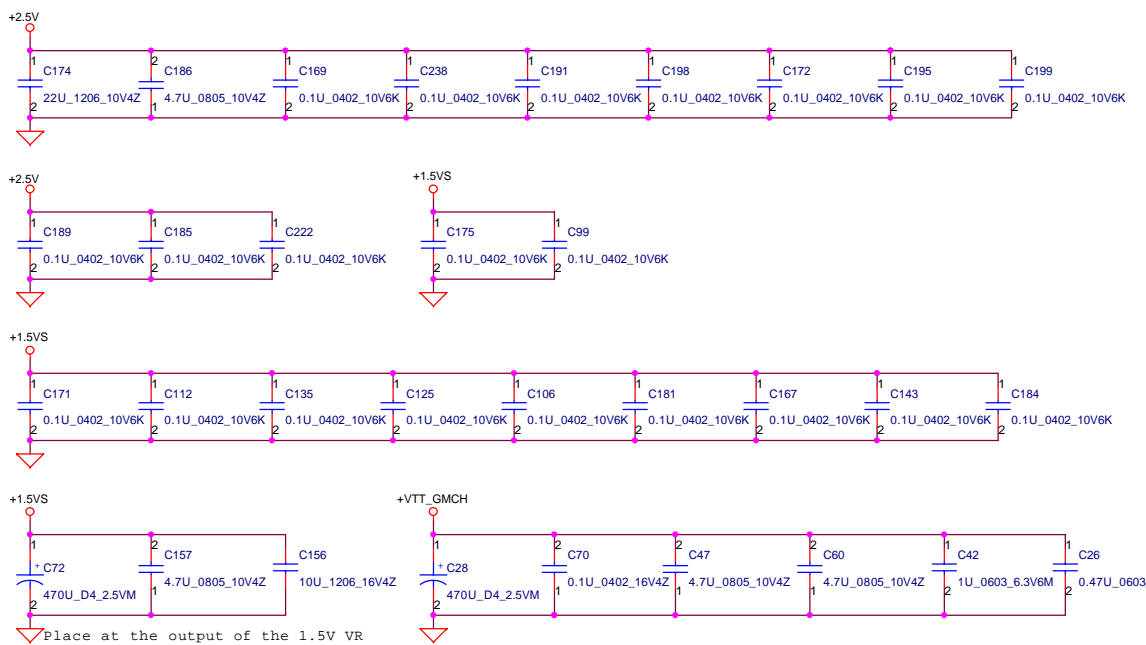
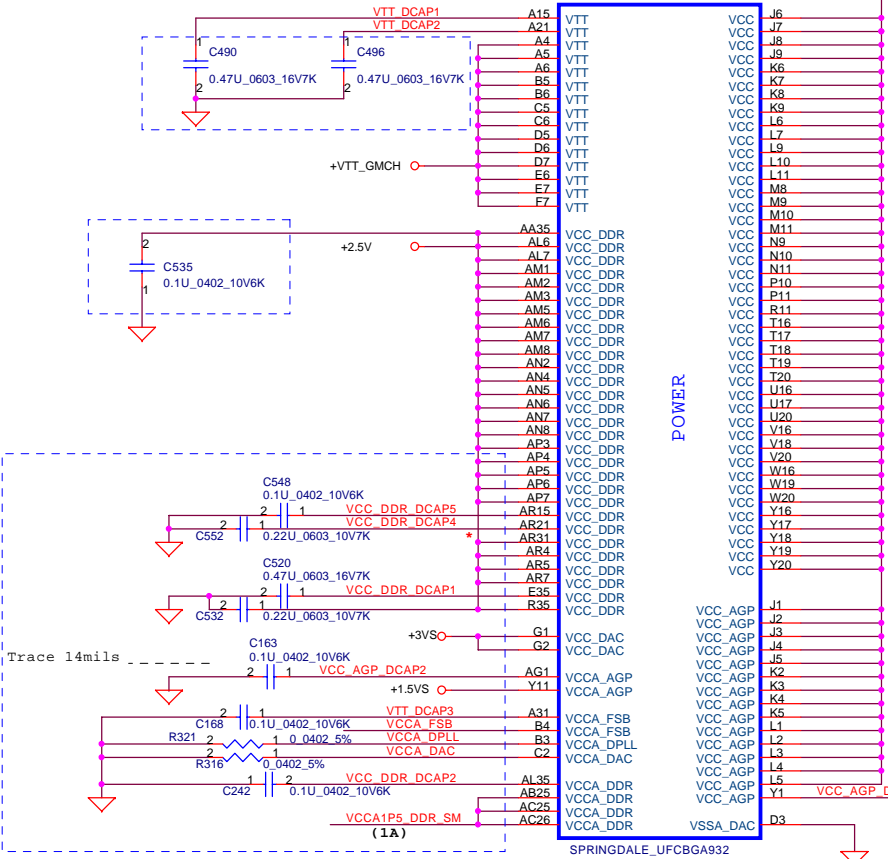


Analog RGB/CRT guidelines for Springdale-P

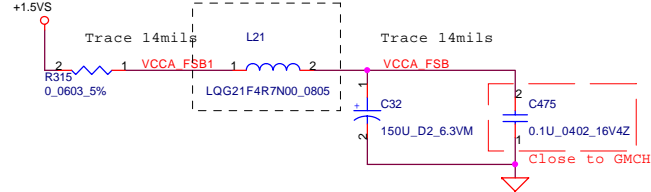
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| | | |
|--------------------------------------------------|-----------------------------------|------------|
| Title Springdale-AGP/HUB/VGA/CSA (4/5) | | |
| Size B | Document Number LA-2041 | Rev 0.1 |
| Date: ~P期三, 七月 09, 2003 | Sheet 10 | of 56 |

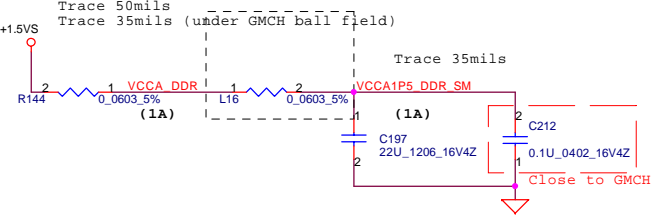
Note:
Placed less than 100 mils from ball
Route to GMCH ball without via



Note: Please change to 0.82uH, DC current of 30mA parts and close to cap



Note: Please change to 1uH(0.54uH-D-IN), DC current of 1000mA parts and close to cap



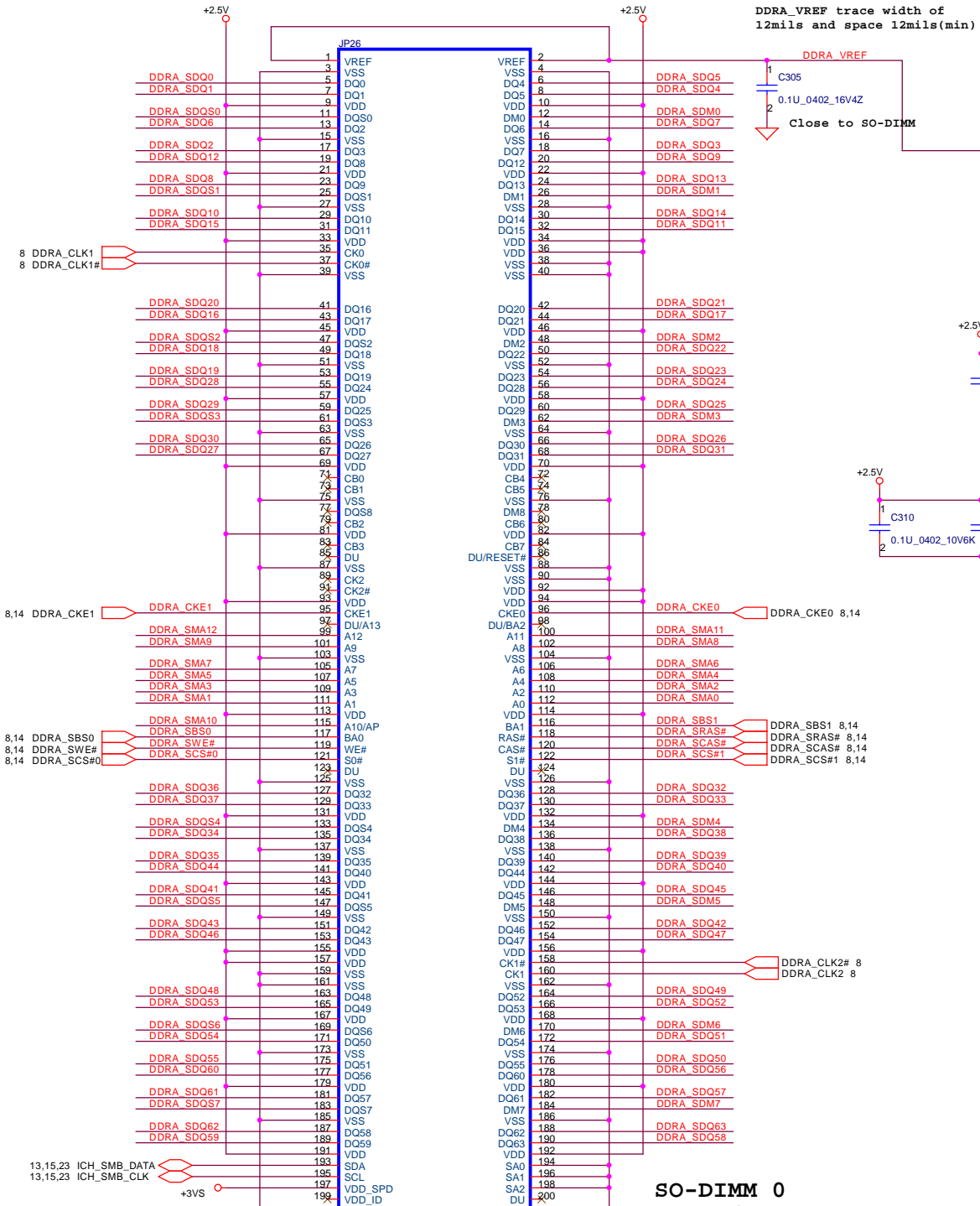
Note:
Placed less than 100 mils from ball
Route to GMCH ball without via

Decoupling Reference Document:
Springdale Chipset Platform Design guide Rev1.11 (12474)page246,248

Decoupling Reference Document:
Springdale Customer Schematic R1.2 page84

| | | |
|------------------------------------|-------------------|----------------|
| Compal Electronics, Inc. | | |
| Springdale-Decoupling (5/5) | | |
| Title | | |
| Size | Document Number | Rev |
| B | LA-2041 | 0.1 |
| Date: | ~P期三, 七月 09, 2003 | Sheet 11 of 56 |

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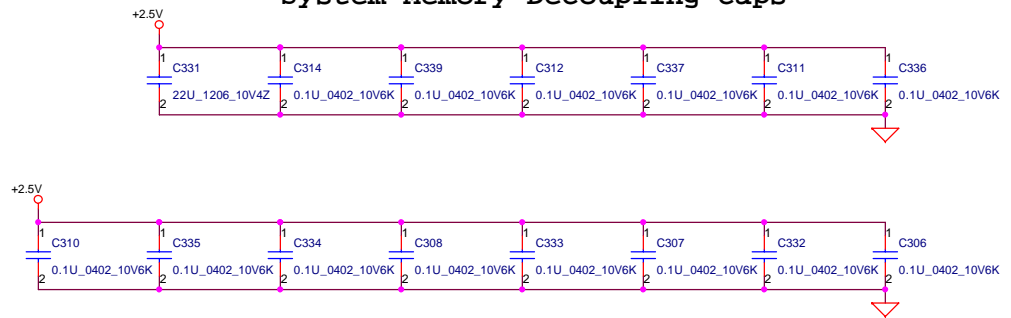
**SO-DIMM 0
REVERSE**

KEYLINK_5762-3-111 H = 5.2mm

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- 8,14 DDRA_SQ0[0..63] DDRA_SQ0[0..63]
- 8,14 DDRA_SQ0S[0..7] DDRA_SQ0S[0..7]
- 8,14 DDRA_SMA[0..12] DDRA_SMA[0..12]
- 8,14 DDRA_SDM[0..7] DDRA_SDM[0..7]

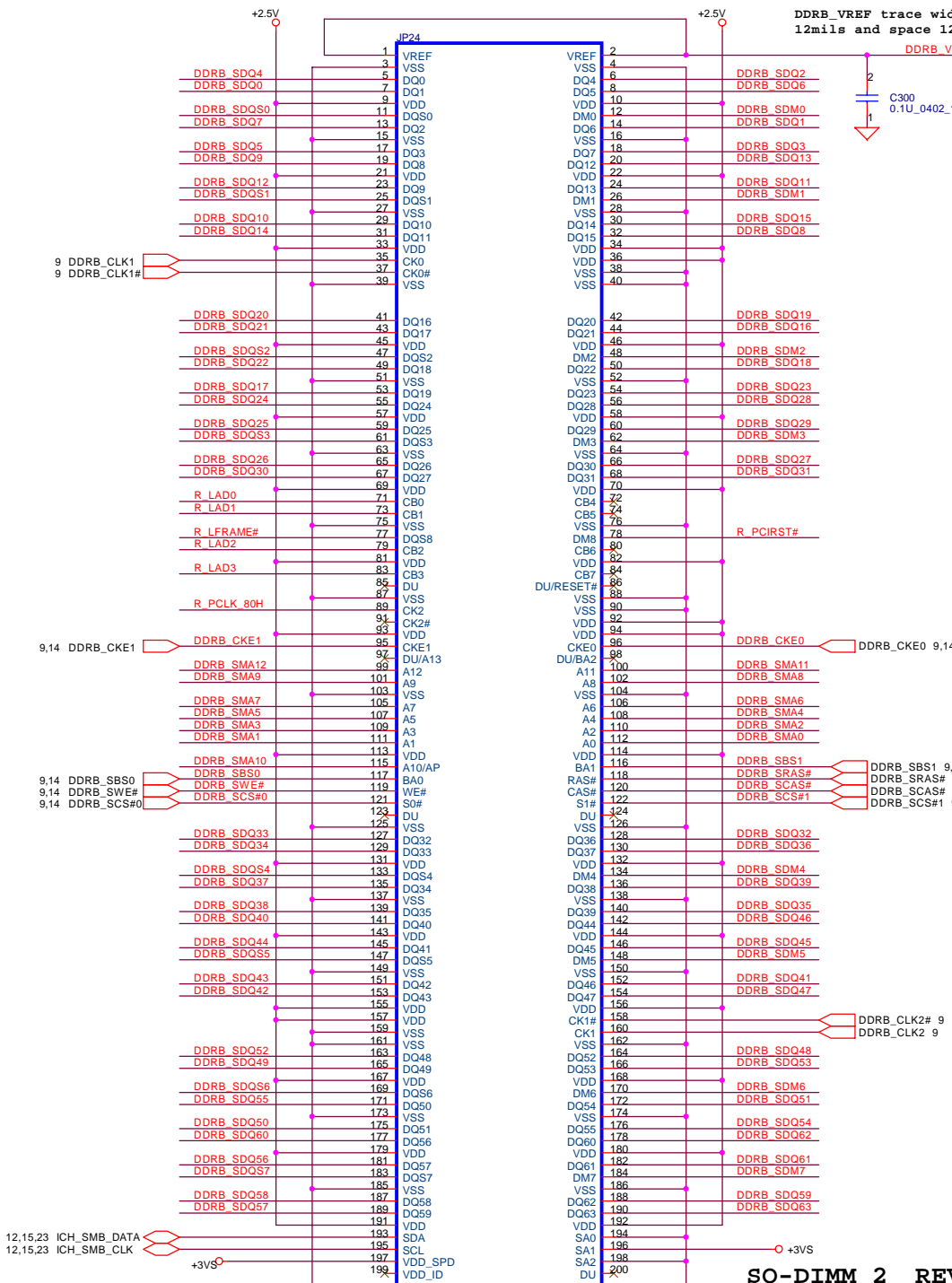
System Memory Decoupling caps



Decoupling Reference Document:
Springdale Customer Schematic R1.2 page22
each Channel(two DIMMs) requirement 22uF*1 ; 0.1uF*14

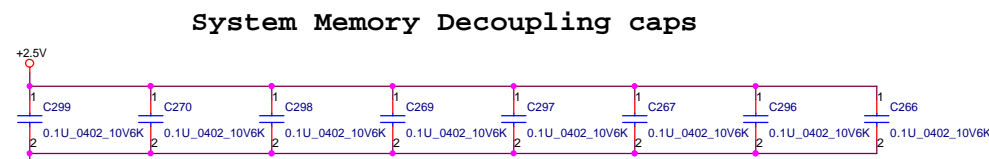
Decoupling Reference Document:
Springdale Chipset Platform Design guide Rev1.11
(12474)pag 271 each DIMM(two) requirement 0.1uF*42

| | | |
|---------------------------------|-------------------|----------------|
| Compal Electronics, Inc. | | |
| DDR-SODIMM SLOT1 | | |
| Title | Document Number | Rev |
| | LA-2041 | 0.1 |
| Date: | ~P期三, 七月 09, 2003 | Sheet 12 of 56 |

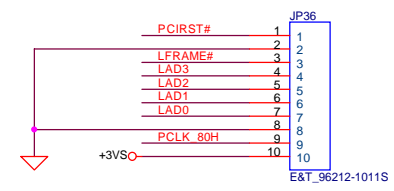
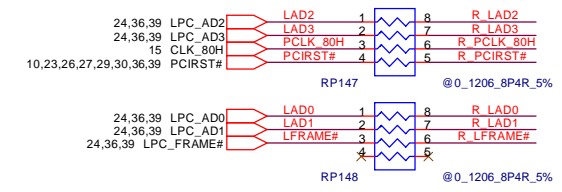
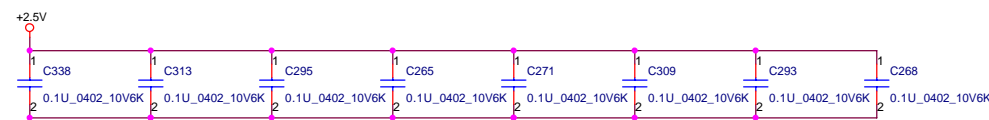
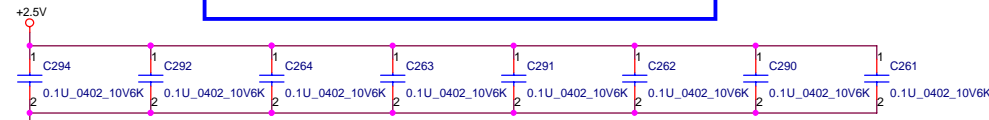


DDR_B_VREF trace width of 12mils and space 12mils(min)

- 9,14 DDRB_SDQ[0..63] DDRB_SDQ[0..63]
- 9,14 DDRB_SDQS[0..7] DDRB_SDQS[0..7]
- 9,14 DDRB_SMA[0..12] DDRB_SMA[0..12]
- 9,14 DDRB_SDM[0..7] DDRB_SDM[0..7]



Decoupling Reference Document:
Springdale Customer Schematic R1.2 page26
each Channel(two DIMMs) requirement 0.1uF*24



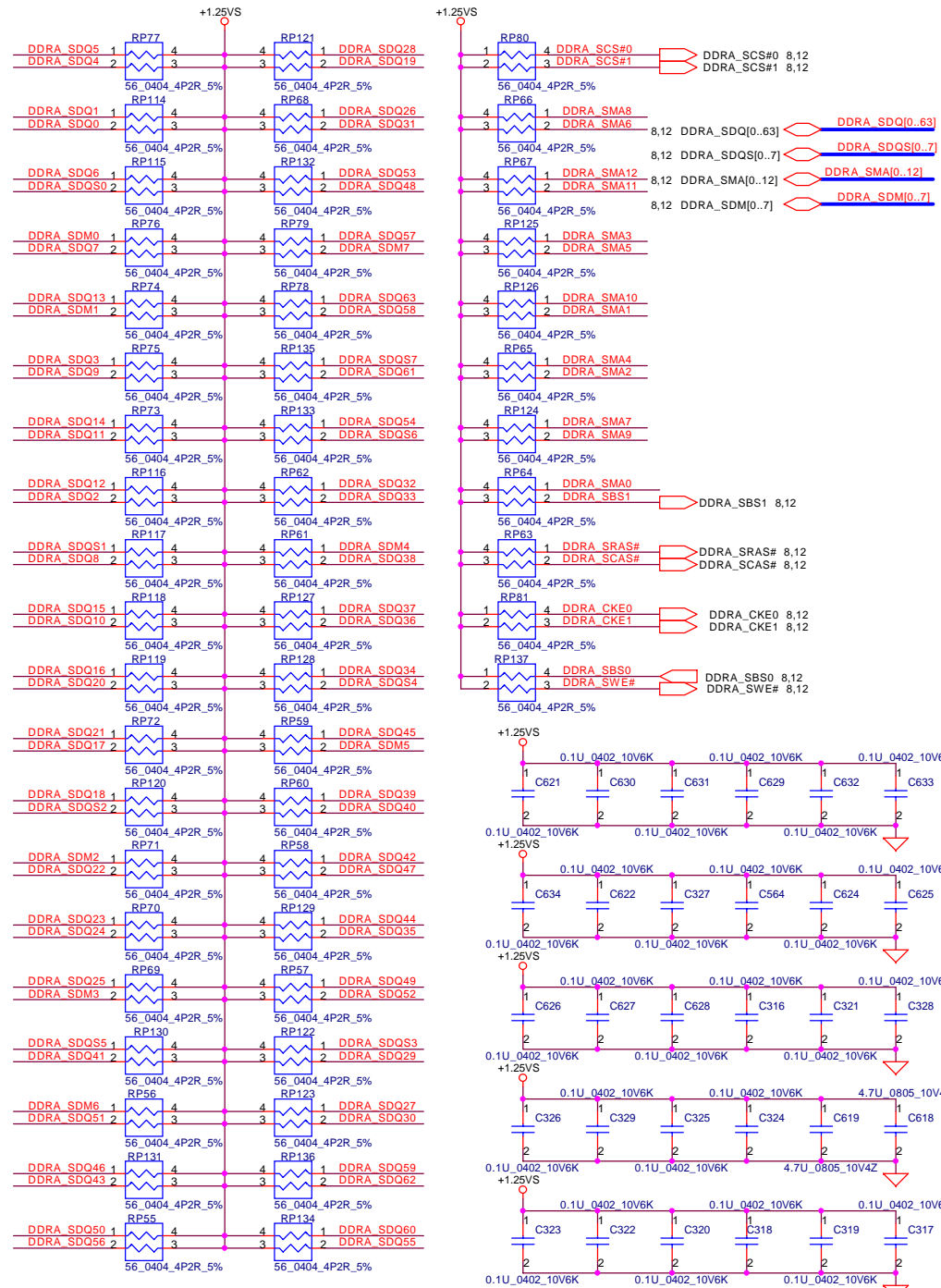
DEBUG PORT

SO-DIMM 2 REVERSE

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| Compal Electronics, Inc. | | |
| DDR-SODIMM SLOT2 | | |
| Title | | |
| Size | Document Number | Rev |
| | LA-2041 | 0.1 |
| Date: | ~P期三, 七月 09, 2003 | Sheet 13 of 56 |

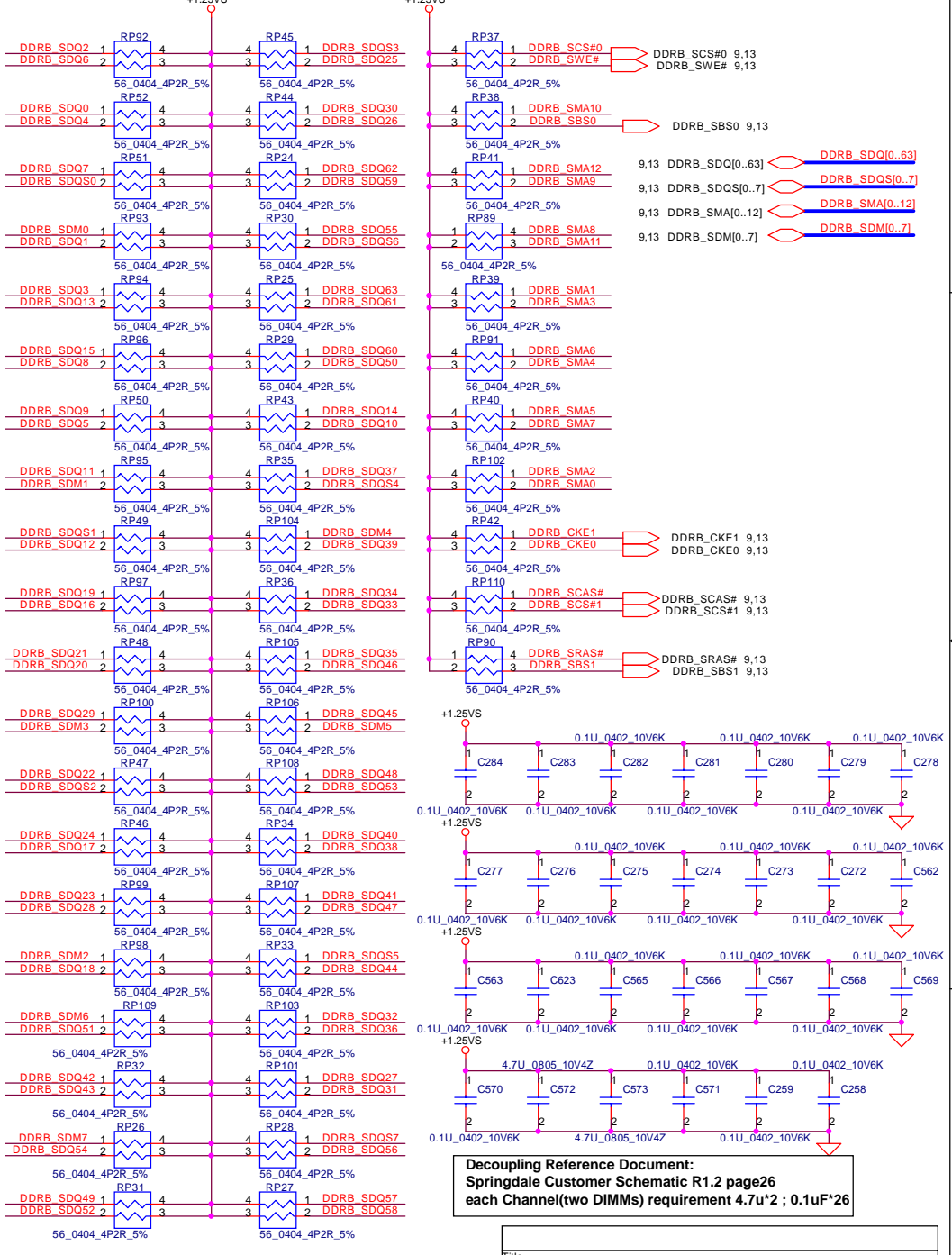
Channel A(DIMM0) Termination resistors & Decoupling caps



Decoupling Reference Document:
Springdale Customer Schematic R1.2 page22
each Channel(two DIMMs) requirement 4.7uF*2 ; 0.1uF*28

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Channel B(DIMM1) Termination resistors & Decoupling caps



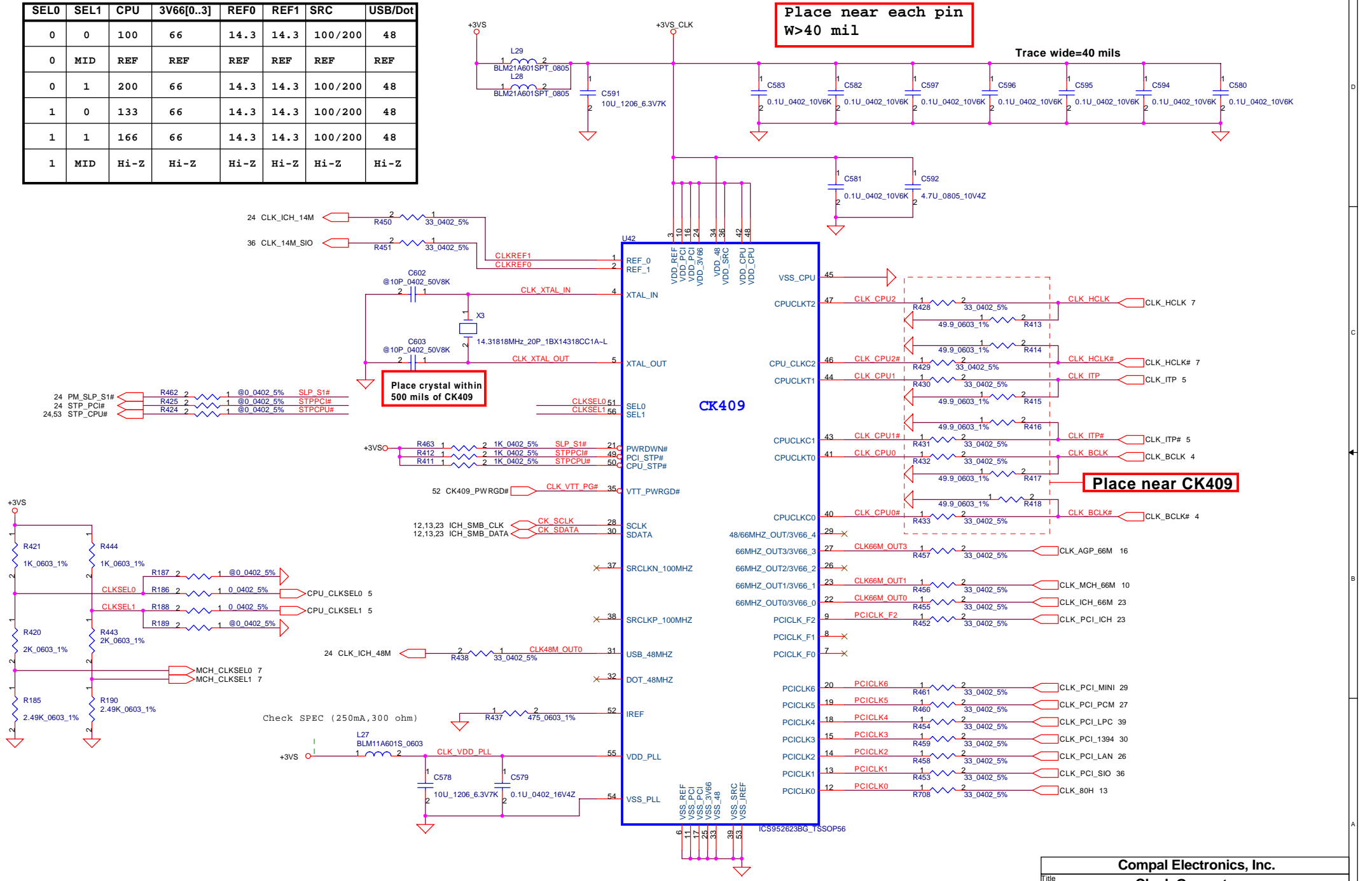
Decoupling Reference Document:
Springdale Customer Schematic R1.2 page26
each Channel(two DIMMs) requirement 4.7uF*2 ; 0.1uF*26

| | | |
|----------------------------------|-------------------|----------------|
| Title | | |
| DDR Termination Resistors | | |
| Size | Document Number | Rev |
| B | LA-2041 | 0.1 |
| Date: | ~P期三, 七月 09, 2003 | Sheet 14 of 56 |

| SEL0 | SEL1 | CPU | 3V66[0..3] | REF0 | REF1 | SRC | USB/Dot |
|------|------|------|------------|------|------|---------|---------|
| 0 | 0 | 100 | 66 | 14.3 | 14.3 | 100/200 | 48 |
| 0 | MID | REF | REF | REF | REF | REF | REF |
| 0 | 1 | 200 | 66 | 14.3 | 14.3 | 100/200 | 48 |
| 1 | 0 | 133 | 66 | 14.3 | 14.3 | 100/200 | 48 |
| 1 | 1 | 166 | 66 | 14.3 | 14.3 | 100/200 | 48 |
| 1 | MID | Hi-Z | Hi-Z | Hi-Z | Hi-Z | Hi-Z | Hi-Z |

Place near each pin
W>40 mil

Trace wide=40 mils

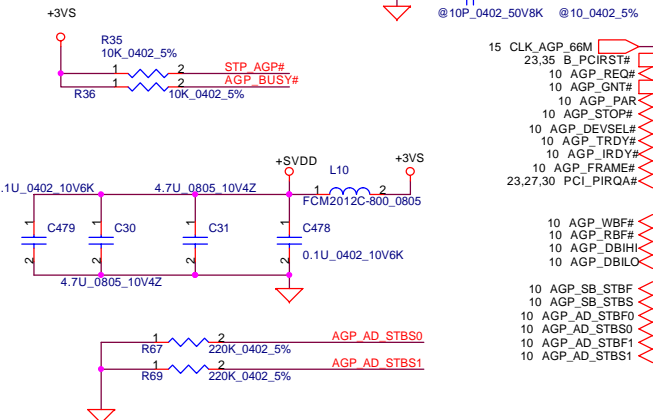
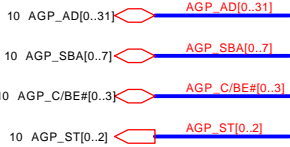
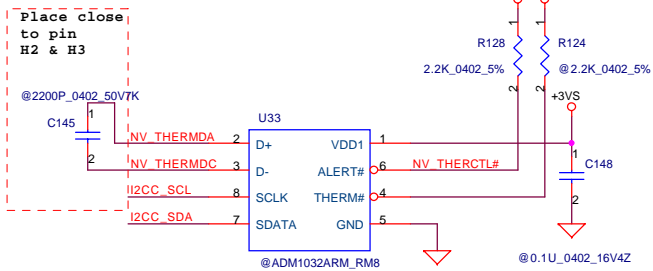


Place crystal within
500 mils of CK409

Place near CK409

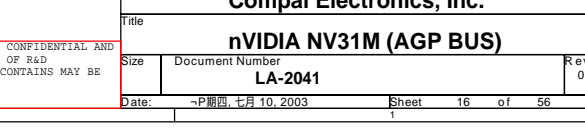
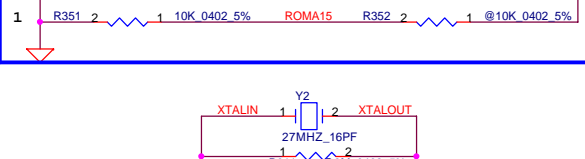
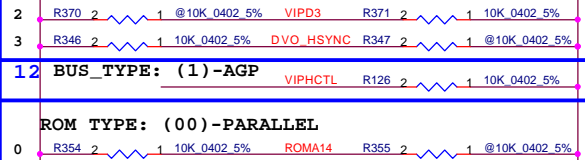
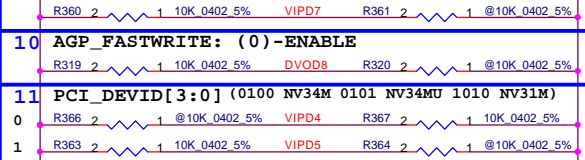
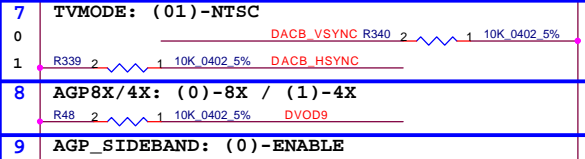
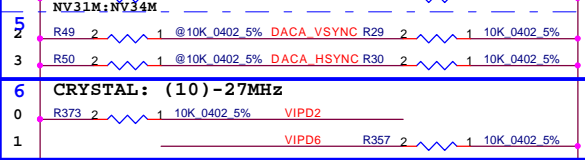
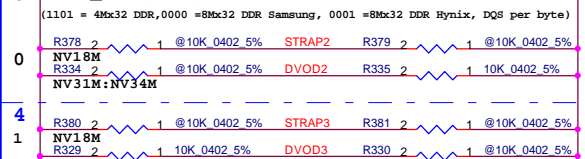
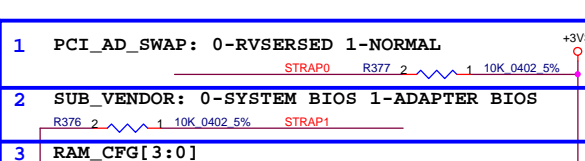
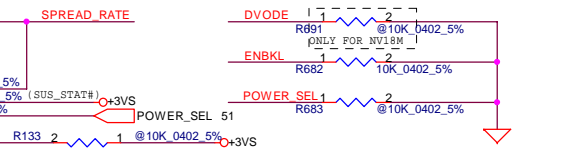
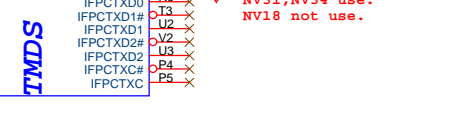
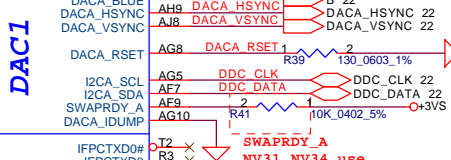
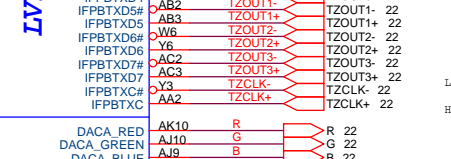
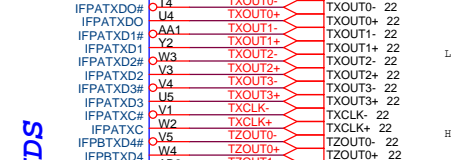
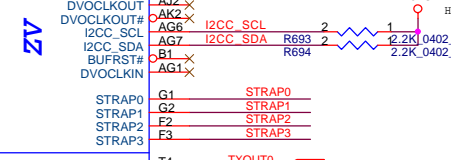
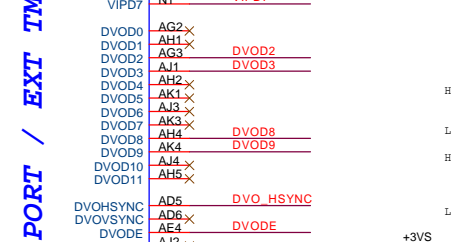
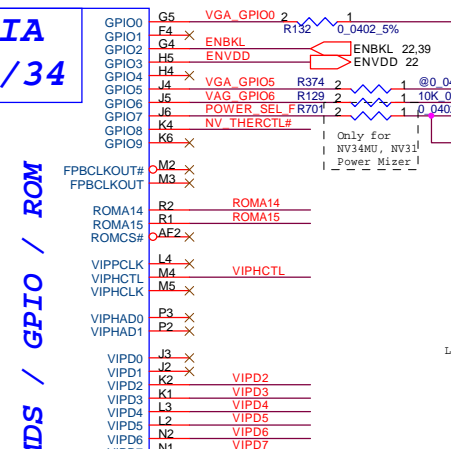
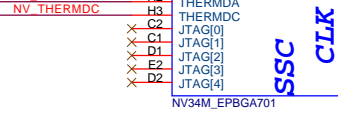
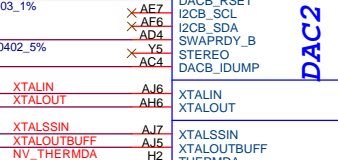
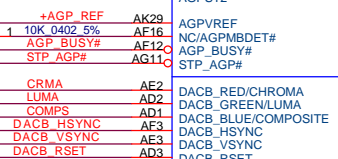
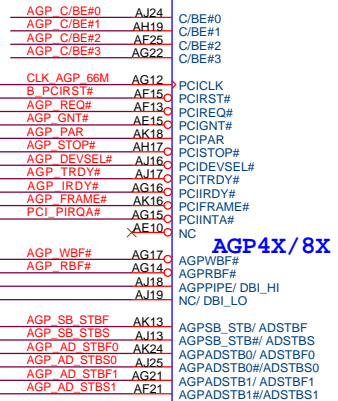
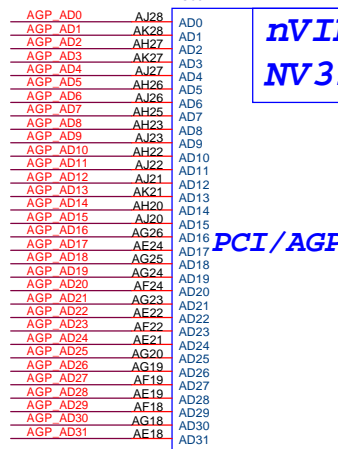
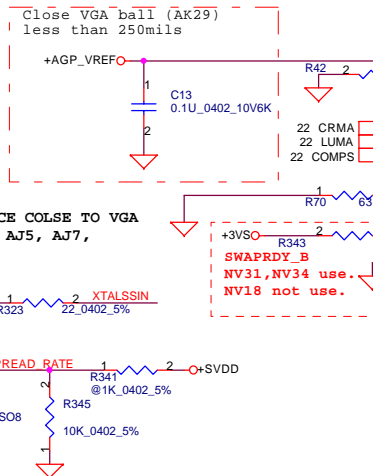
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| | | |
|---------------------------------|---------------------|----------------|
| Compal Electronics, Inc. | | |
| Clock Generator | | |
| Title | Document Number | Rev |
| | LA-2041 | 0.1 |
| Date: | ~P 星期三, 七月 09, 2003 | Sheet 15 of 56 |



Selection Table For W180

| Modulation Setting | SST Ratio |
|--------------------|-----------|
| SS% | |
| 0 | 1.25% |
| 1 | 3.75% |



Compal Electronics, Inc.

nVIDIA NV31M (AGP BUS)

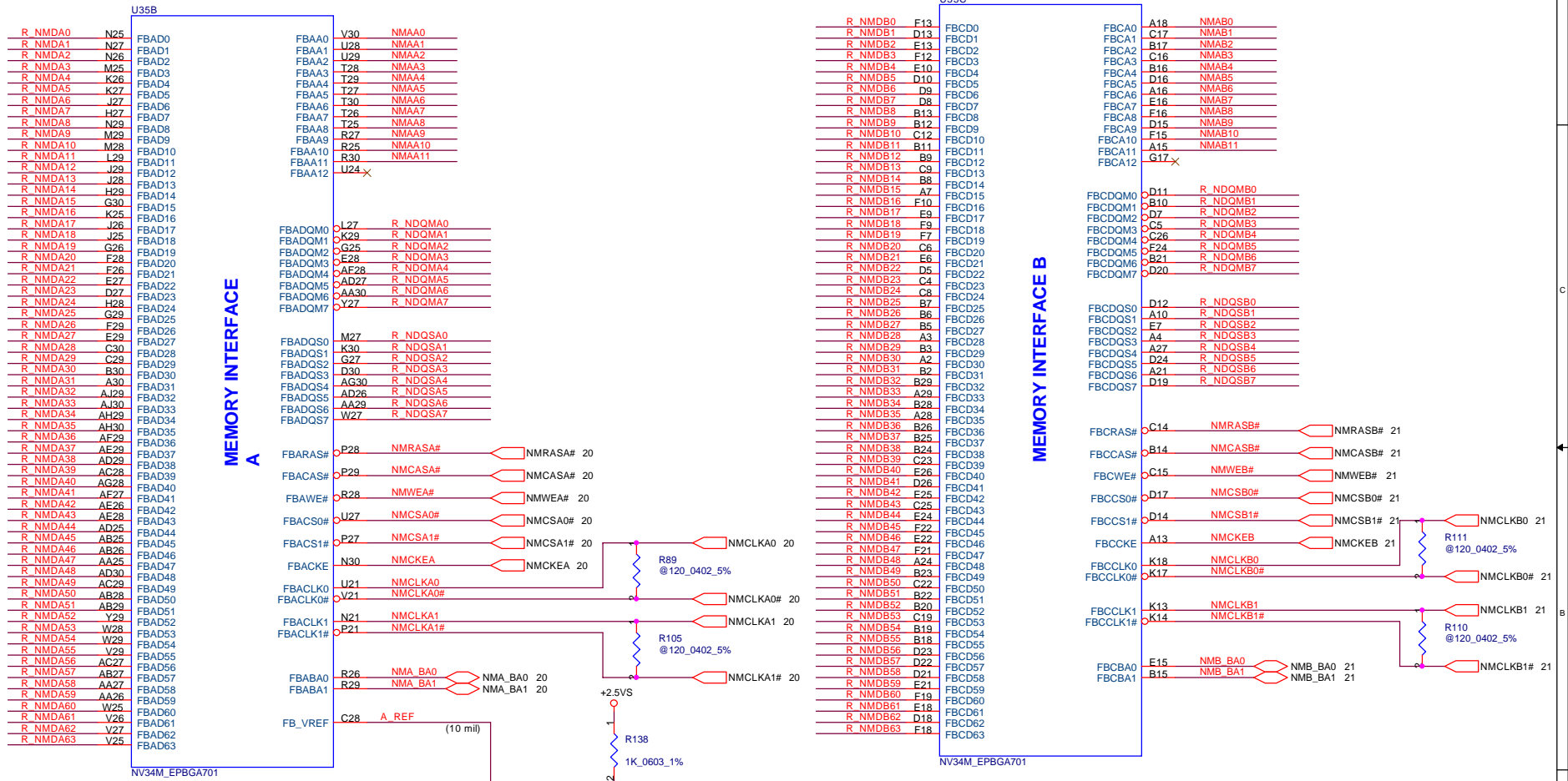
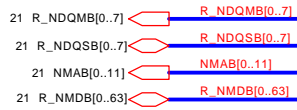
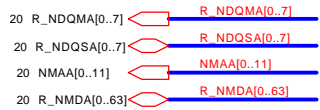
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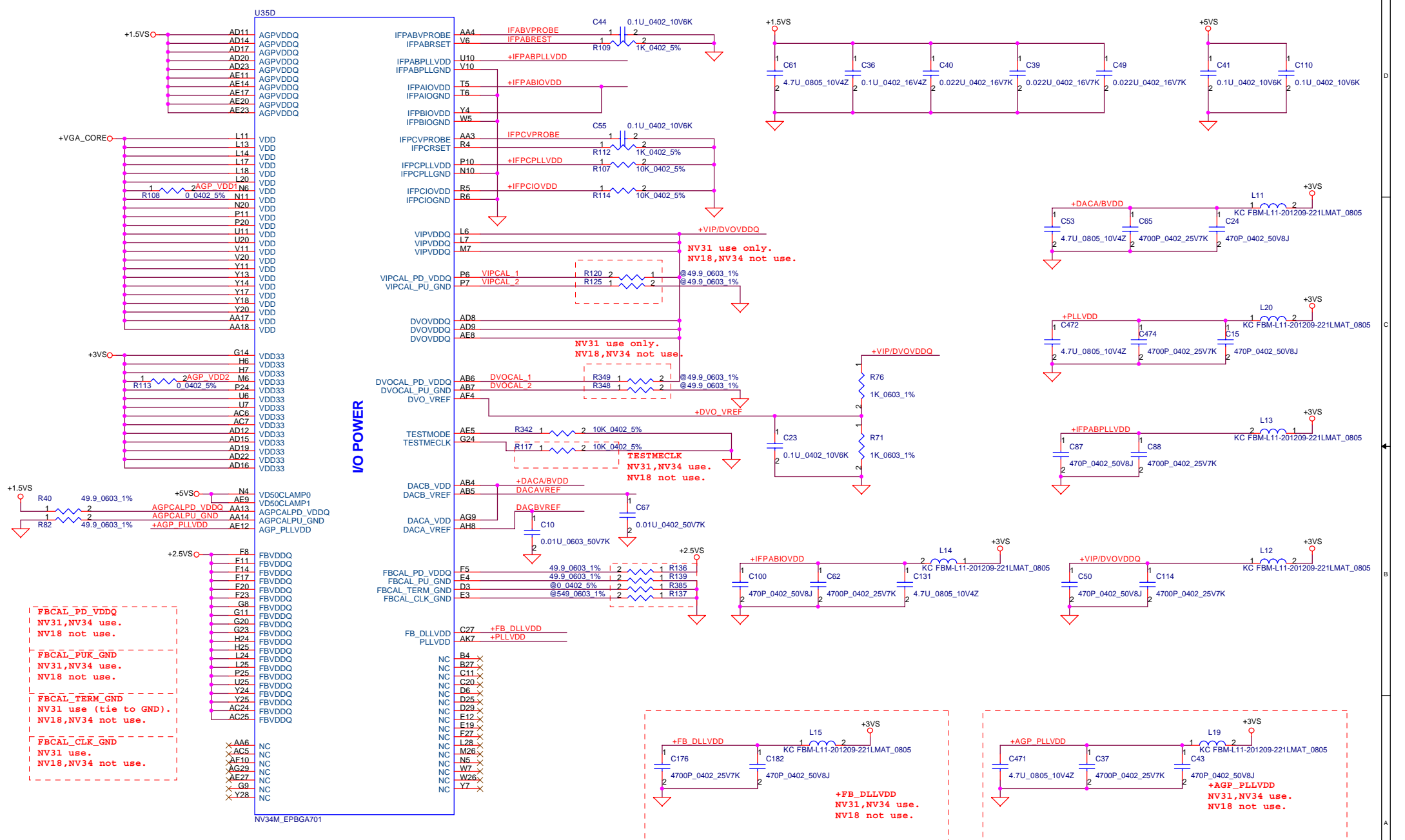
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Date: ~P 星期四, 七月 10, 2003 Sheet 16 of 56

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| | | |
|---------------------------------|--------------------|----------------|
| Compal Electronics, Inc. | | |
| nVIDIA NV31M (DDR) | | |
| Title | | |
| Size | Document Number | Rev |
| | LA-2041 | 0.1 |
| Date: | ~P星期三, 七月 09, 2003 | Sheet 17 of 56 |



FBCAL_PD_VDDQ
NV31, NV34 use.
NV18 not use.

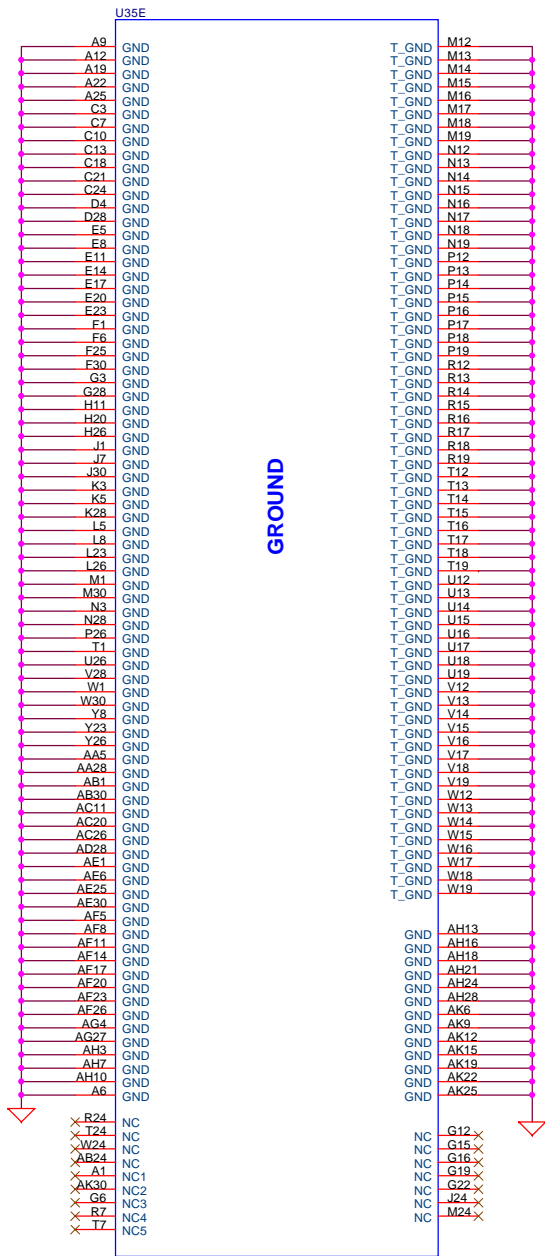
FBCAL_PUK_GND
NV31, NV34 use.
NV18 not use.

FBCAL_TERM_GND
NV31 use (tie to GND).
NV18, NV34 not use.

FBCAL_CLK_GND
NV31 use.
NV18, NV34 not use.

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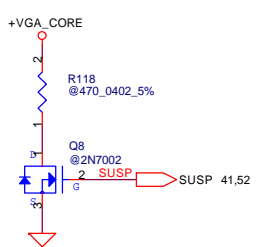
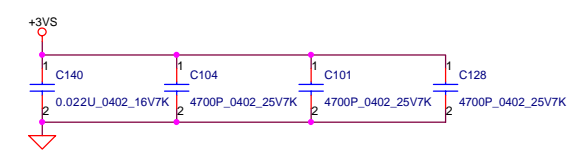
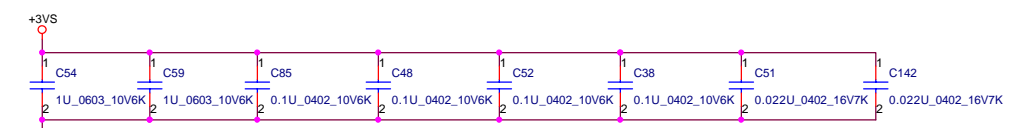
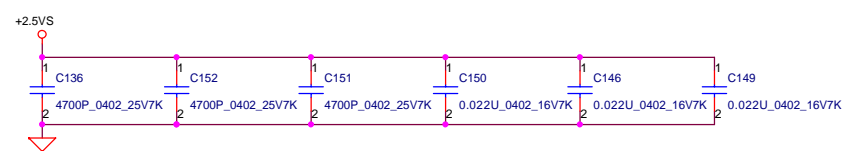
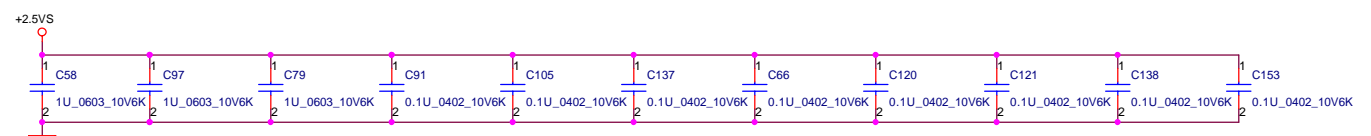
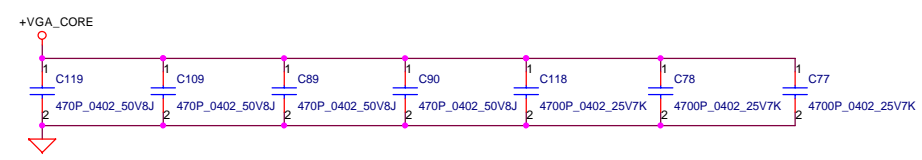
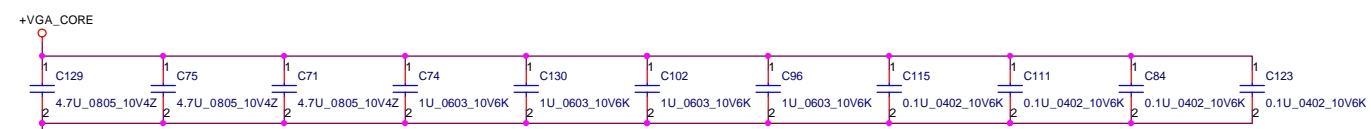
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|-------------------------------------|-----------------------------------|----------------|
| Compal Electronics, Inc. | | |
| Title nVIDIA NV31M POWER) | | |
| Size | Document Number LA-2041 | Rev 0.1 |
| Date | ~P 星期三, 七月 09, 2003 | Sheet 18 of 56 |



U35E

GROUND

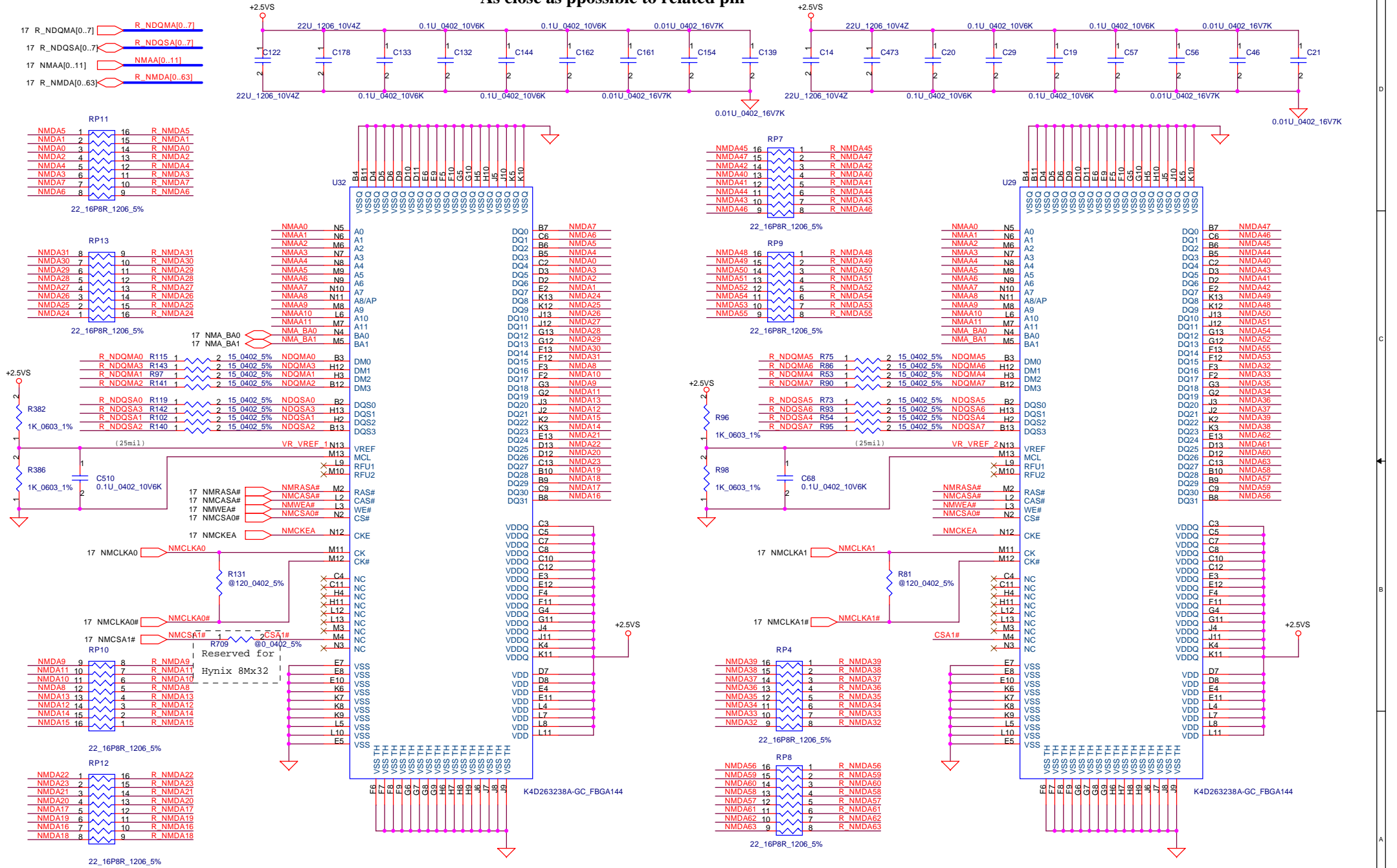
NV34M_EPBGA701



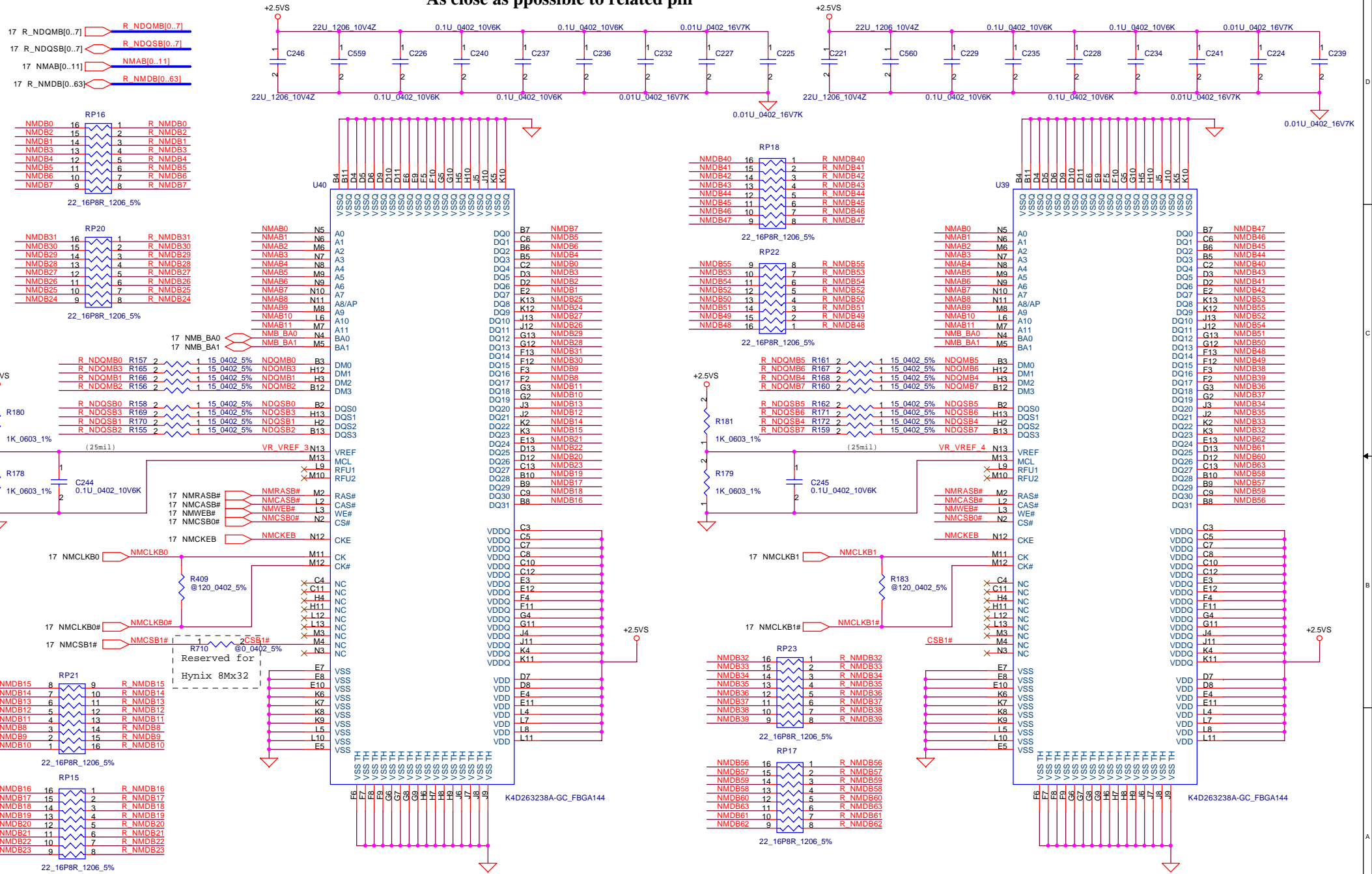
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|--------------------------------------|---------------------|----------------|
| Compal Electronics, Inc. | | |
| nVIDIA NV31M (DECOUPLING CAP) | | |
| Size | Document Number | Rev |
| | LA-2041 | 0.1 |
| Date: | ~P 星期三, 七月 09, 2003 | Sheet 19 of 56 |

As close as possible to related pin

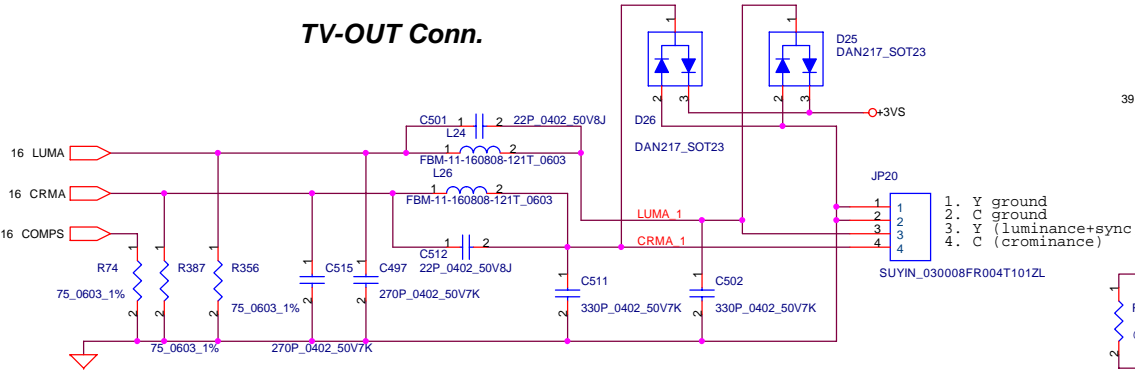


As close as possible to related pin

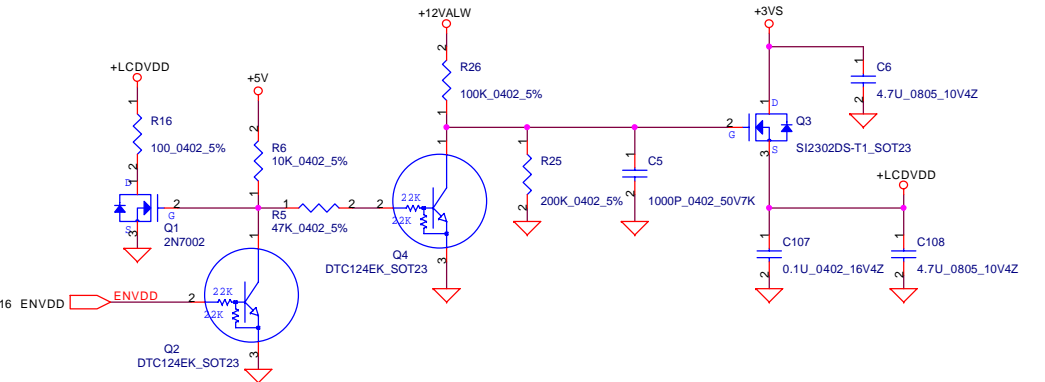
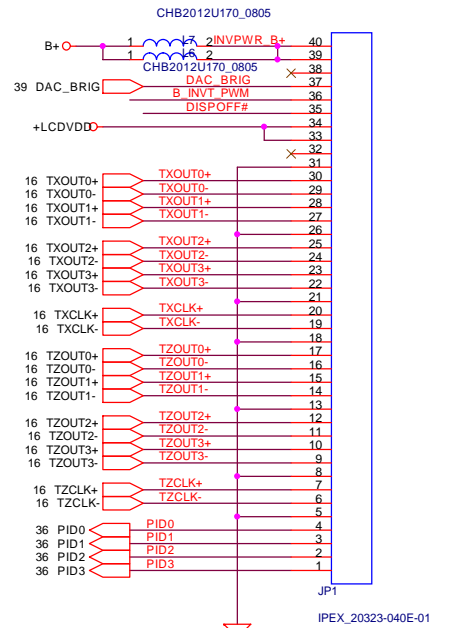
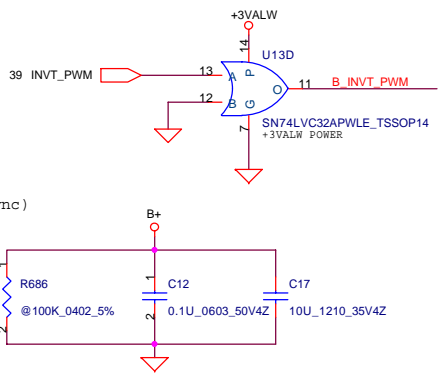


CRT, TV-OUT & LVDS CONNECTOR

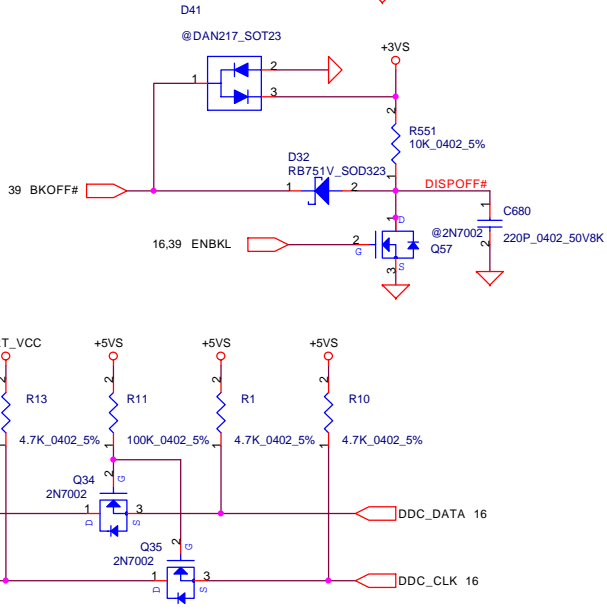
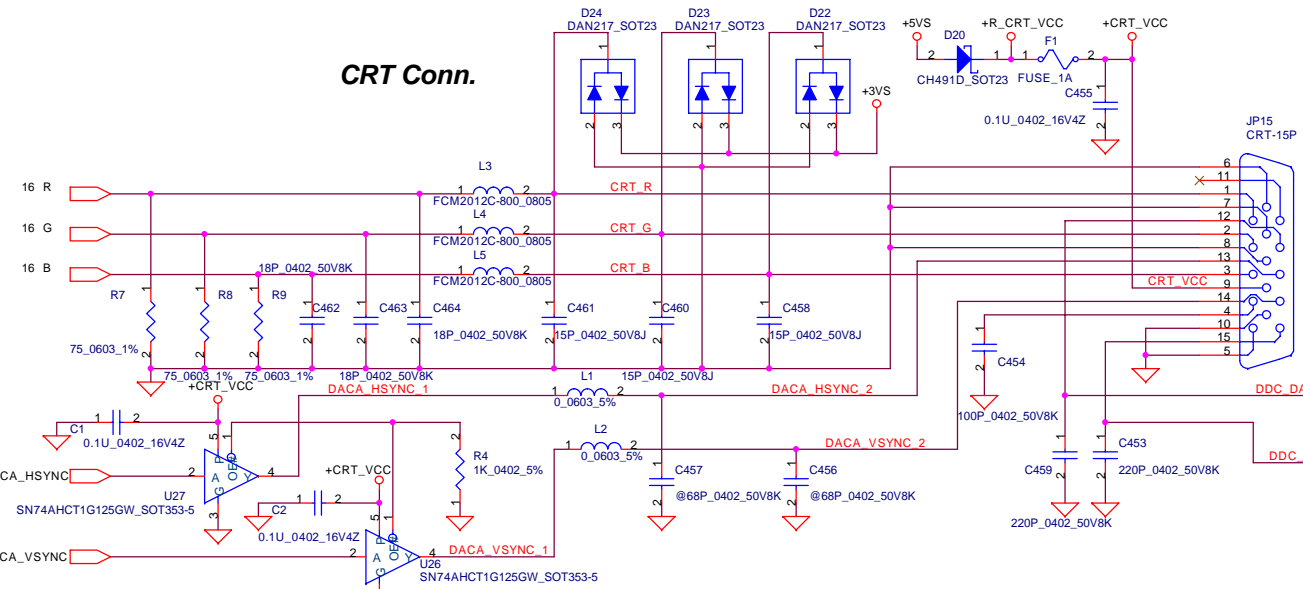
TV-OUT Conn.



LVDS Conn.

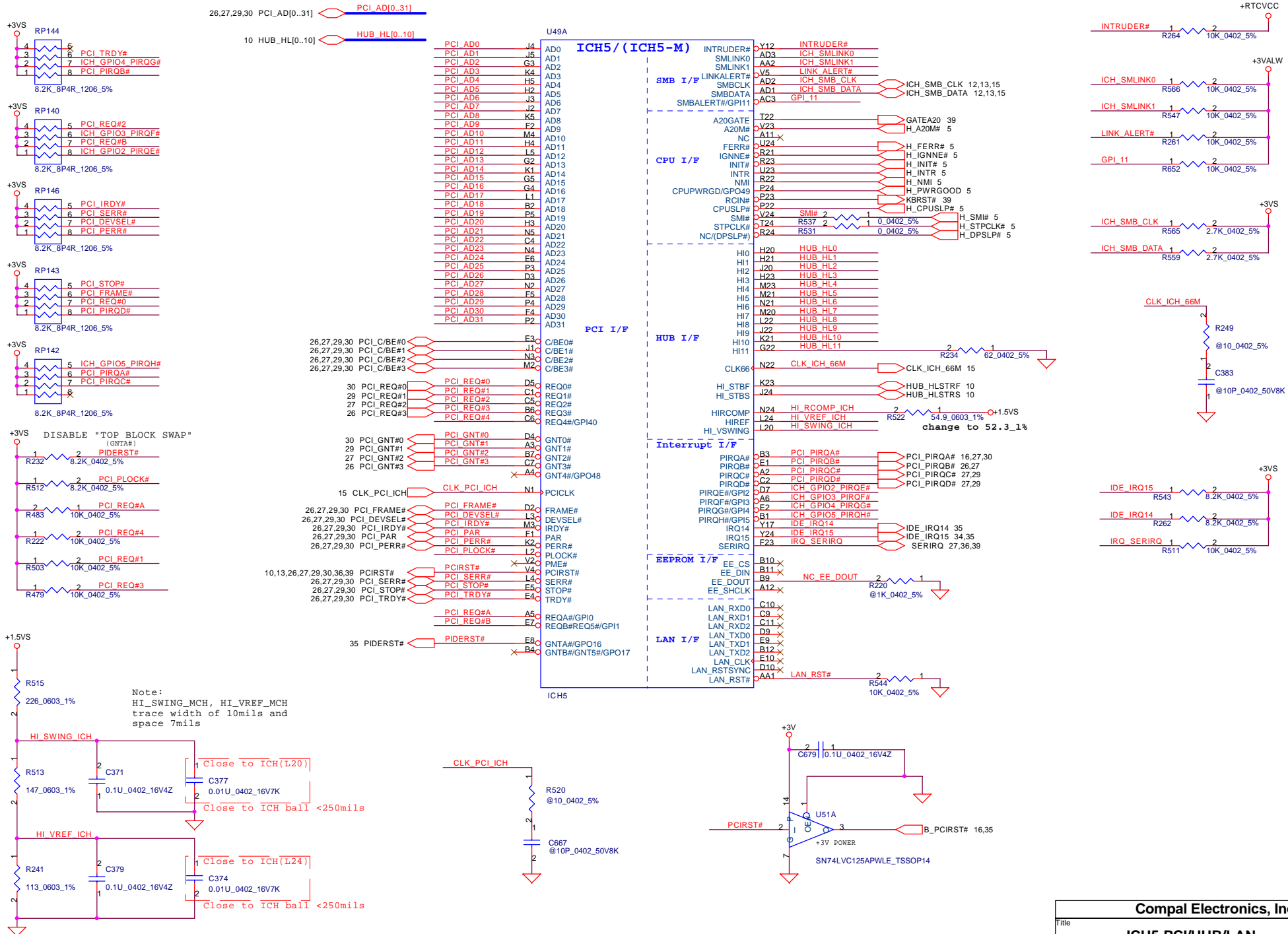


CRT Conn.



| | | |
|-------------------------------------------------|-----------------------------------|------------|
| Compal Electronics, Inc. | | |
| Title CRT,TV-OUT & LVDS Connector | | |
| Size B | Document Number LA-2041 | Rev 0.1 |
| Date: ~P期三, 七月 09, 2003 | Sheet 22 | of 56 |

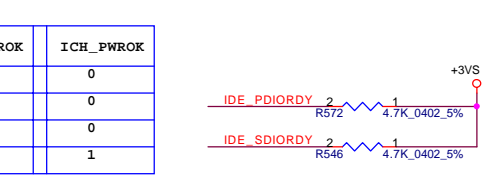
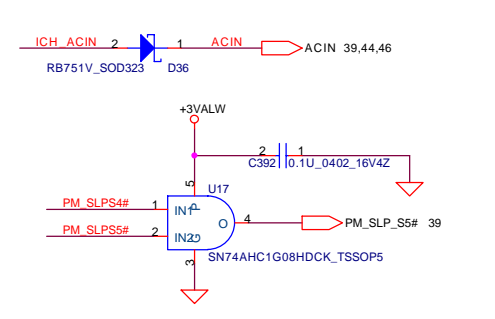
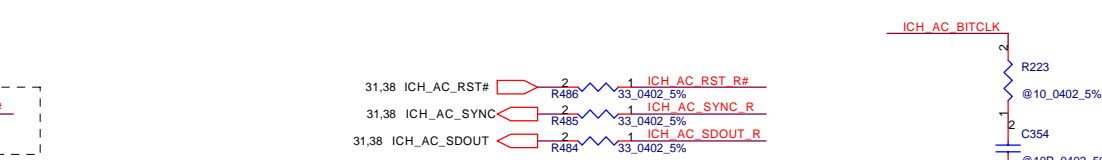
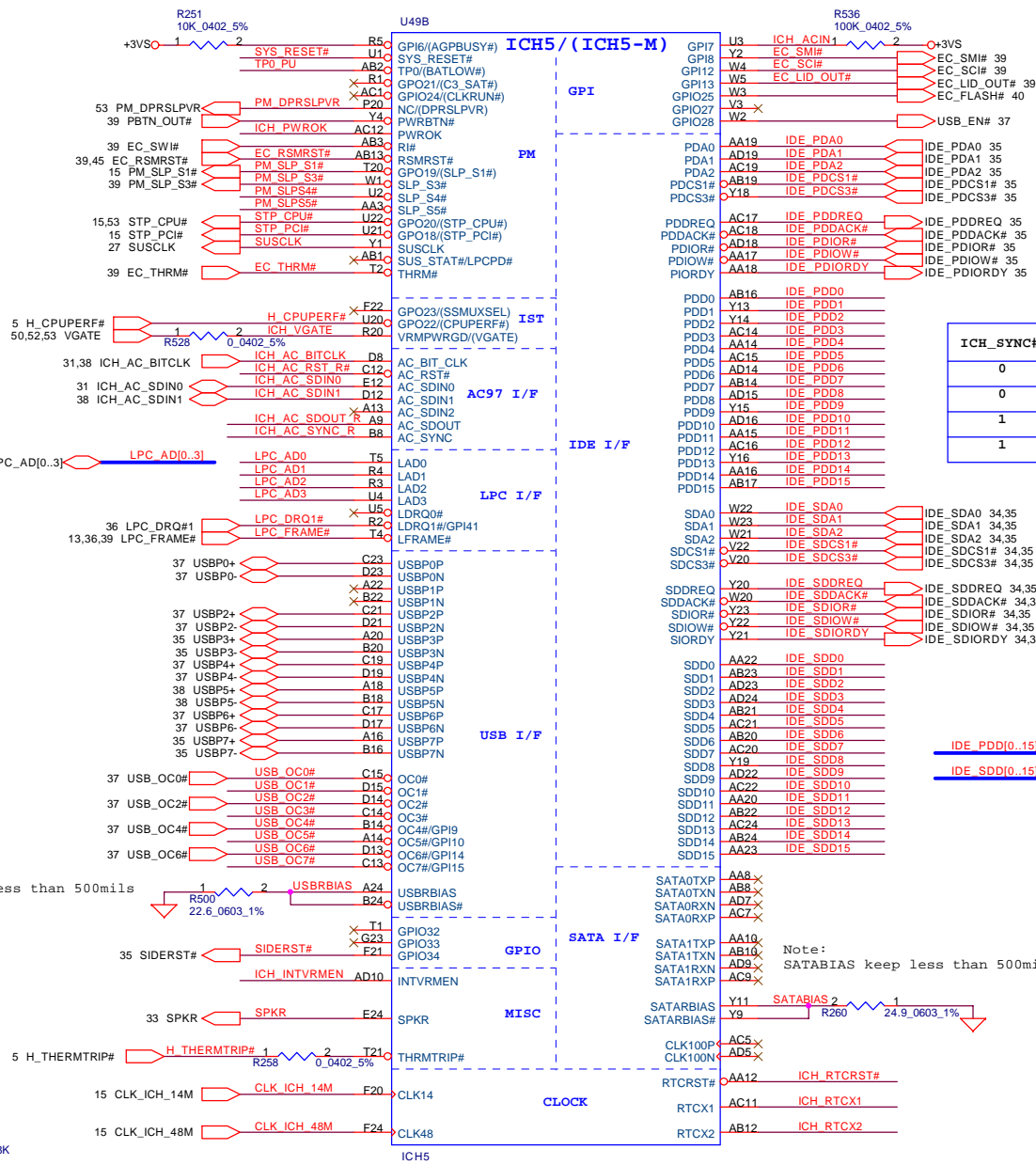
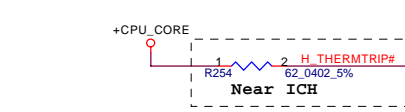
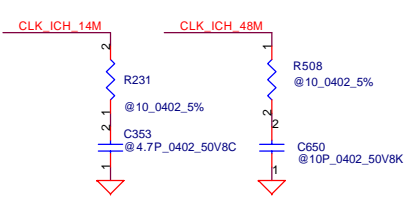
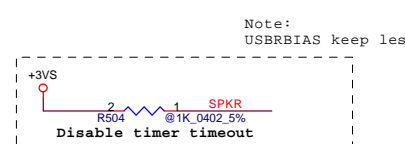
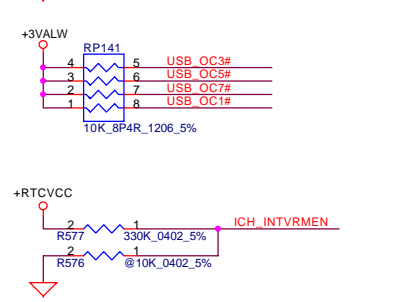
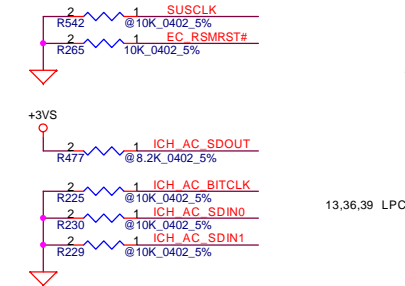
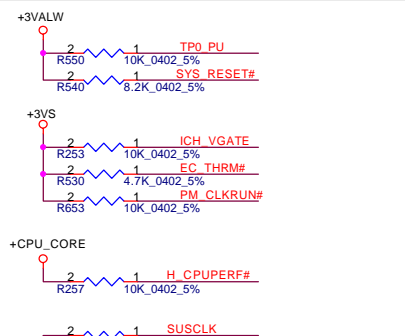
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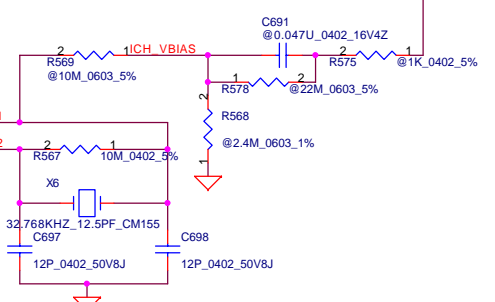
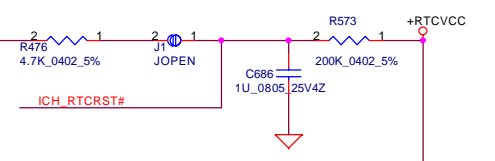
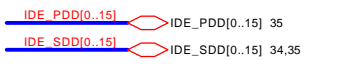
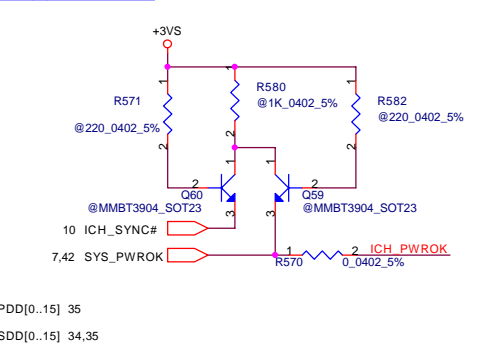
Note:
 HI_SWING_MCH, HI_VREF_MCH
 trace width of 10mils and
 space 7mils

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|---------------------------------|--------------------|----------------|
| Compal Electronics, Inc. | | |
| ICH5-PCI/HUB/LAN | | |
| Title | Document Number | Rev. |
| | LA-2041 | 0.1 |
| Date: | ~P 期三, 七月 09, 2003 | Sheet 23 of 56 |



| ICH_SYNC# | SYS_PWROK | ICH_PWROK |
|-----------|-----------|-----------|
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |



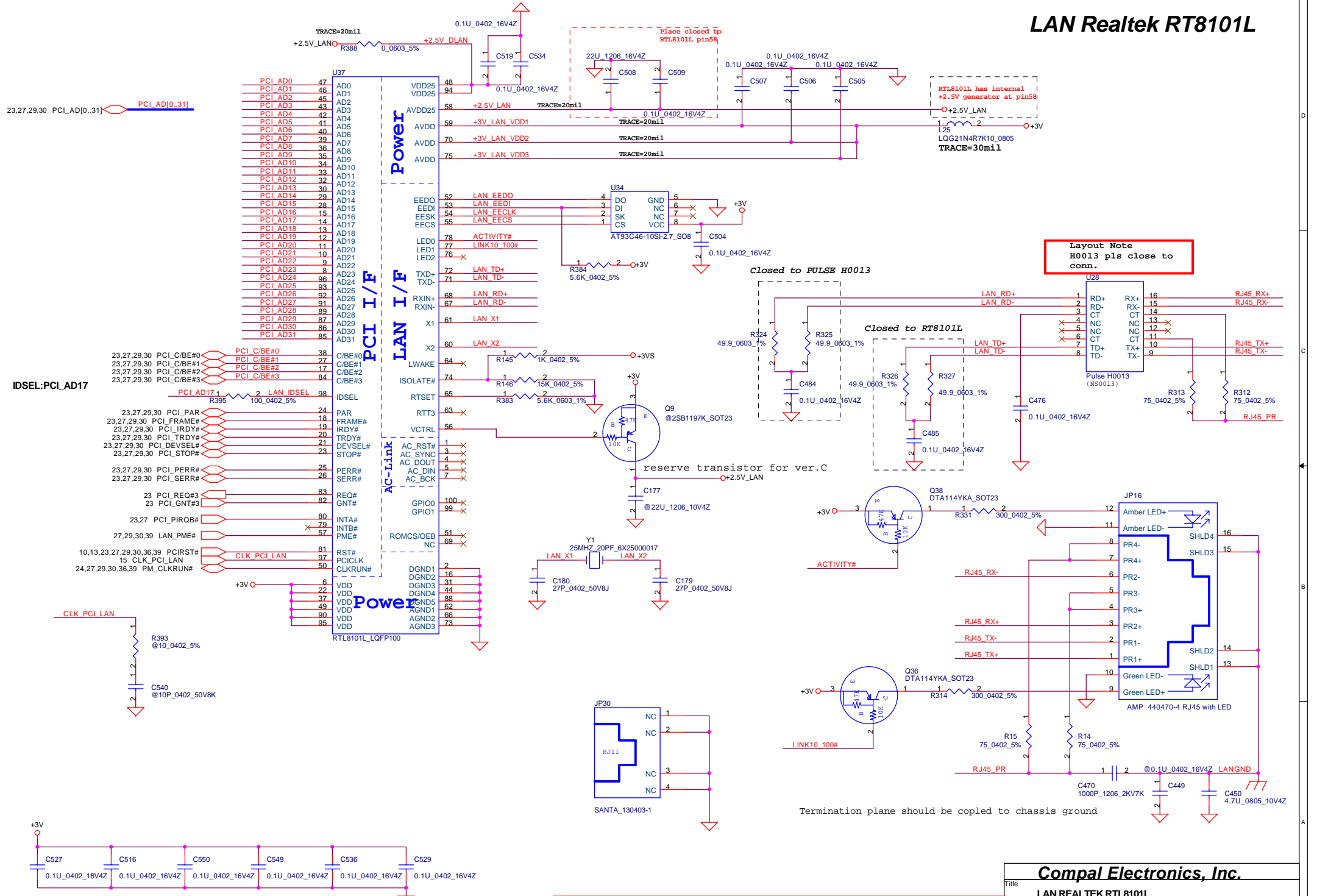
Compal Electronics, Inc.

ICH5-IDE/LPC/PM/GPIO/USB

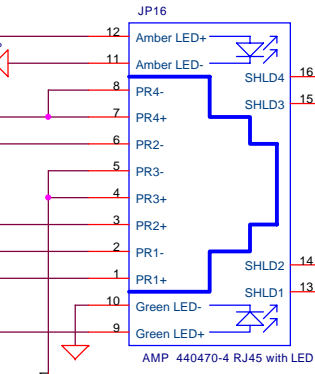
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 Size: Document Number
 Date: ~P 星期三, 七月 09, 2003
 Sheet: 24 of 56
 Rev: 0.1

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LAN Realtek RTL8101L



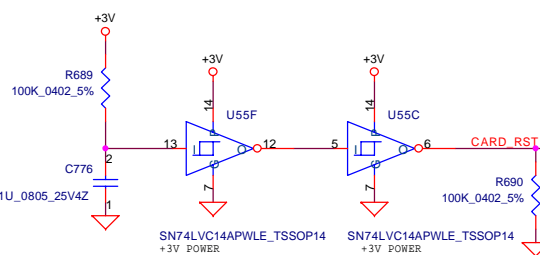
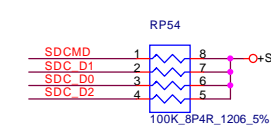
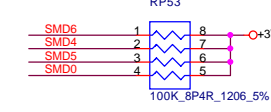
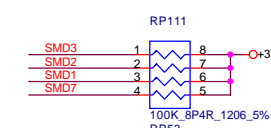
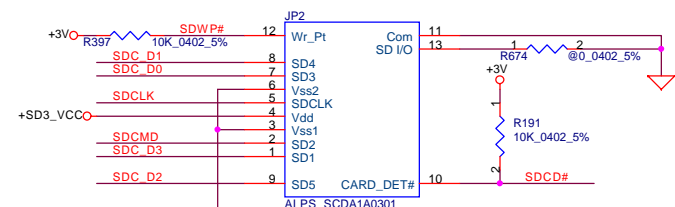
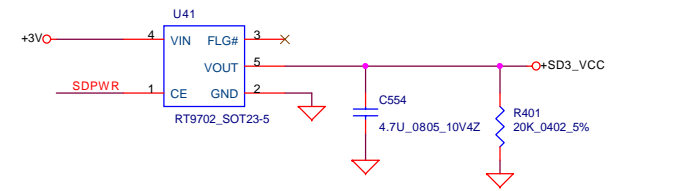
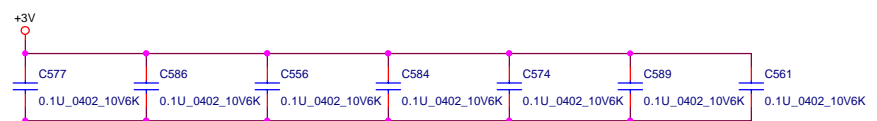
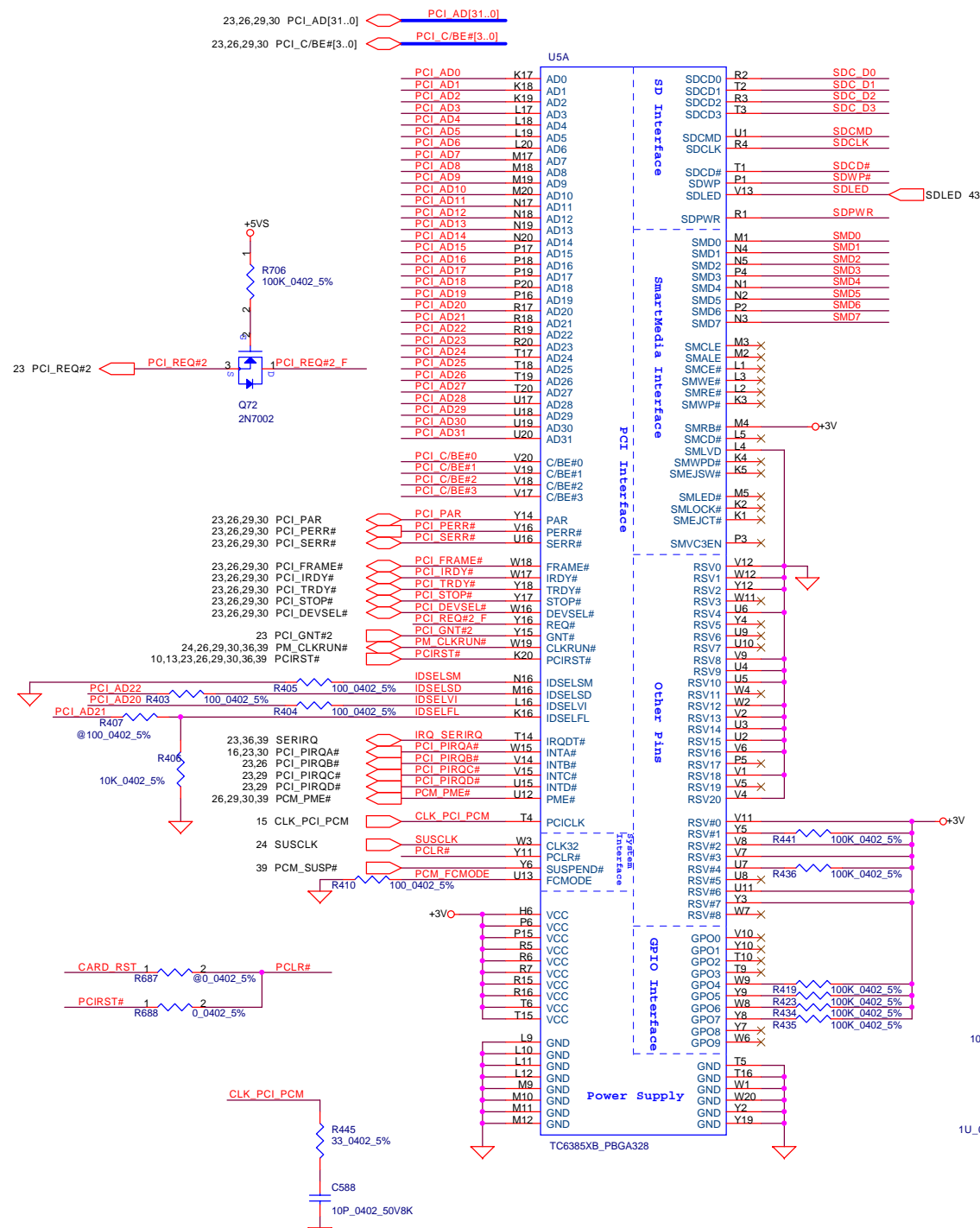
Layout Note
H0013 pls close to conn.



Termination plane should be copied to chassis ground

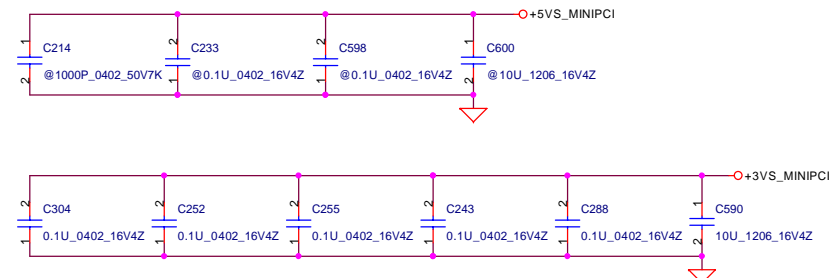
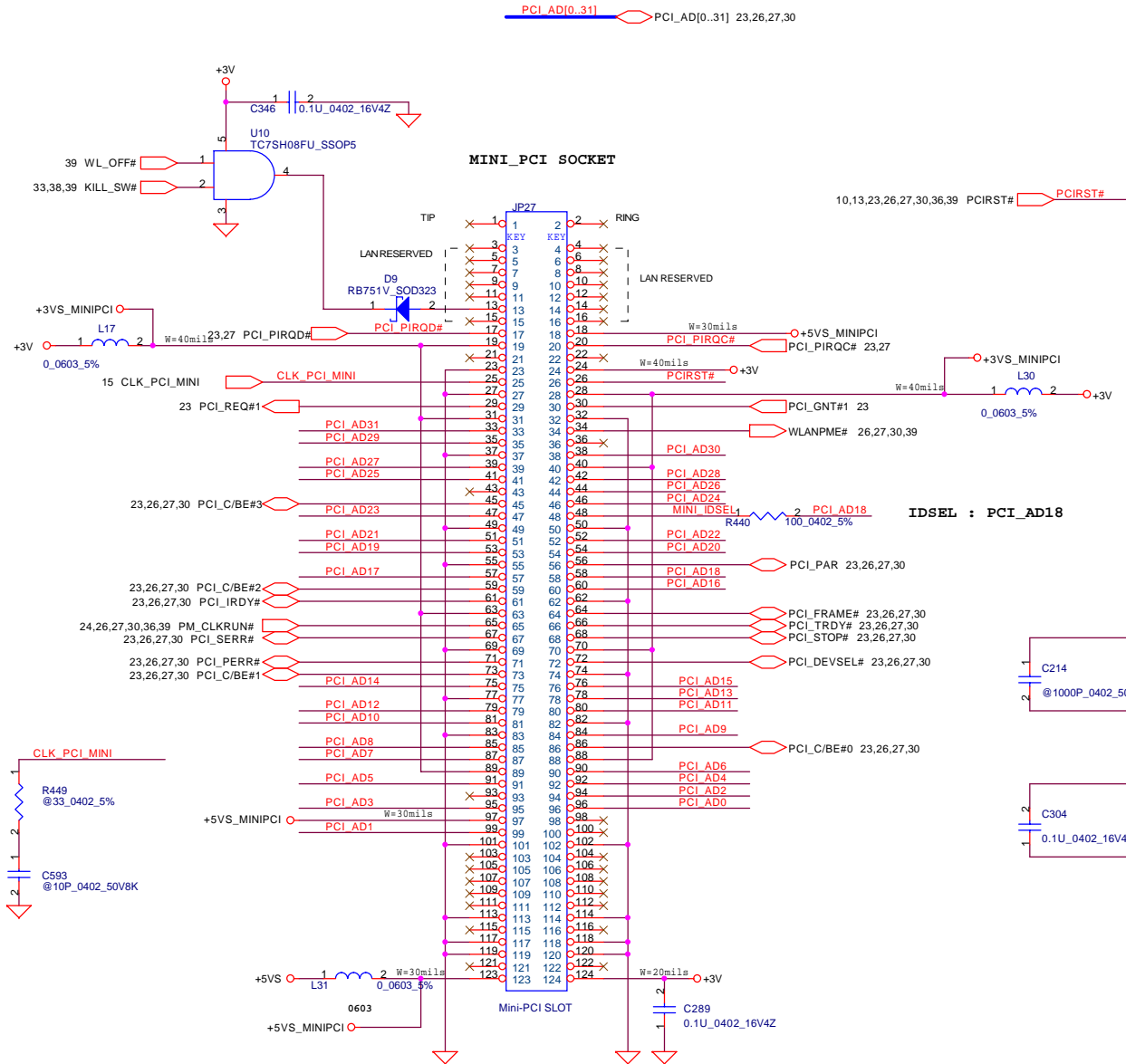
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| Compal Electronics, Inc. | | |
| Title | LAN REALTEK RTL8101L | |
| Size | Document Number | Rev |
| | LA-2041 | 0.1 |
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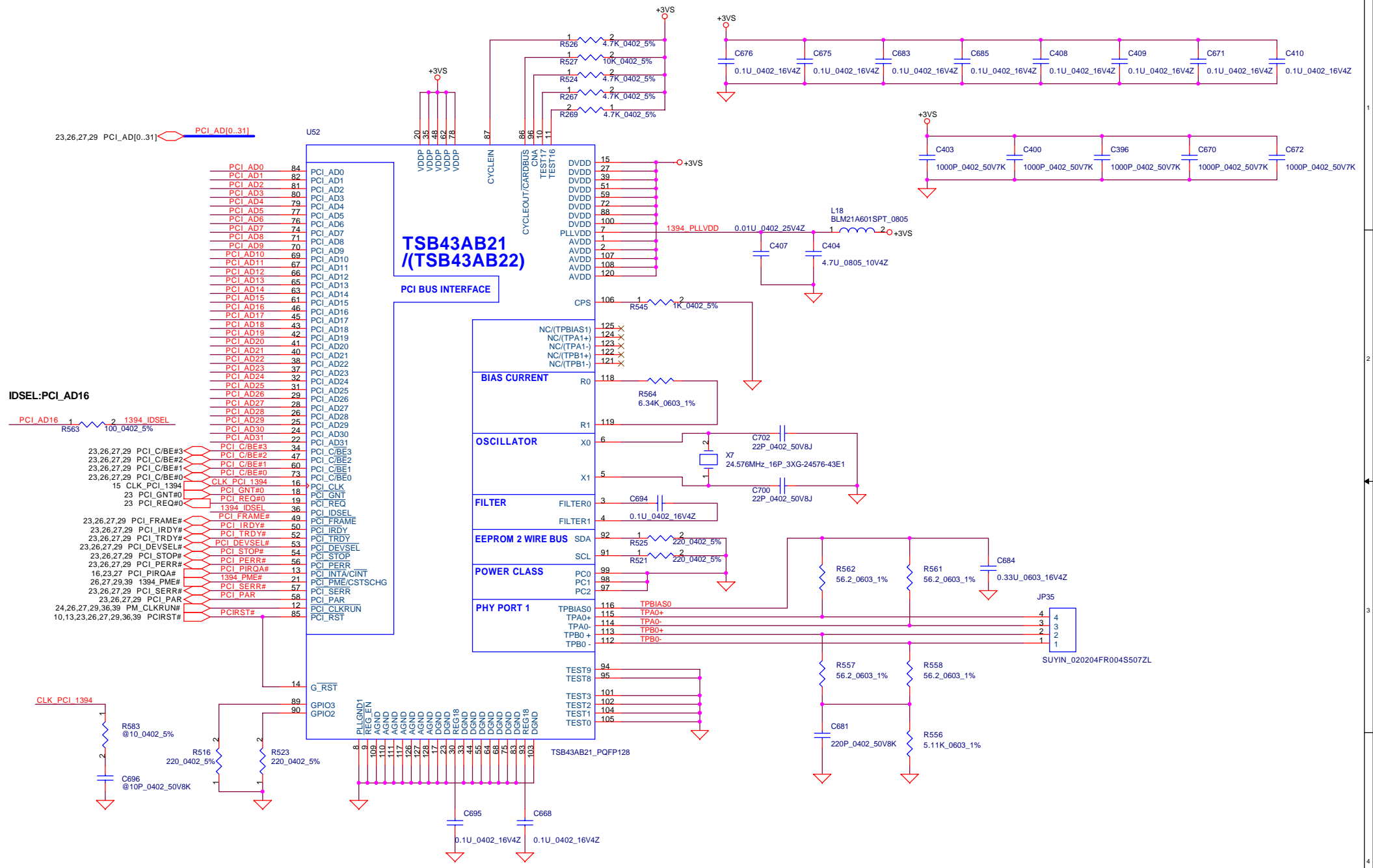
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| Compal Electronics, Inc. | | | |
| Title CARDBUS & SD CONN (1/2) | | | |
| Size B | Document Number LA-2041 | | Rev 0.1 |
| Date: ~月~日~月~年 | Date: ~月~日~月~年 | | Sheet 27 of 56 |

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| Title | | |
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| Size | Document Number | Rev |
| B | LA-2041 | 0.1 |
| Date: | -P 期三, 七月 09, 2003 | Sheet 29 of 56 |

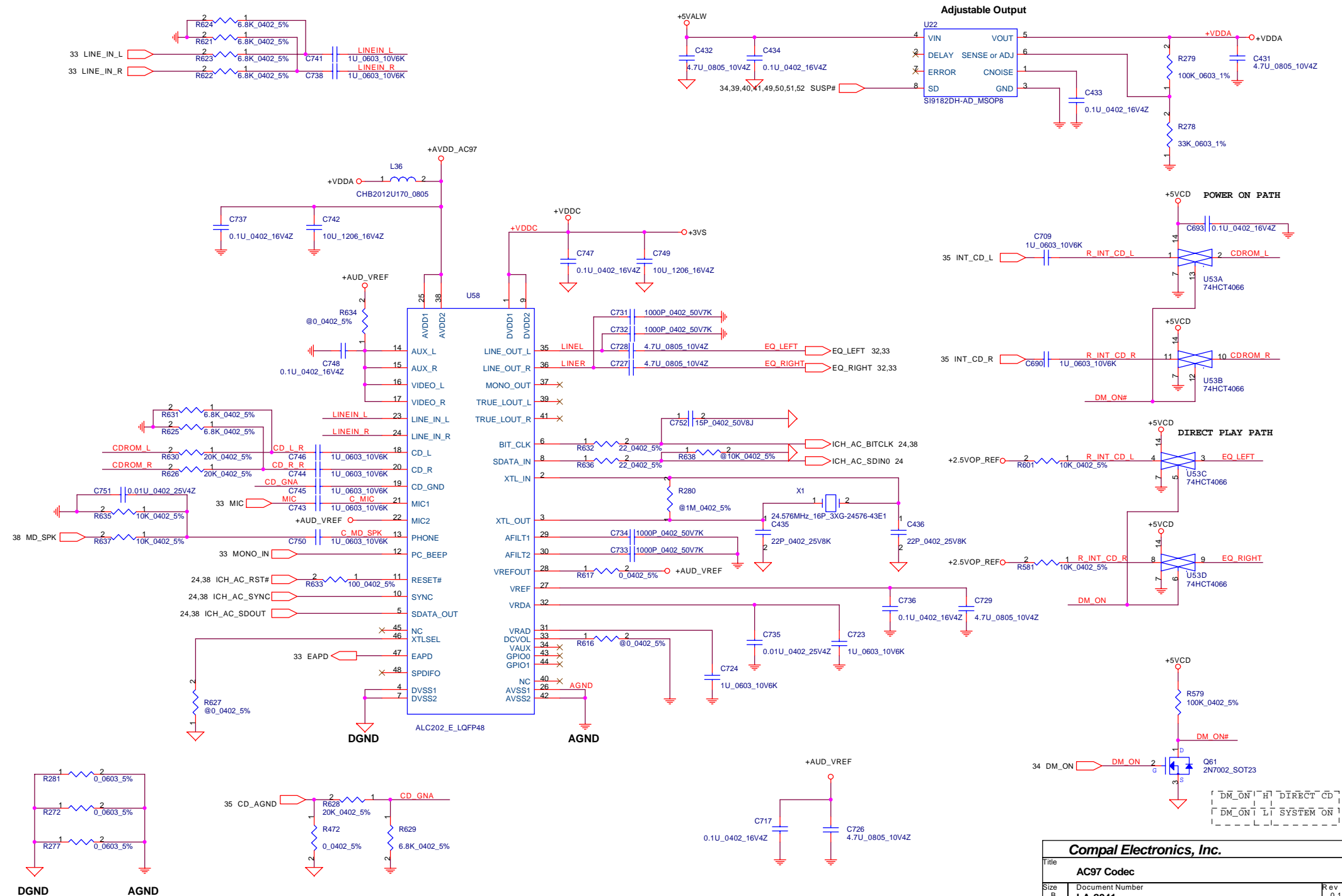


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| Compal Electronics, Inc. | | | |
| Title 1394 Interface | | | |
| Size B | Document Number LA-2041 | | Rev 0.1 |
| Date: | ~P期三, 七月 09, 2003 | Sheet | 30 of 56 |

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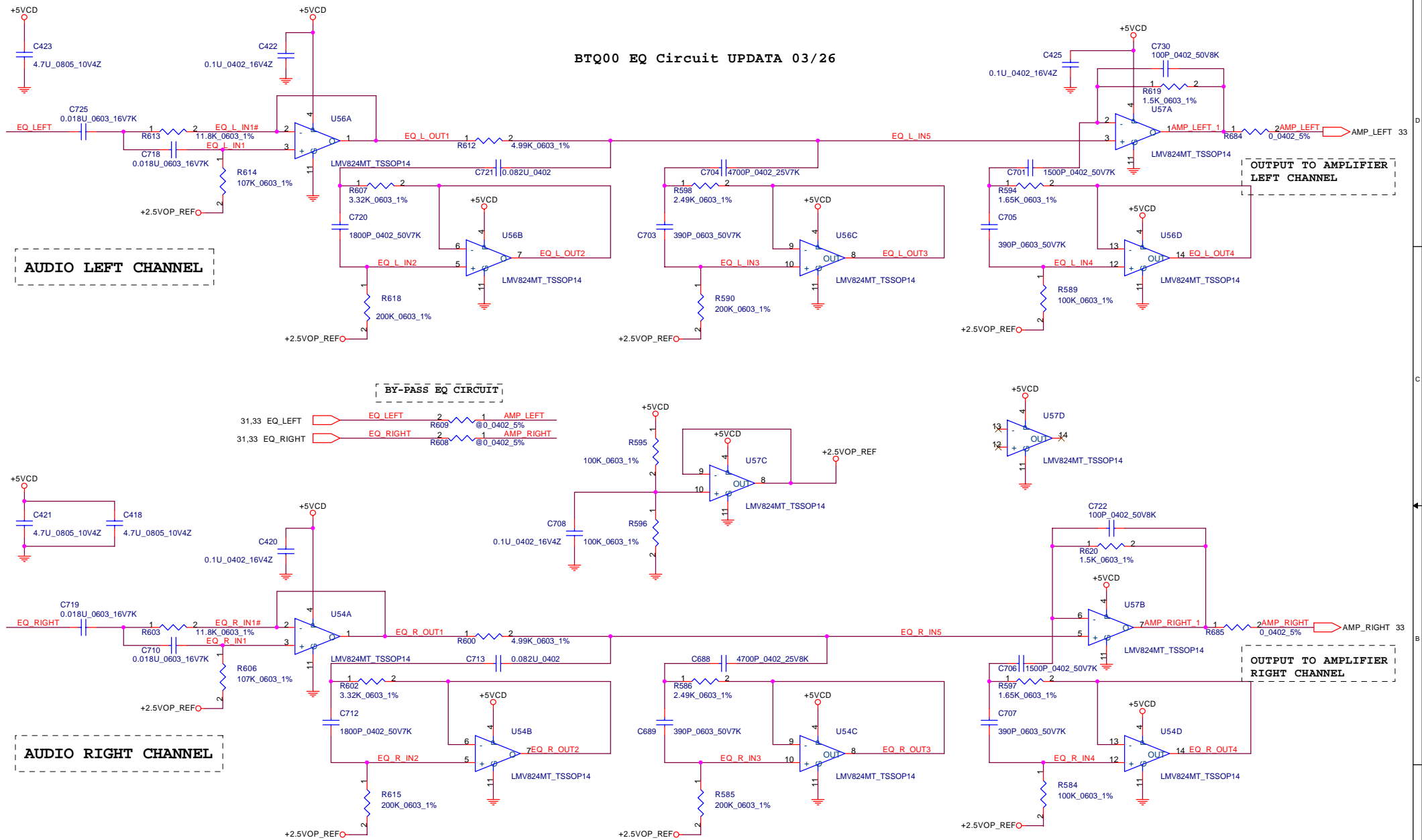
AC97 Codec

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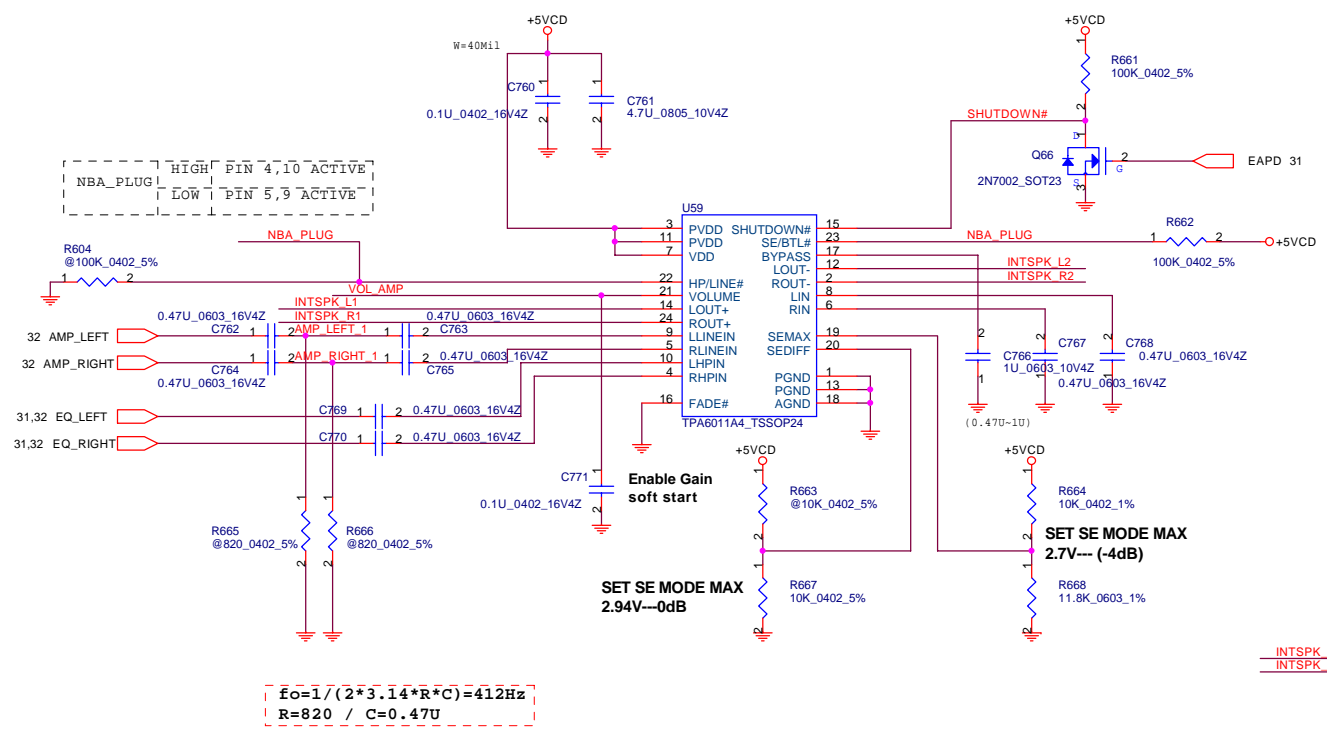
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| Compal Electronics, Inc. | | |
| Title | AC97 Codec | |
| Size | Document Number | Rev |
| B | LA-2041 | 0.1 |
| Date: | ~P期三, 七月 09, 2003 | Sheet 31 of 56 |

BTQ00 EQ Circuit UPDATA 03/26



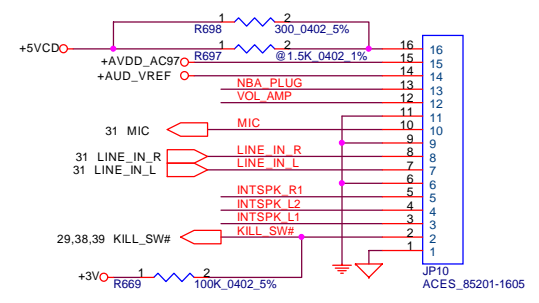
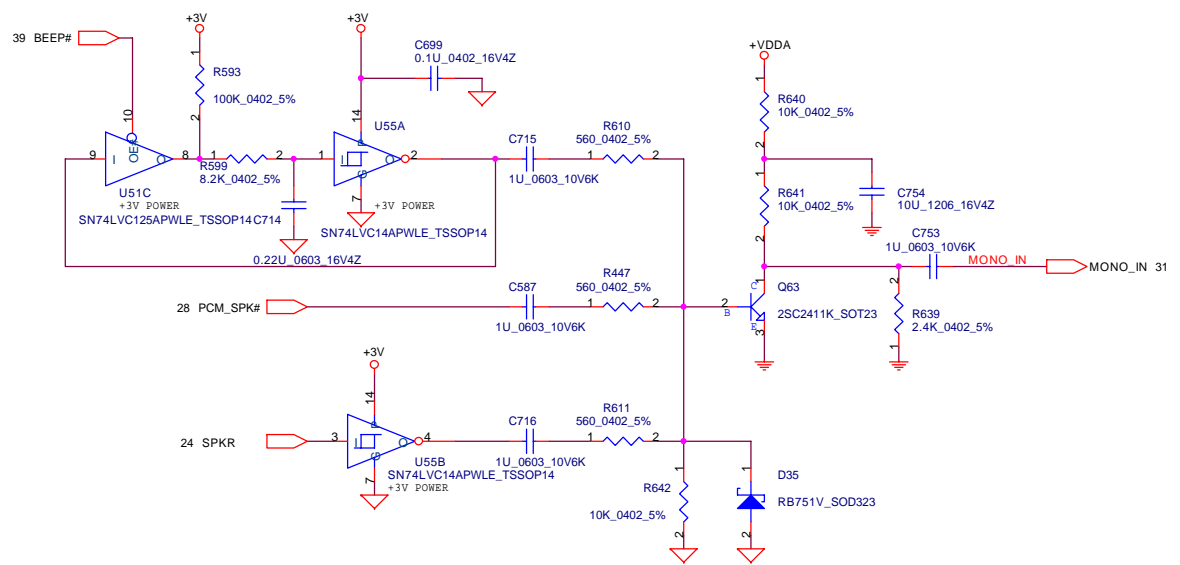
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| | | |
|---------------------------------|-----------------------------------|-------------------|
| Compal Electronics, Inc. | | |
| Title HAREWARE EQ | | |
| Size B | Document Number LA-2041 | Rev 0.1 |
| Date ~P期三, 七月 09, 2003 | Sheet 32 of 56 | |



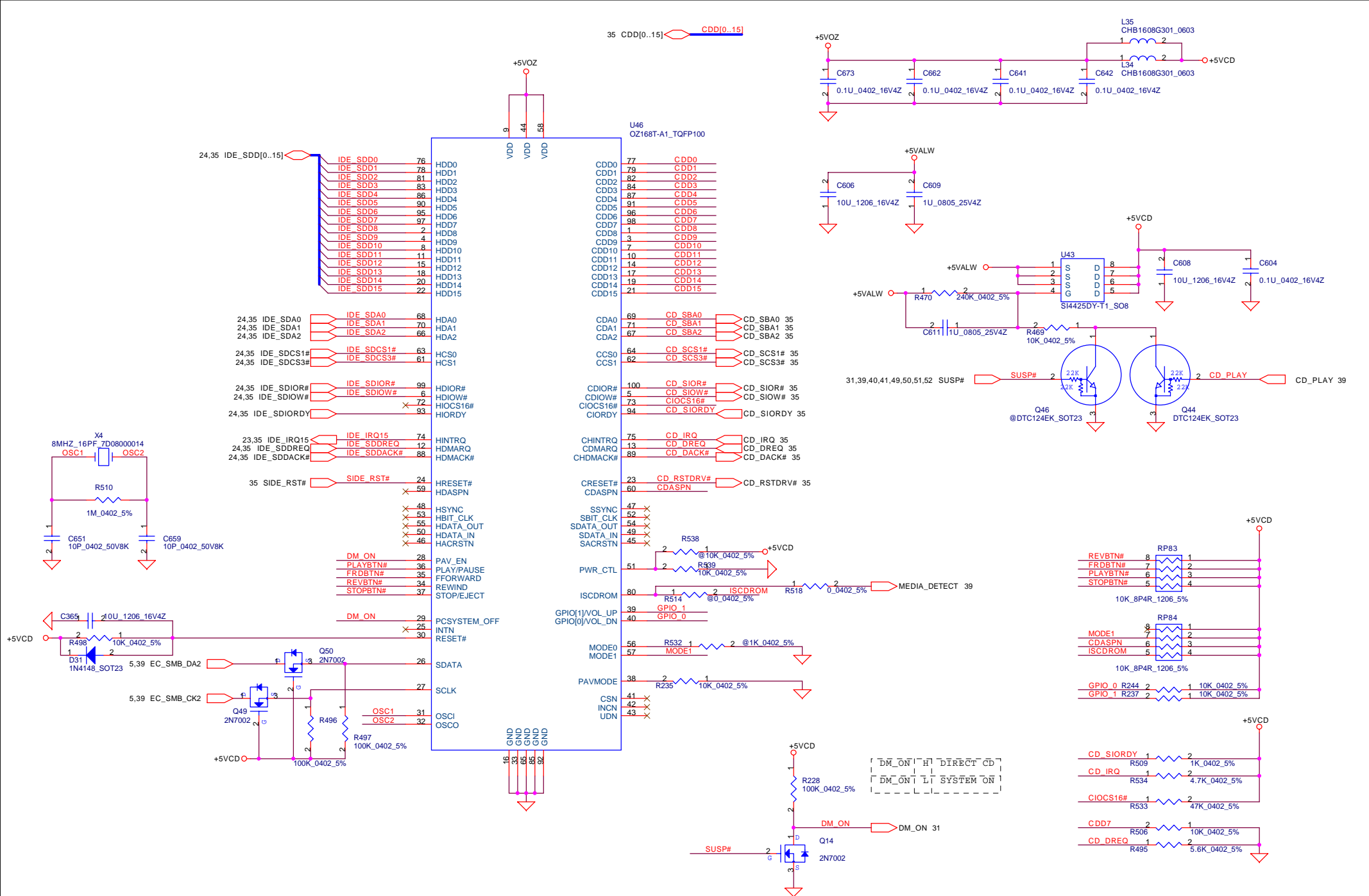
AUDIO Board Conn.

R697(1.5K)-----10dB
 R698(300)-----14dB



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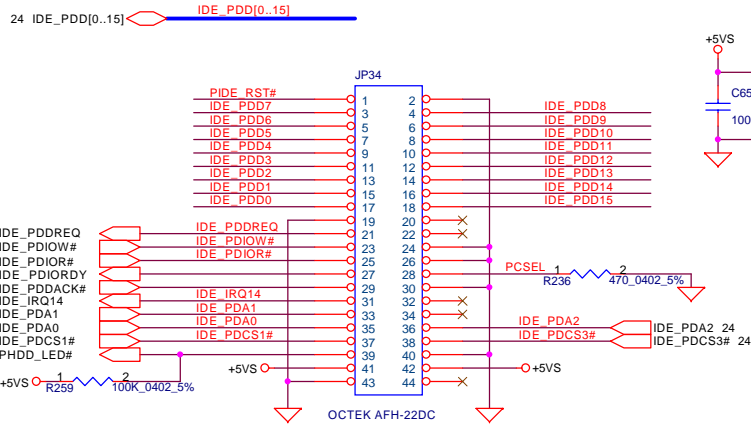
| | | |
|--------------------------|-------------------|----------------|
| Compal Electronics, Inc. | | |
| Title | AMP & Audio Jack | |
| Size | Document Number | Rev |
| B | LA-2041 | 0.1 |
| Date: | ~P期三, 七月 09, 2003 | Sheet 33 of 56 |



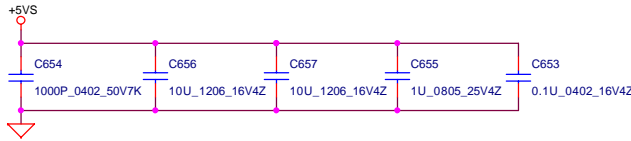
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| | | |
|---------------------------------|---------------------|----------------|
| Compal Electronics, Inc. | | |
| Title | | |
| OZ-168 CD_PLAY | | |
| Size | Document Number | Rev |
| B | LA-2041 | 0.1 |
| Date: | -P 星期三, 七月 09, 2003 | Sheet 34 of 56 |

HDD CONNECTOR



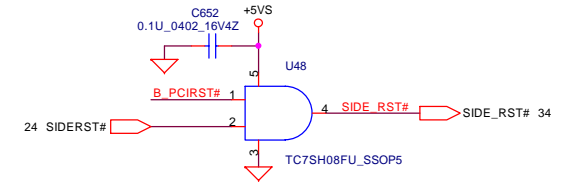
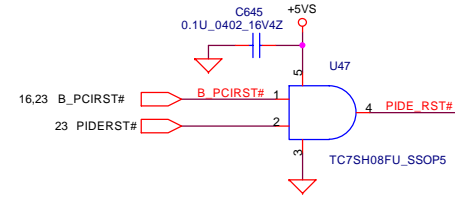
Place caps. near HDD CONN.



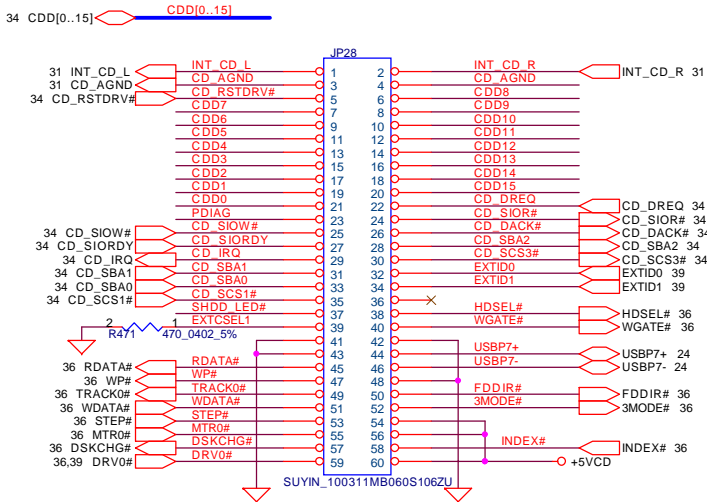
| EXTID1 | EXTID0 | Module |
|--------|--------|--------------------|
| 0 | 0 | CDROM |
| 0 | 1 | FDD |
| 1 | 0 | HDD |
| 1 | 1 | TV Tuner/No Module |

| EXTID3 | EXTID2 | Module |
|--------|--------|--------------------|
| 0 | 0 | CDROM |
| 0 | 1 | FDD |
| 1 | 0 | HDD |
| 1 | 1 | TV Tuner/No Module |

IDE,CD-ROM Module CONN.

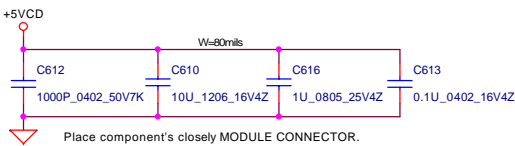
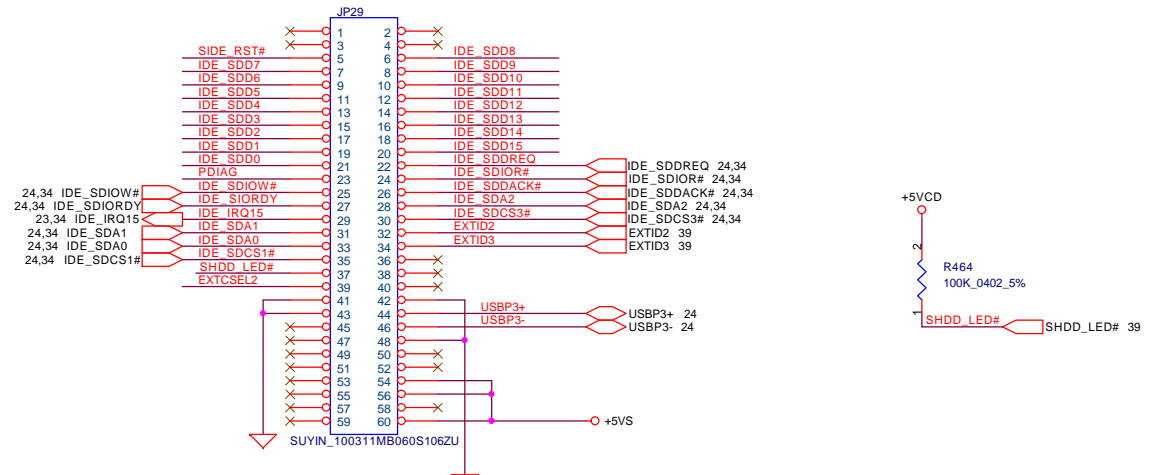


Main Module Conn. (Master)

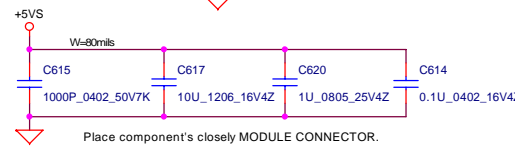


2nd Module Conn. (Slave)

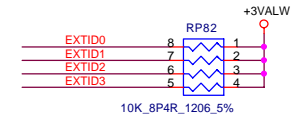
24,34 IDE_SDD[0..15] IDE_SDD[0..15]



Place component's closely MODULE CONNECTOR.



Place component's closely MODULE CONNECTOR.



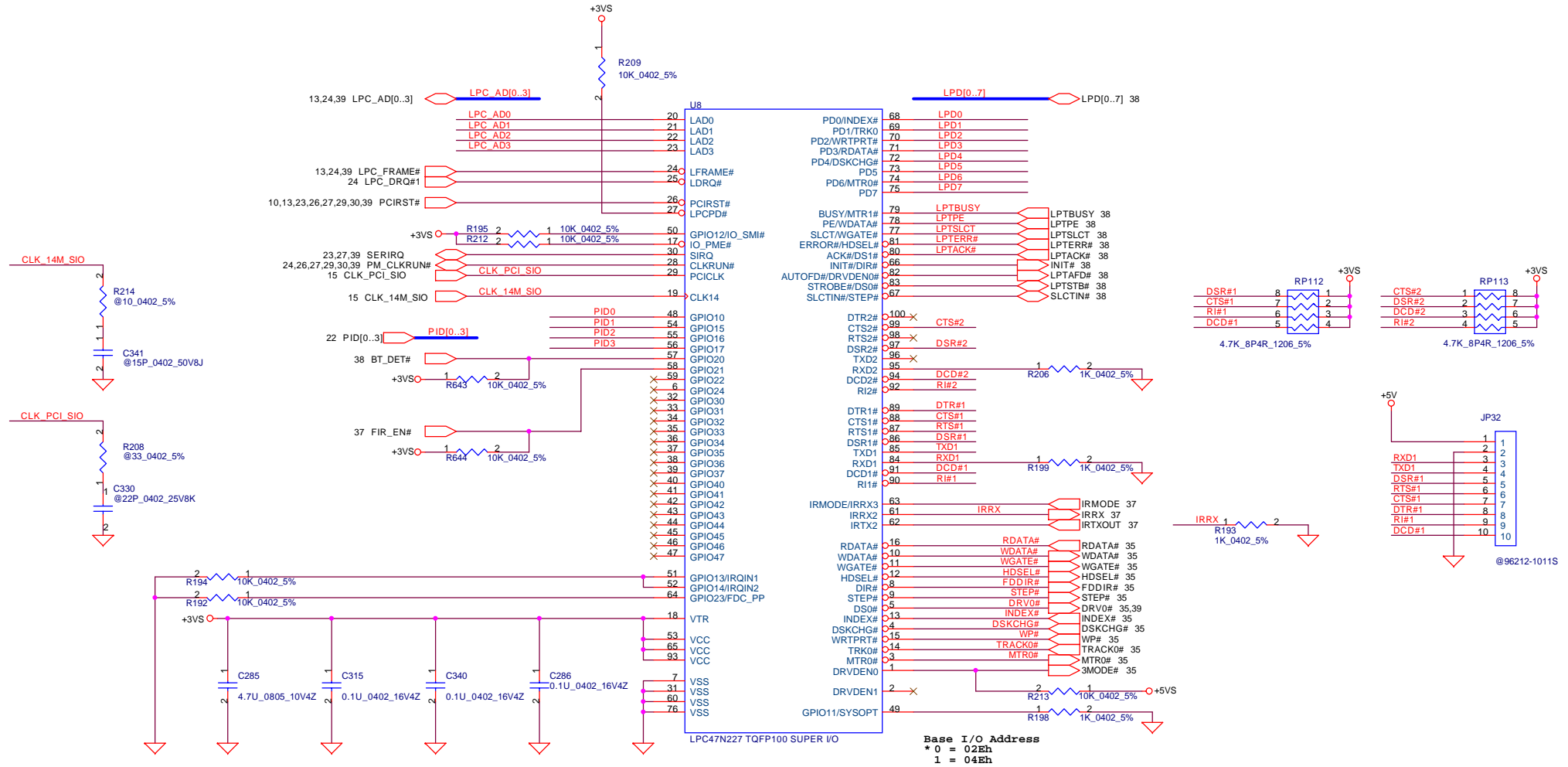
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Compal Electronics, Inc.

Title: IDE/FDD MODULE CONN.

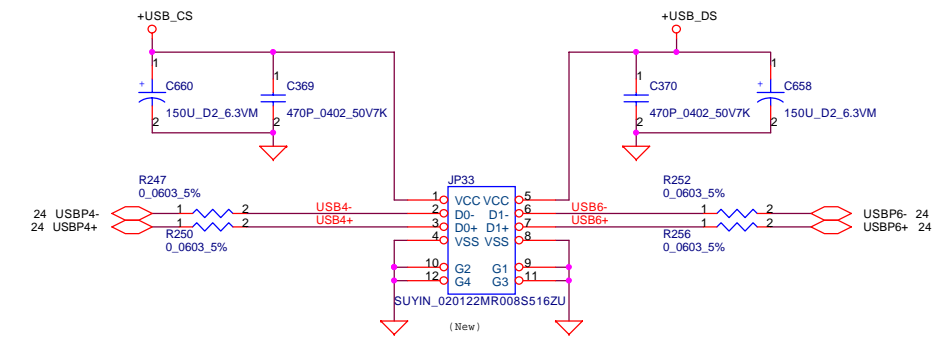
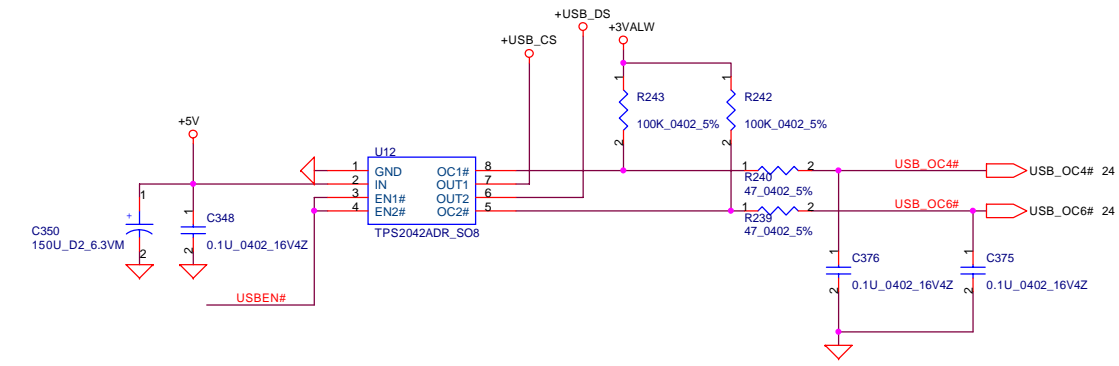
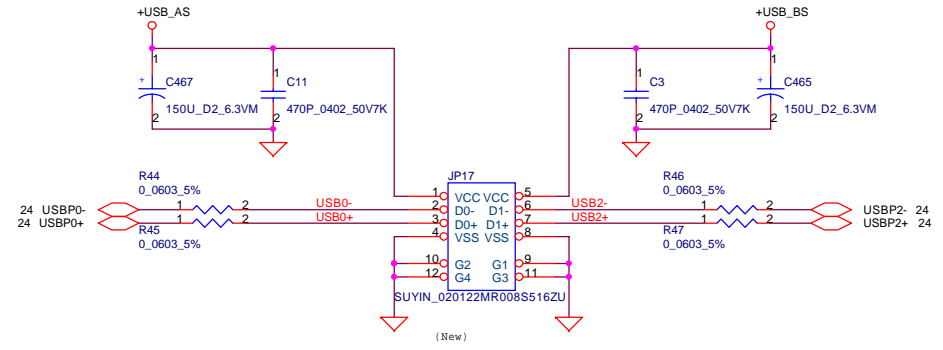
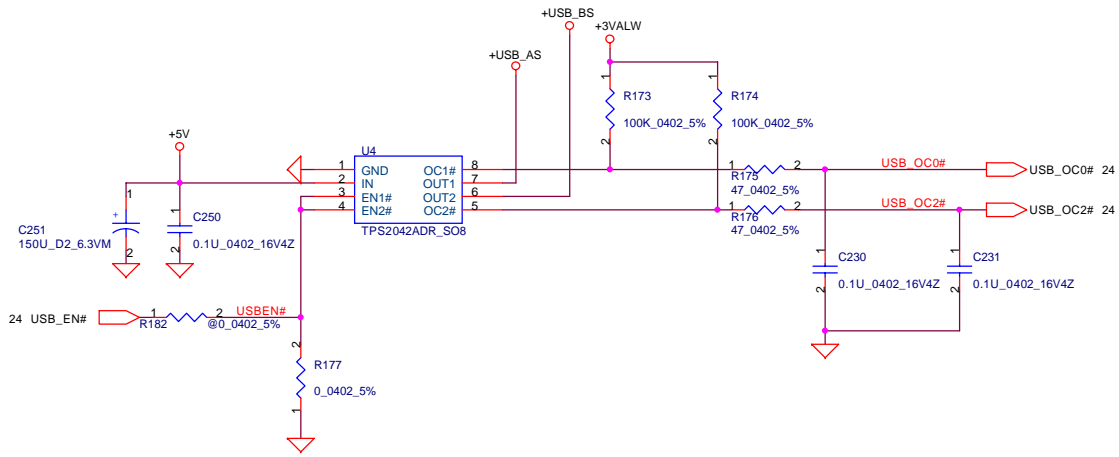
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|------------------|-------------------------|---------|
| Size B | Document Number LA-2041 | Rev 0.1 |
| Date: 9月09, 2003 | Sheet 35 | of 56 |

SUPER I/O SMC FDC47N227

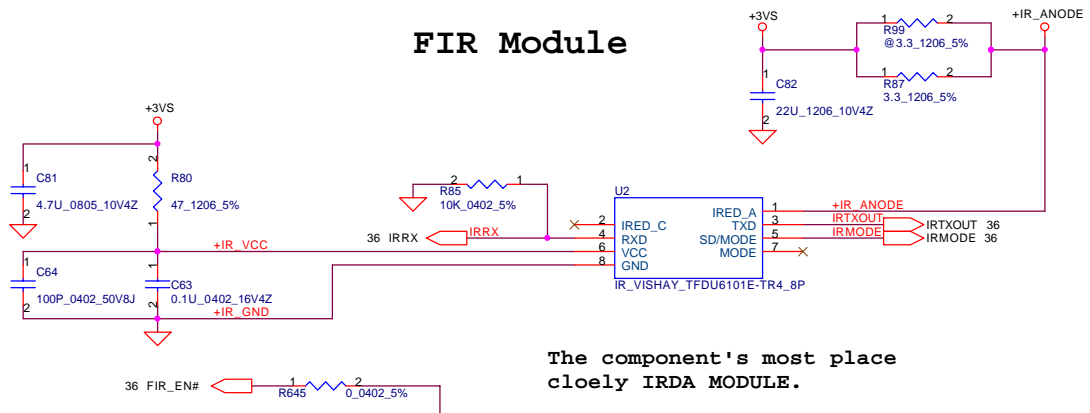


| | | | |
|---------------------------------|-------------------|-------|----------|
| Compal Electronics, Inc. | | | |
| Title | | | |
| SUPER I/O | | | |
| Size | Document Number | Rev | |
| B | LA-2041 | 0.1 | |
| Date: | ~P期三, 七月 09, 2003 | Sheet | 36 of 56 |

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FIR Module



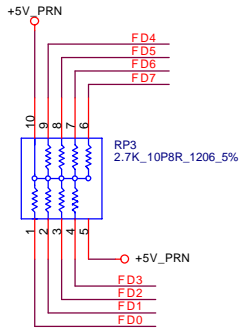
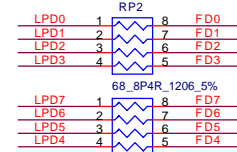
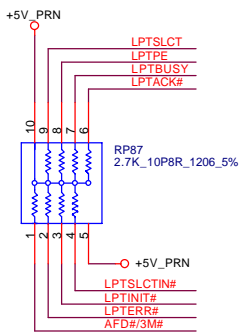
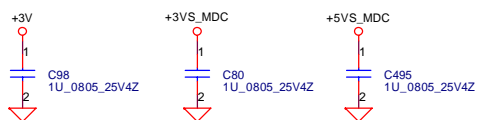
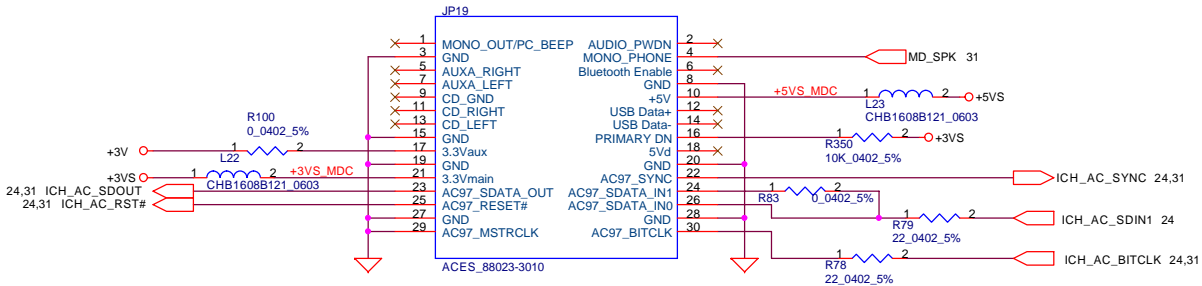
The component's most place
cloely IRDA MODULE.

FIR_EN#
LOW FIR Poped
HIGH FIR Un-Poped

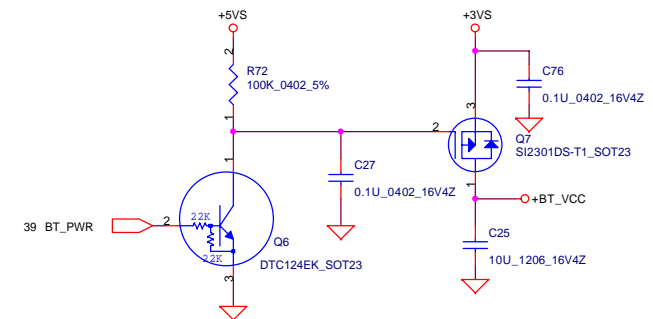
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| | | |
|---------------------------------|-------------------|----------------|
| Compal Electronics, Inc. | | |
| Title | | |
| USB Conn. | | |
| Size | Document Number | Rev |
| B | LA-2041 | 0.1 |
| Date: | -P期三, 七月 09, 2003 | Sheet 37 of 56 |

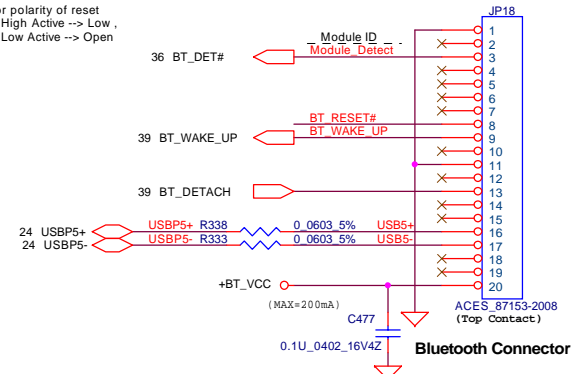
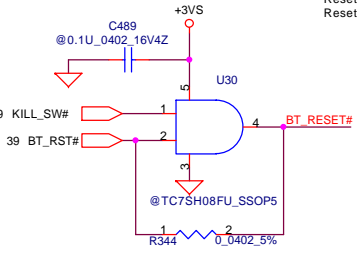
MDC CONN.



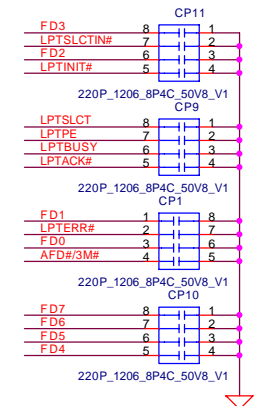
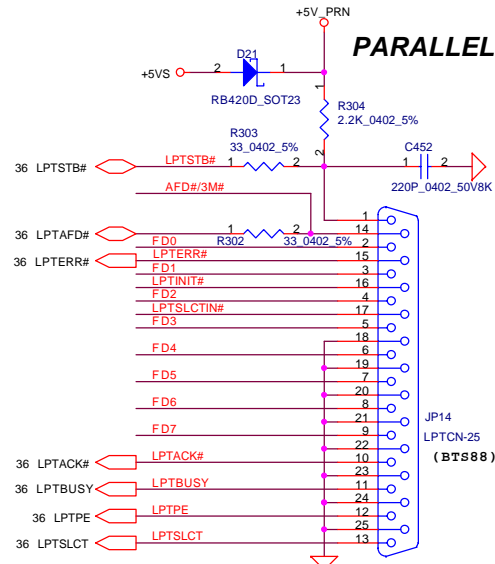
BlueTooth Interface



Module ID
Indication for polarity of reset
Reset input High Active -> Low,
Reset input Low Active -> Open

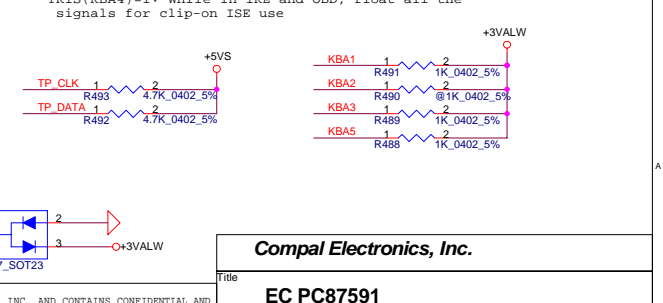
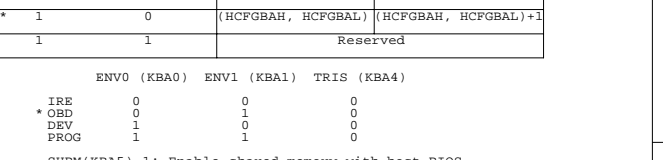
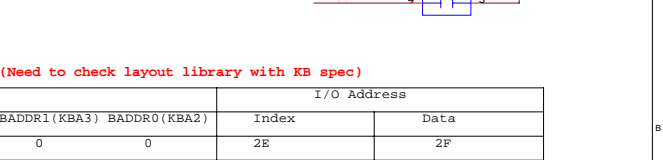
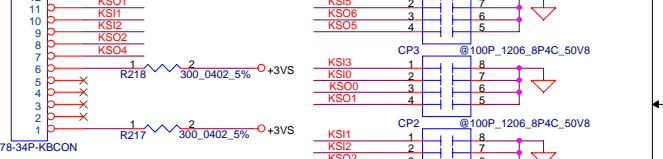
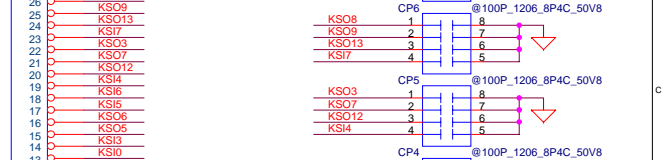
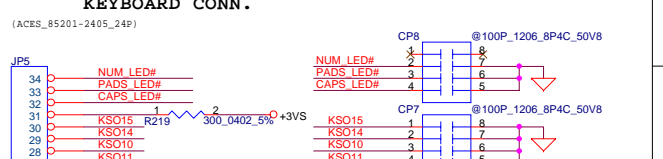
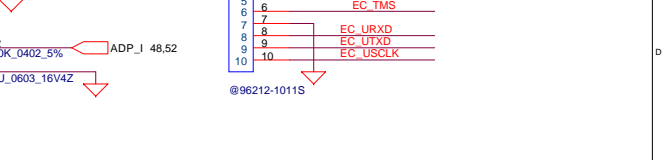
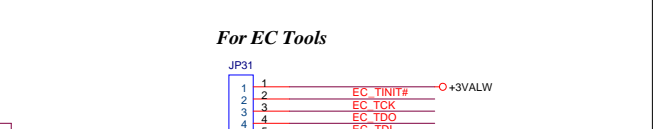
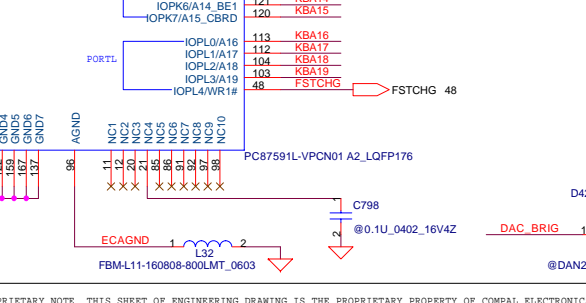
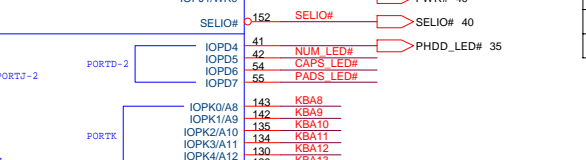
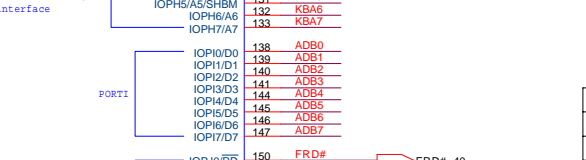
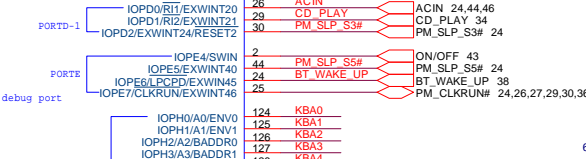
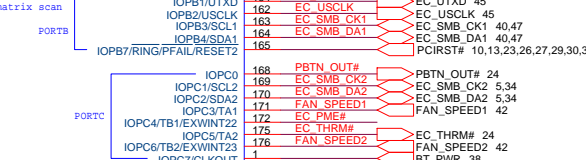
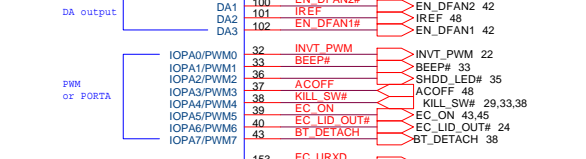
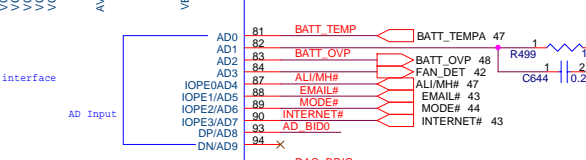
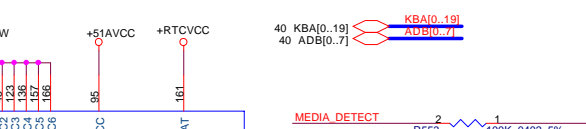
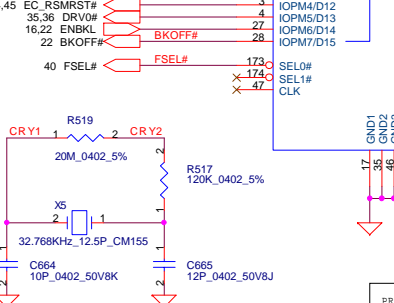
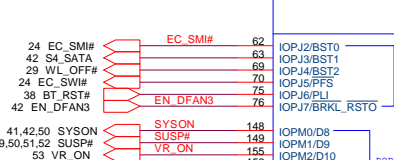
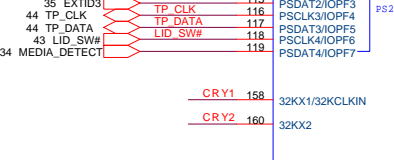
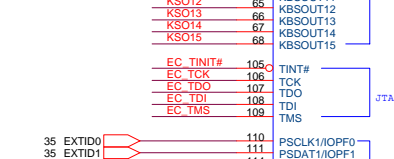
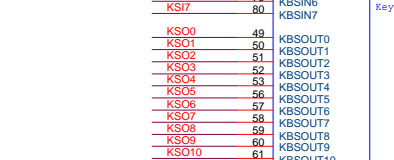
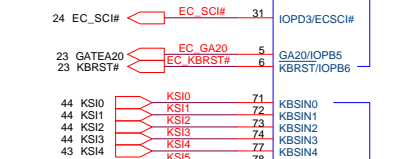
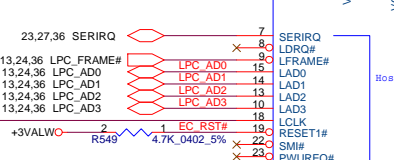
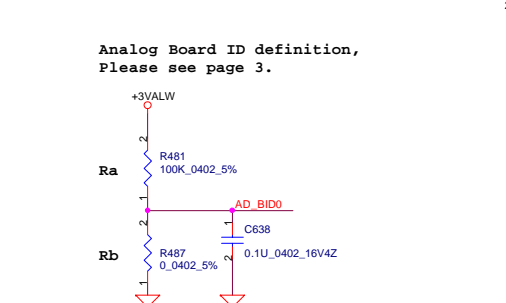
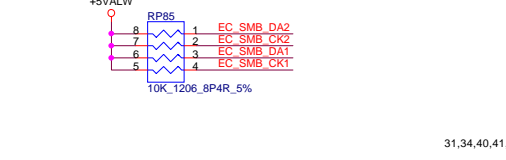
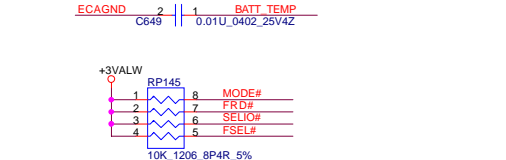
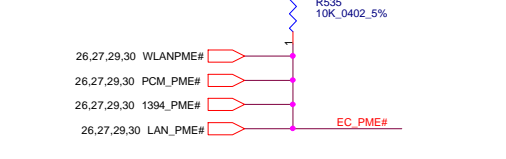
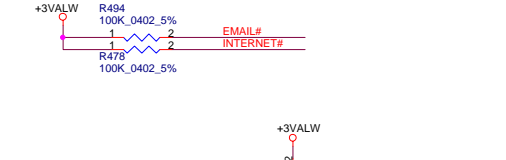
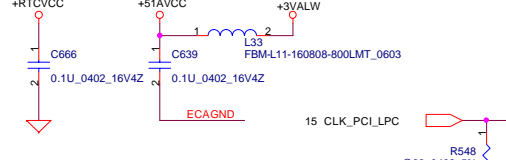
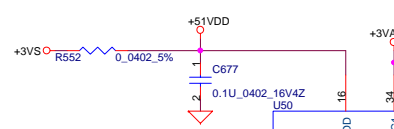
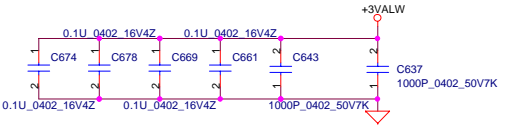


PARALLEL PORT

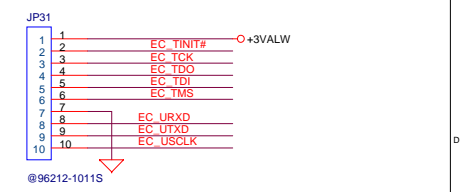


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| Compal Electronics, Inc. | | |
| Title | PARALLEL/MDC PORT | |
| Size | Document Number | Rev |
| | LA-2041 | 0.1 |
| Date: | ~P期三, 七月 09, 2003 | Sheet 38 of 56 |

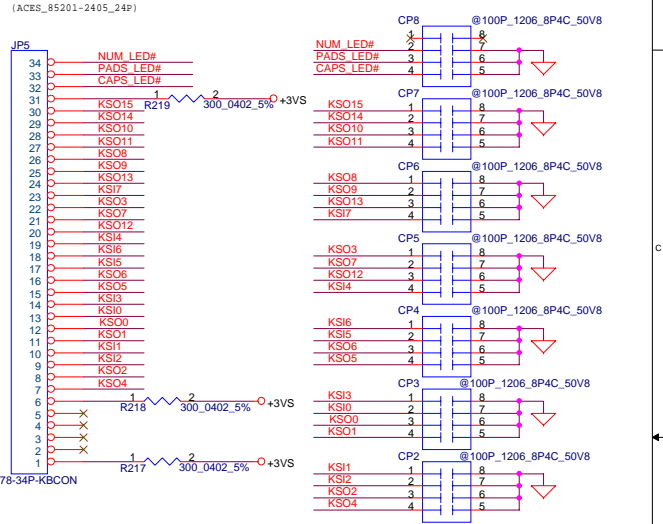
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For EC Tools



KEYBOARD CONN.



(Need to check layout library with KB spec)

| I/O Address | | Index | Data |
|--------------|--------------|--------------------|----------------------|
| BADDR1(KBA3) | BADDR0(KBA2) | 0 | 2E |
| 0 | 0 | 2E | 2F |
| 0 | 1 | 4E | 4F |
| * 1 | 0 | (HCFGBAH, HCFGBAL) | (HCFGBAH, HCFGBAL)+1 |
| 1 | 1 | | Reserved |

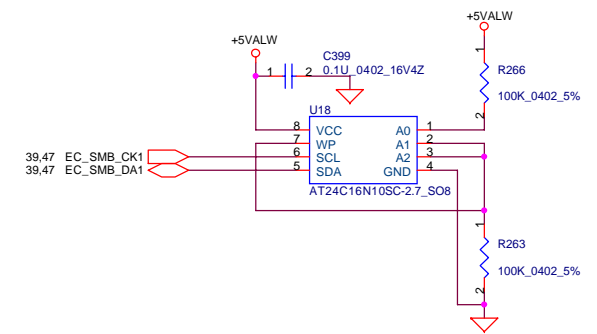
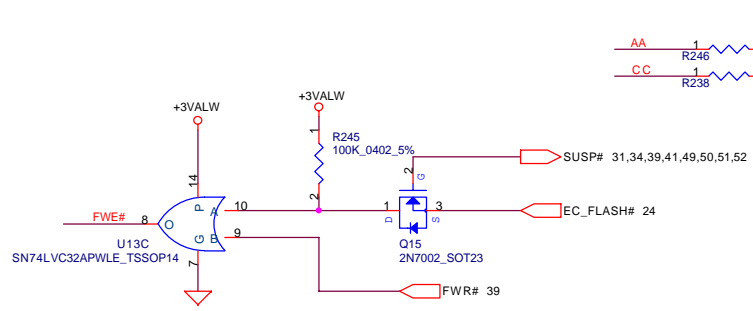
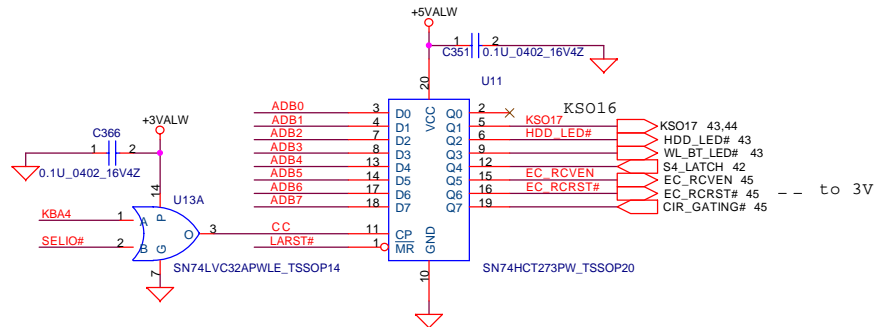
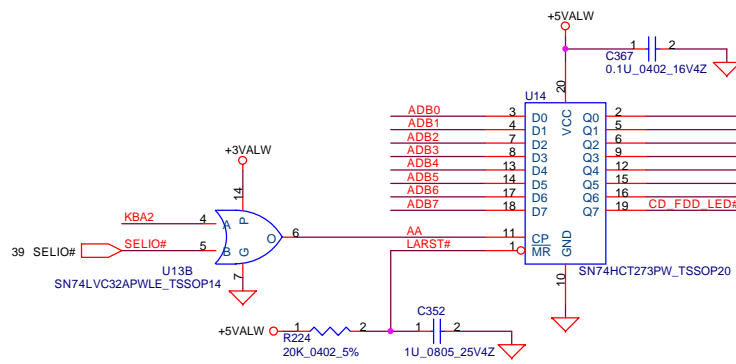
| ENVO (KBA0) | ENV1 (KBA1) | TRIS (KBA4) |
|-------------|-------------|-------------|
| IRE | 0 | 0 |
| * OBD | 0 | 1 |
| DEV | 1 | 0 |
| PROG | 1 | 0 |

SBM(KBA5)=1: Enable shared memory with host BIOS
 TRIS(KBA4)=1: While in IRE and OBD, Float all the signals for clip-on ISE use

Compal Electronics, Inc.

| | | | | | |
|-------|-----------------|-----|------------|---------|-----|
| Title | | | EC PC87591 | | |
| Size | Document Number | Rev | Custom | LA-2041 | 0.1 |
| Date | 日期 | 日期 | 日期 | 日期 | 日期 |

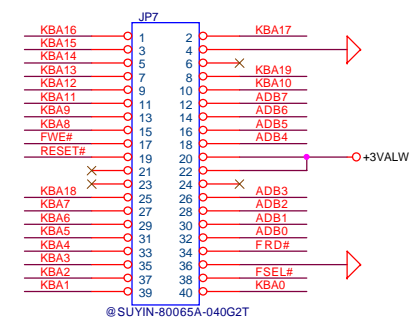
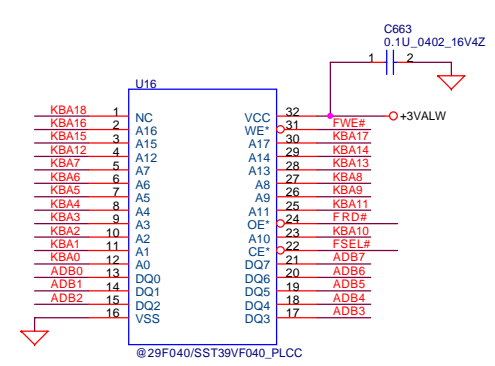
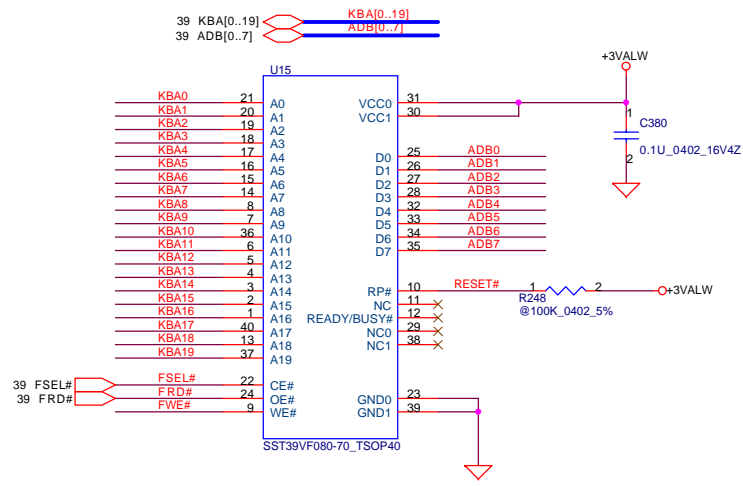
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1MB Flash ROM

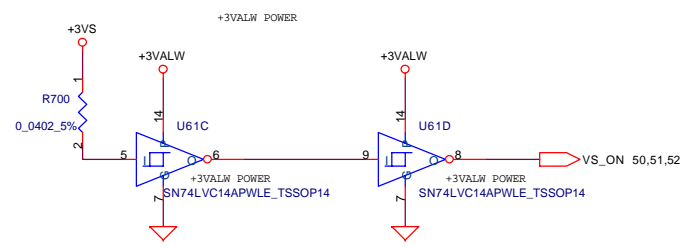
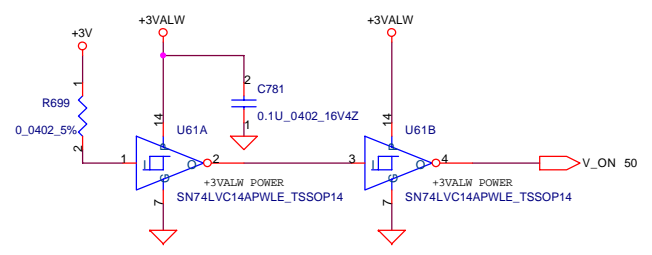
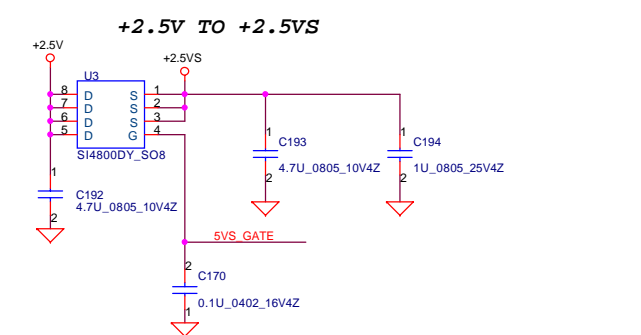
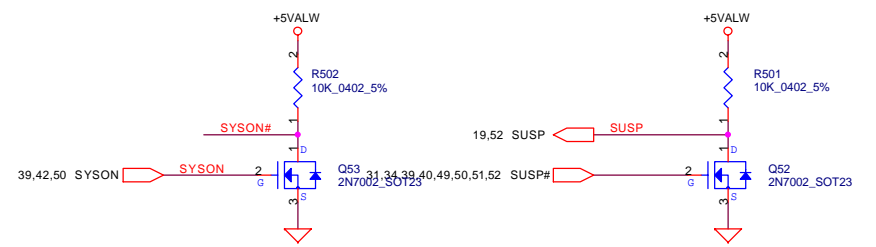
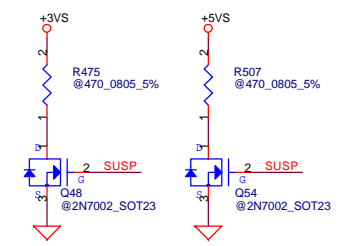
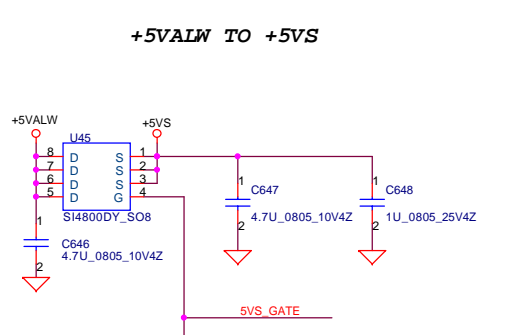
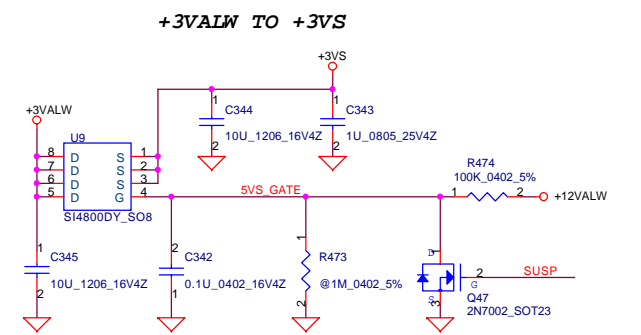
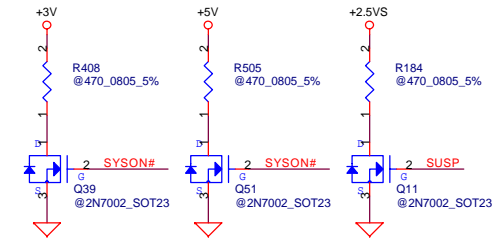
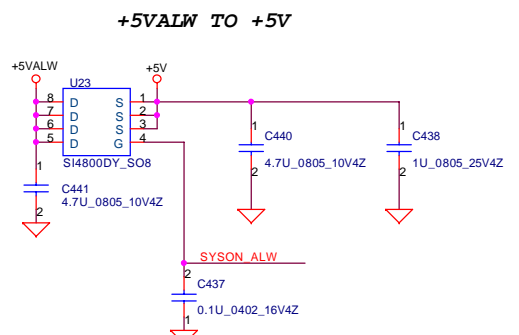
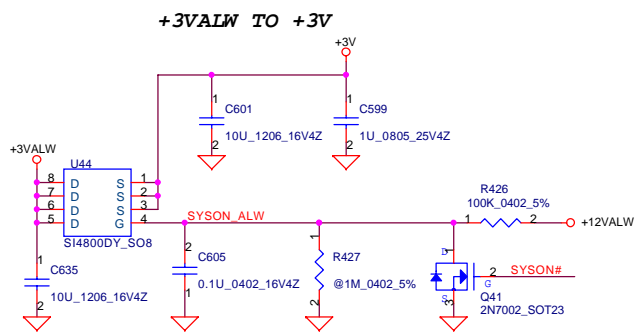
512KB Flash ROM

Flash ROM Socket Conn.



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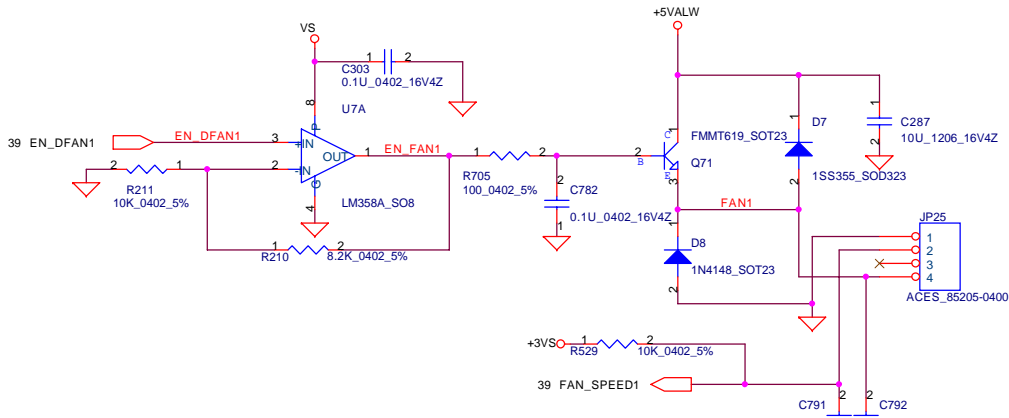
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| Title | | | |
| BIOS & EXT. I/O PORT | | | |
| Size | Document Number | Rev | |
| B | LA-2041 | 0.1 | |
| Date: | -P期三, 七月 09, 2003 | Sheet | 40 of 56 |



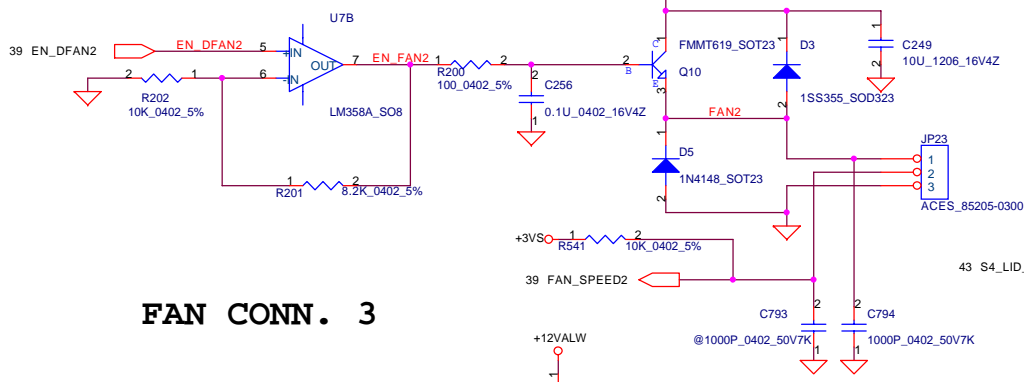
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| Compal Electronics, Inc. | | |
| Title | | |
| POWER CONTROL CKT | | |
| Size | Document Number | Rev |
| B | LA-2041 | 0.1 |
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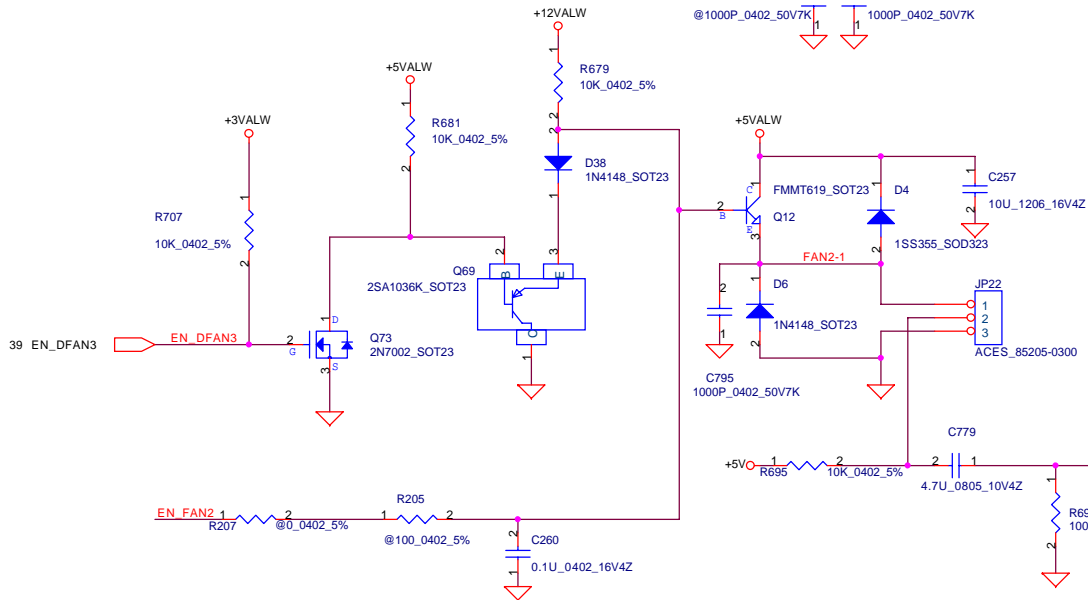
FAN CONN. 1



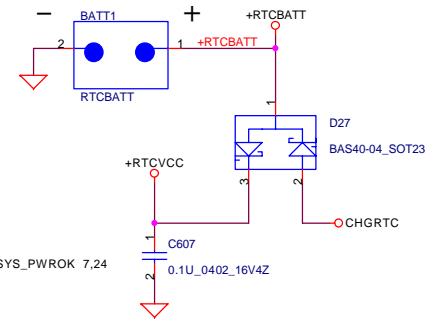
FAN CONN. 2



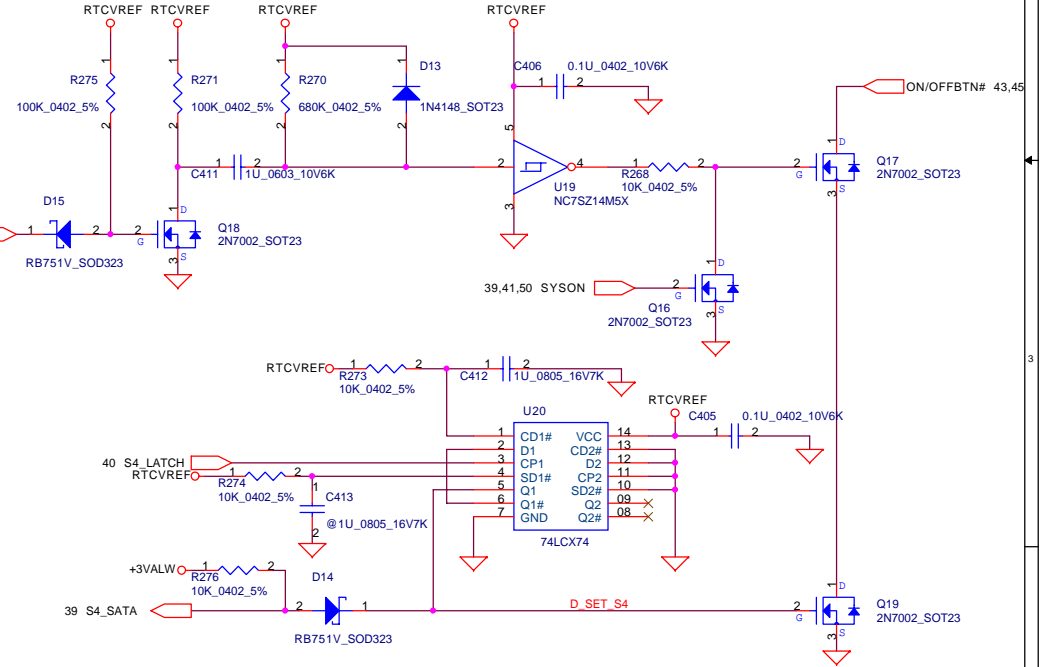
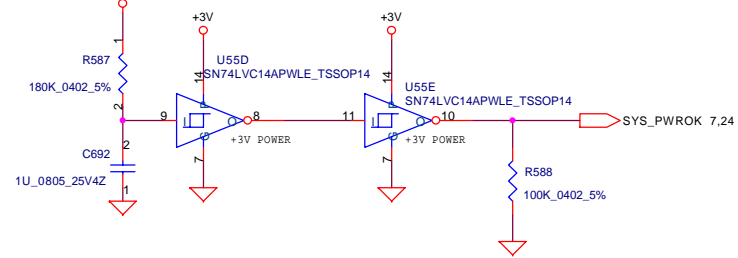
FAN CONN. 3



RTC Battery



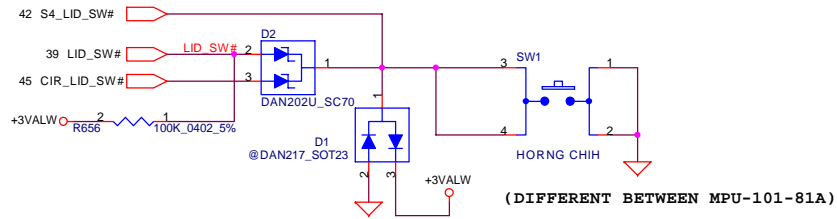
Power ON Circuit



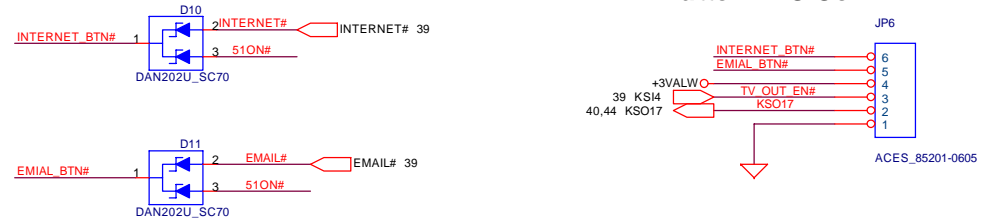
Compal Electronics, Inc.

| | | |
|-----------------------------------------------|---------------------|----------------|
| Title | | |
| Power OK/Reset/RTC battery/Lid Switch/Int. KB | | |
| Size | Document Number | Rev |
| | LA-2041 | 0.1 |
| Date: | ~P 星期三, 七月 09, 2003 | Sheet 42 of 56 |

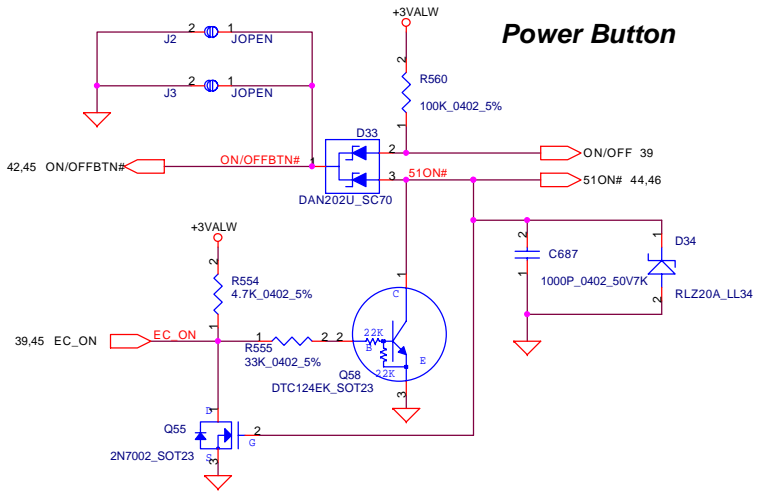
LID Switch



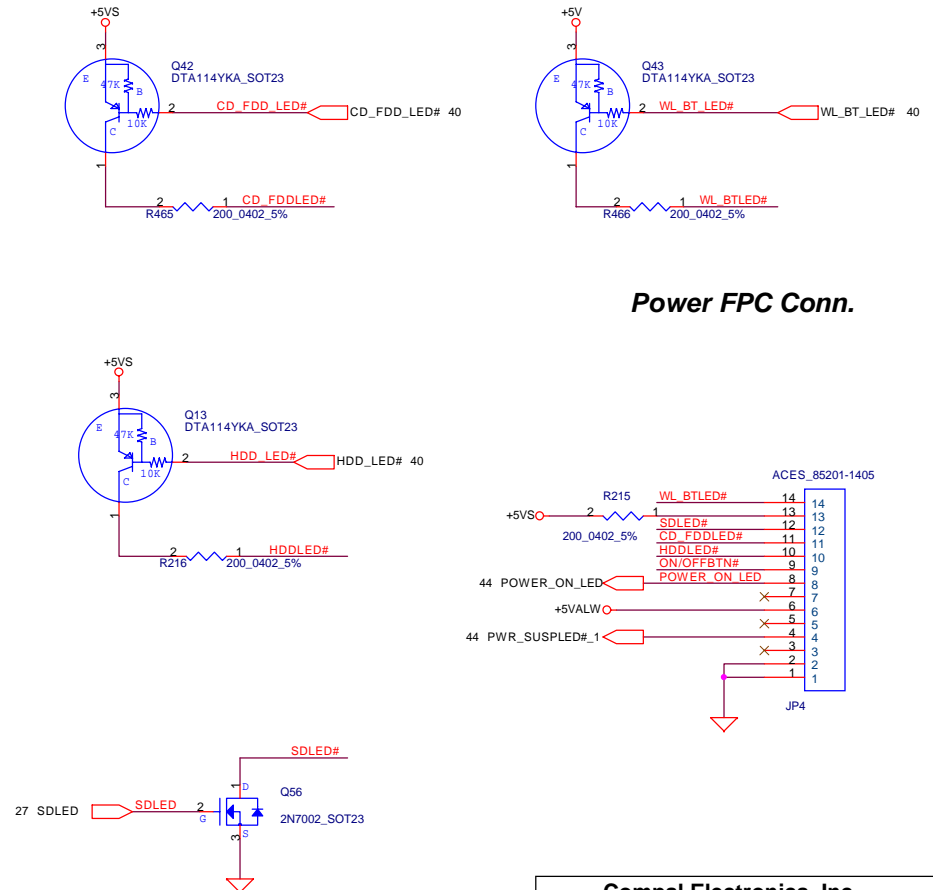
Button FPC Conn.



Power Button

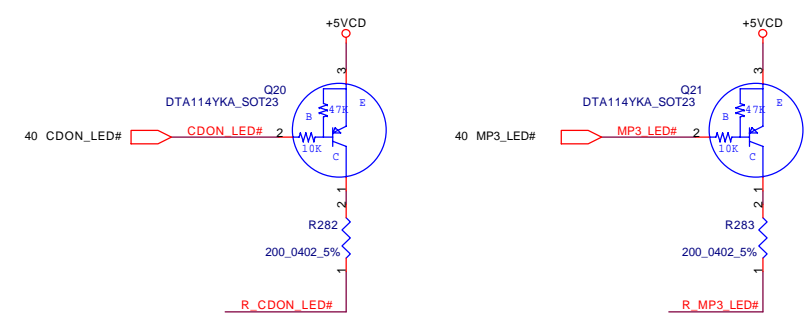
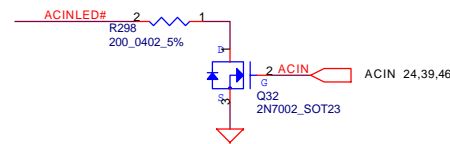
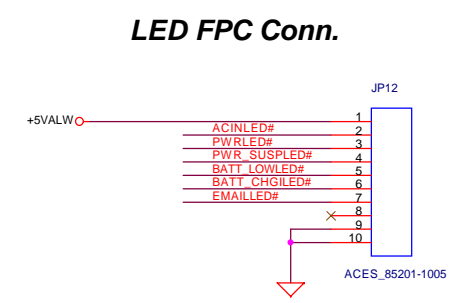
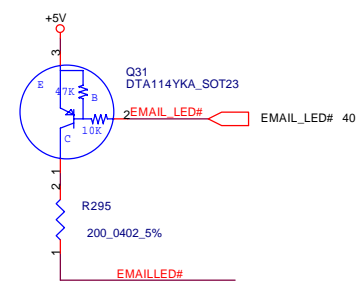
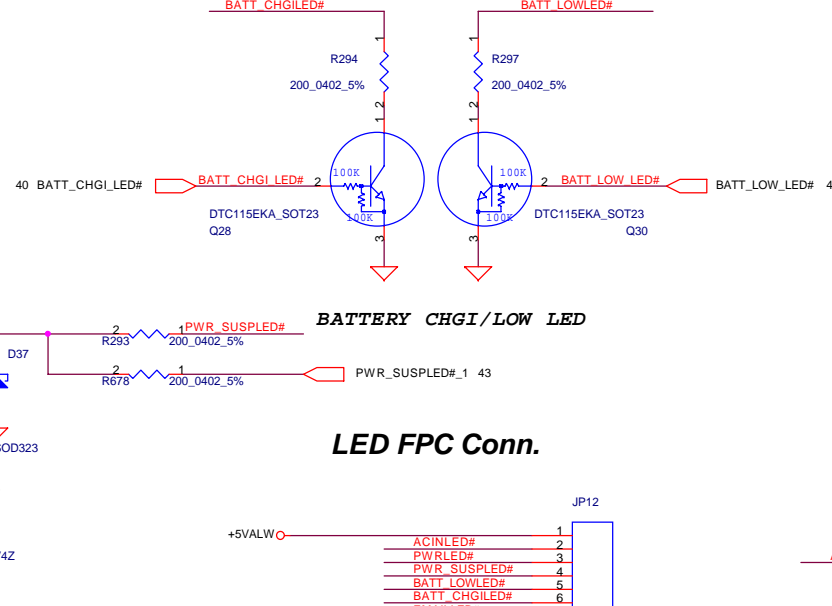
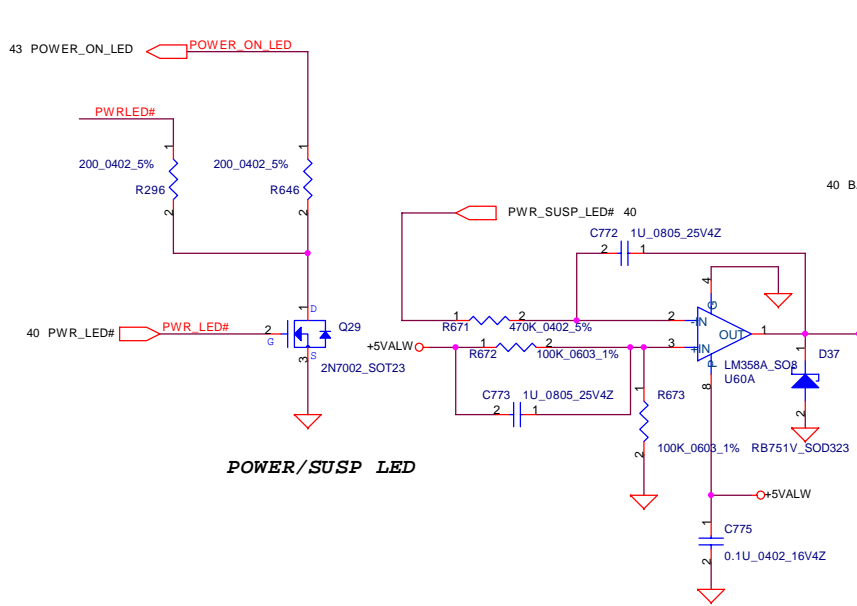


Power FPC Conn.

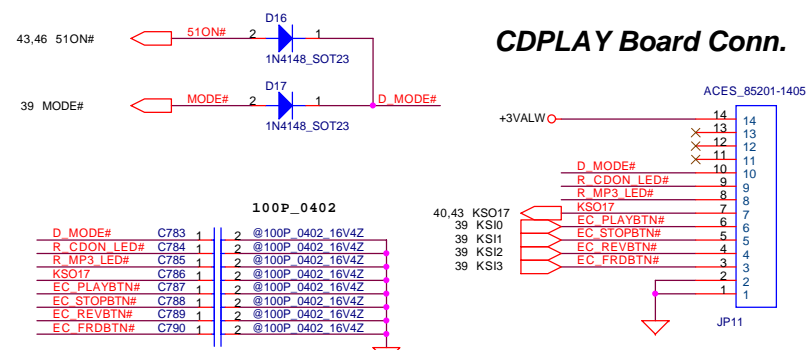
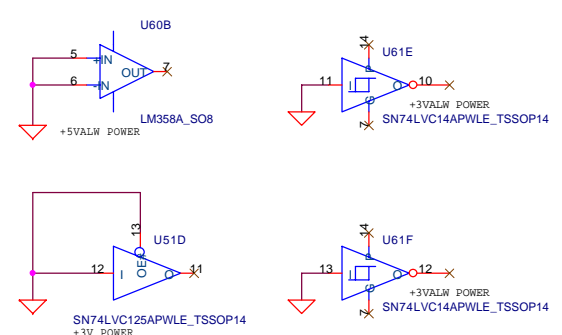
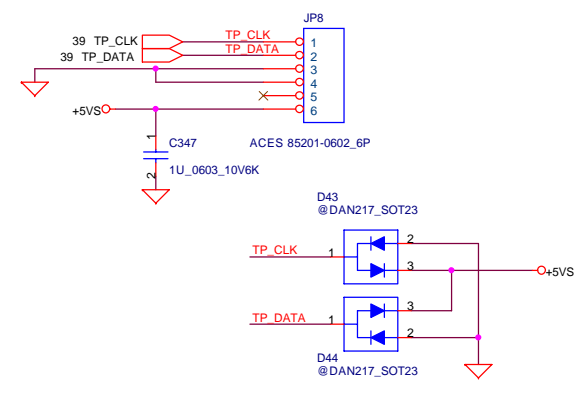


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| Title | | |
| Switches & Connectors | | |
| Size | Document Number | Rev |
| B | LA-2041 | 0.1 |
| Date: | ~P期三, 七月 09, 2003 | Sheet 43 of 56 |



Touch Pad Connector

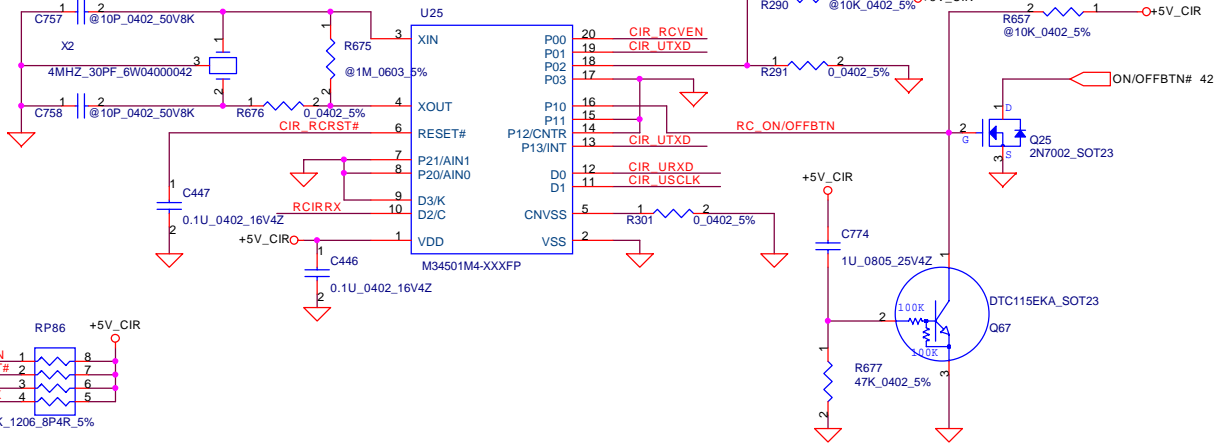
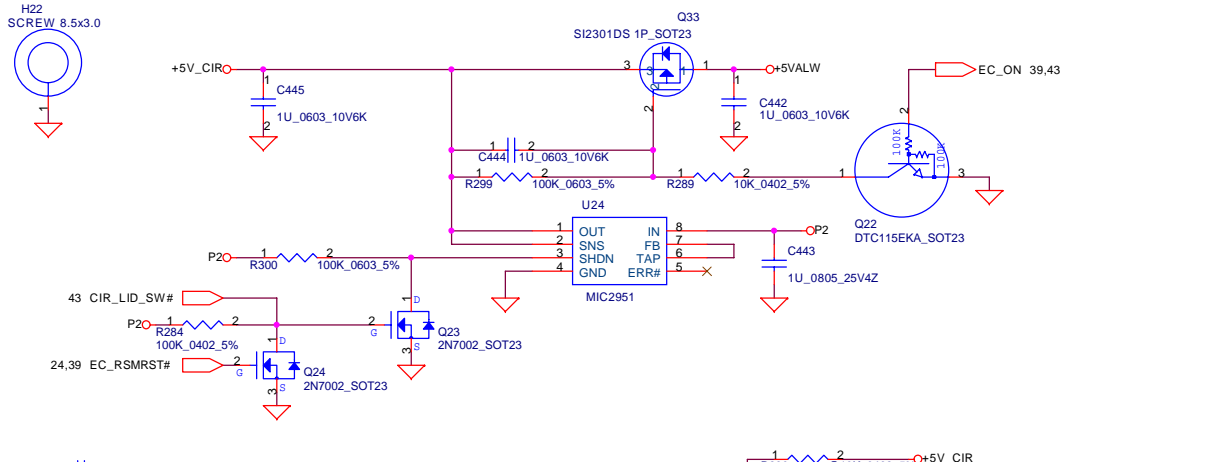
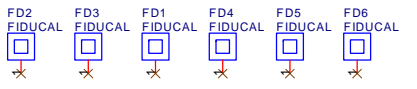
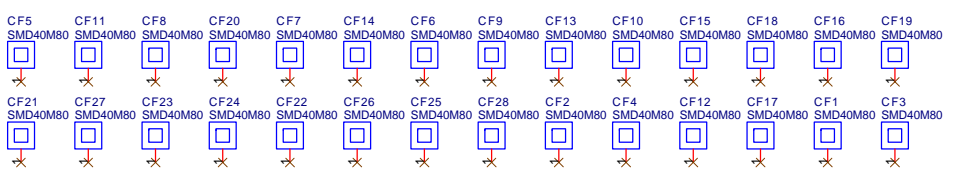
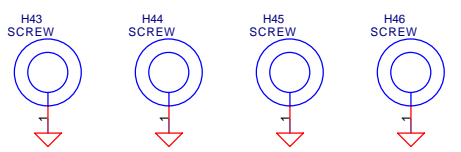
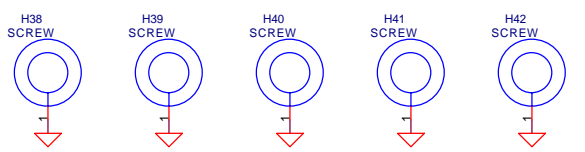
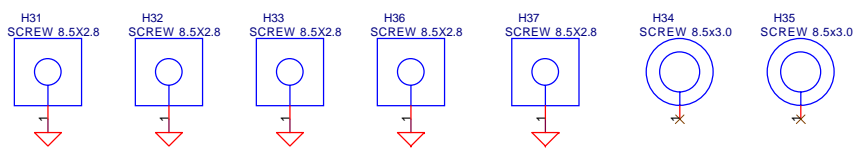
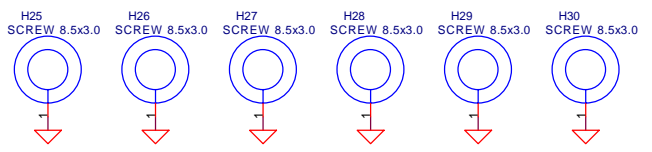
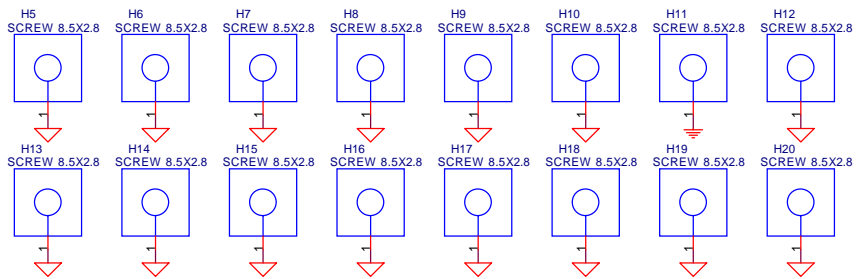
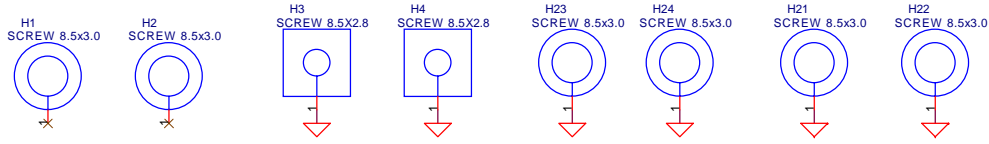


| | | | | |
|-------------|------|---|---|------------------|
| D_MODE# | C783 | 1 | 2 | @100P_0402_16V4Z |
| R_CDON_LED# | C784 | 1 | 2 | @100P_0402_16V4Z |
| R_MP3_LED# | C785 | 1 | 2 | @100P_0402_16V4Z |
| KSO17 | C786 | 1 | 2 | @100P_0402_16V4Z |
| EC_PLAYBTN# | C787 | 1 | 2 | @100P_0402_16V4Z |
| EC_STOPBTN# | C788 | 1 | 2 | @100P_0402_16V4Z |
| EC_REVBTN# | C789 | 1 | 2 | @100P_0402_16V4Z |
| EC_FRDBTN# | C790 | 1 | 2 | @100P_0402_16V4Z |

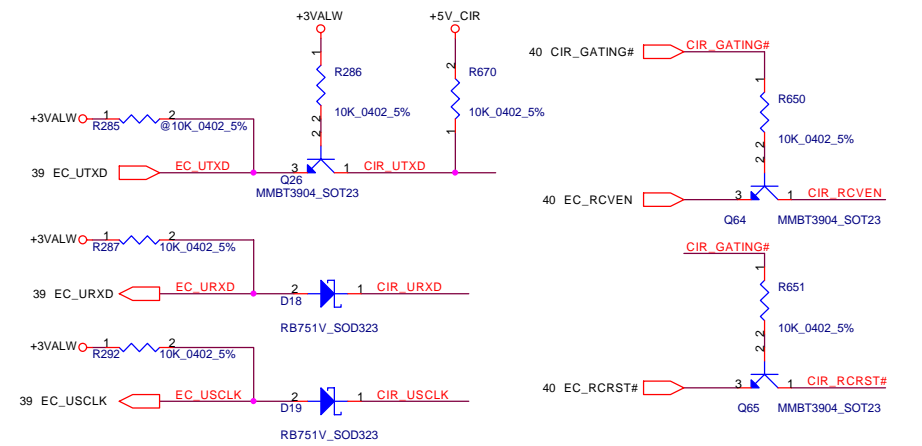
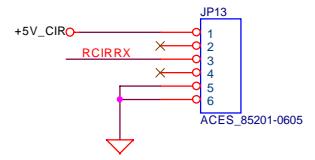
Compal Electronics, Inc.

| | | |
|-----------------------|-------------------|----------------|
| Title | | |
| Switches & Connectors | | |
| Size | Document Number | Rev |
| B | LA-2041 | 0.1 |
| Date: | ~P期三, 七月 09, 2003 | Sheet 44 of 56 |

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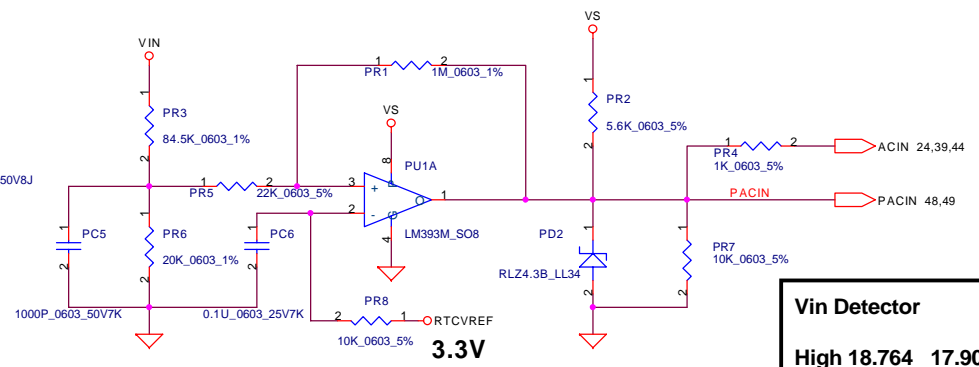
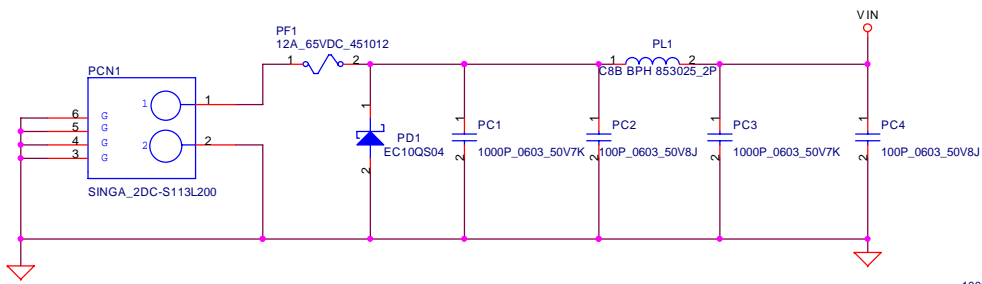


CIR Reciever Board Conn.

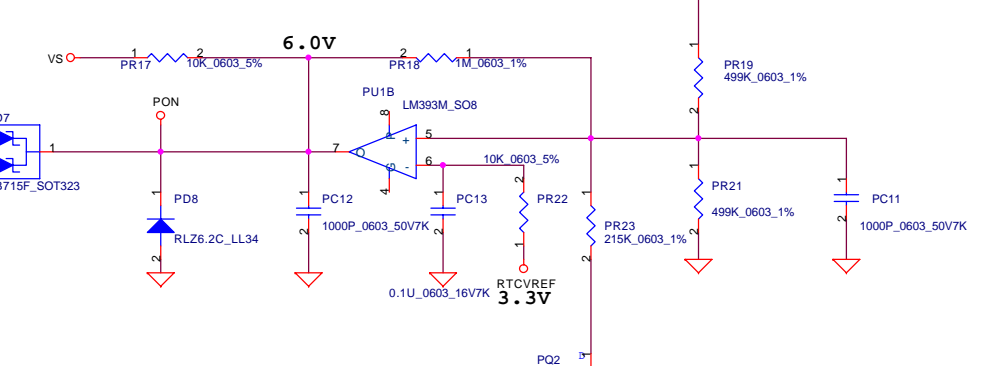
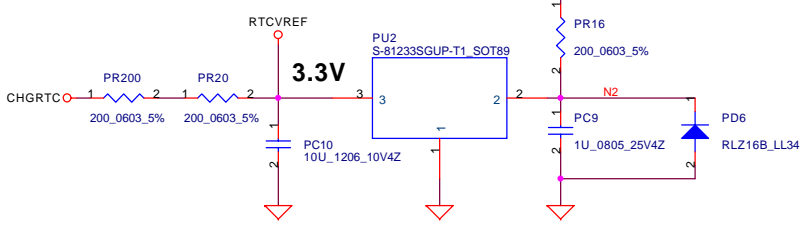
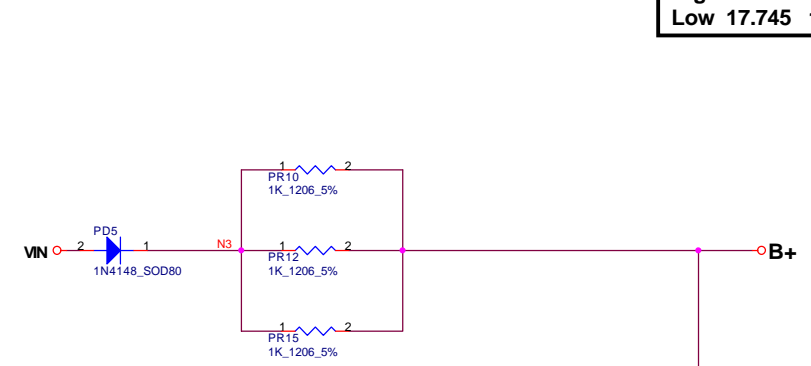
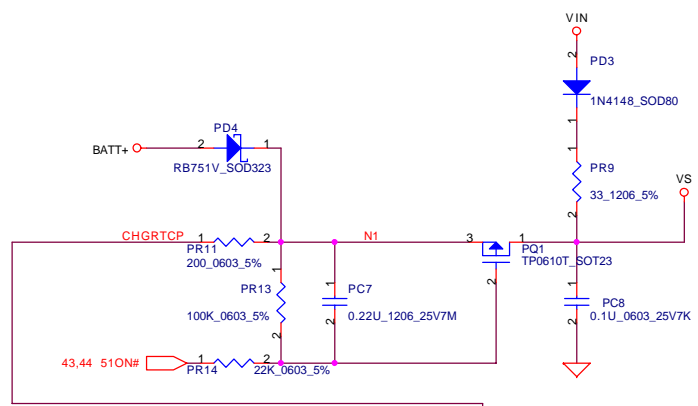


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| Compal Electronics, Inc. | | |
| Title | CIR & Screws | |
| Size | Document Number | Rev |
| B | LA-2041 | 0.1 |
| Date: | ~月三, 七月 09, 2003 | Sheet 45 of 56 |

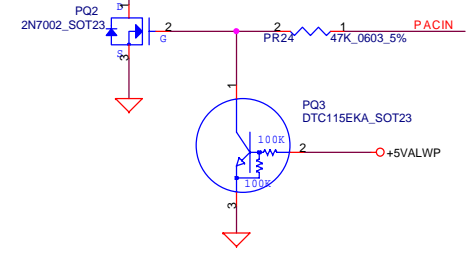
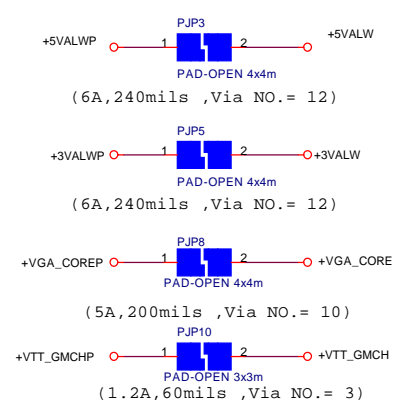
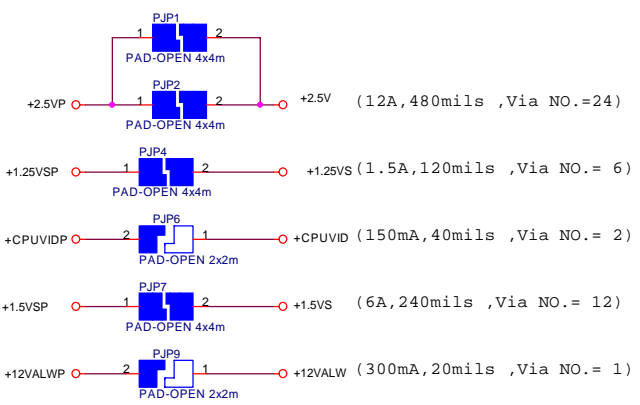
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| Vin Detector | | |
|--------------|--------|---------------|
| High | 18.764 | 17.901 17.063 |
| Low | 17.745 | 16.903 16.038 |

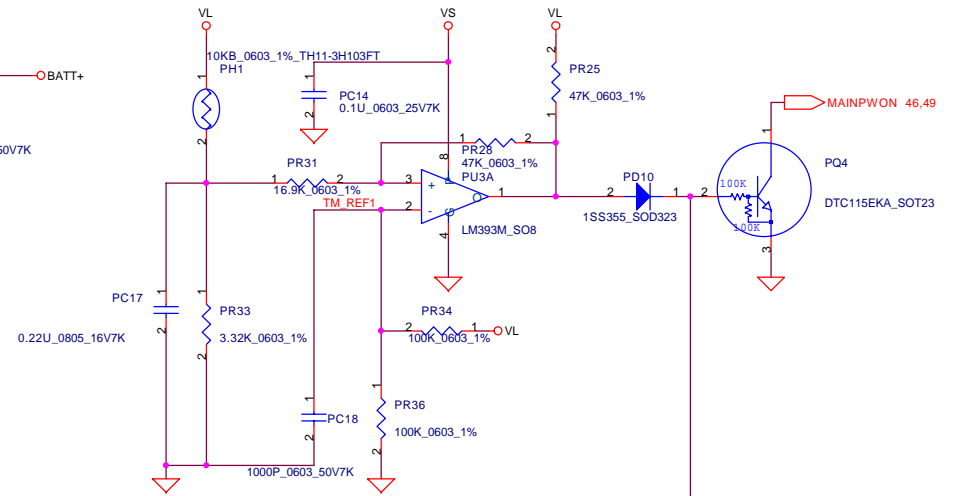


| Precharge detector | | |
|--------------------|-------|-------|
| 15.34 | 15.90 | 16.48 |
| 13.13 | 13.71 | 14.20 |

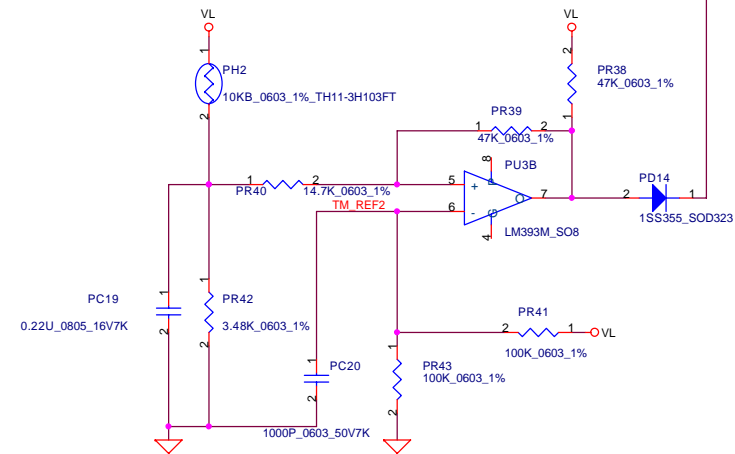


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PH1 under CPU botten side :
 CPU thermal protection at 84 degree C
 Recovery at 45 degree C



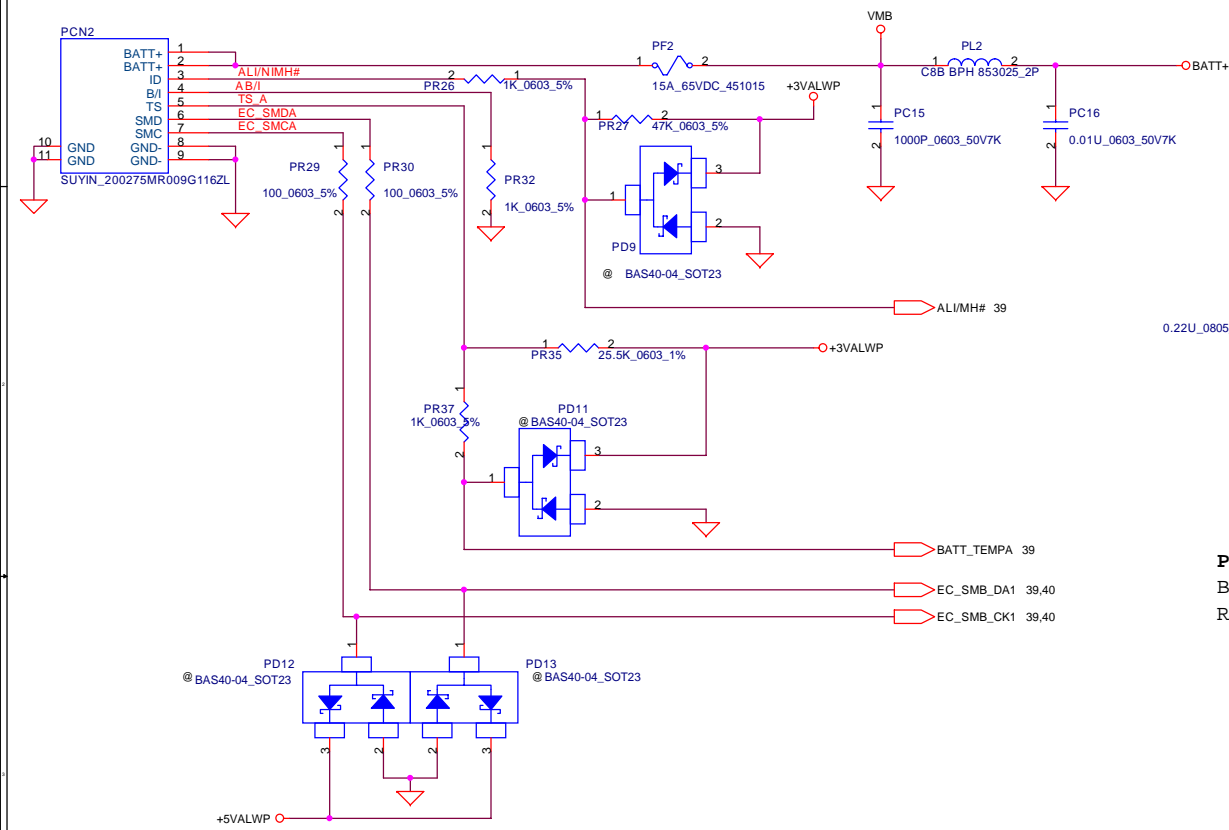
PH2 near main Battery CONN :
 BAT. thermal protection at 79 degree C
 Recovery at 45 degree C

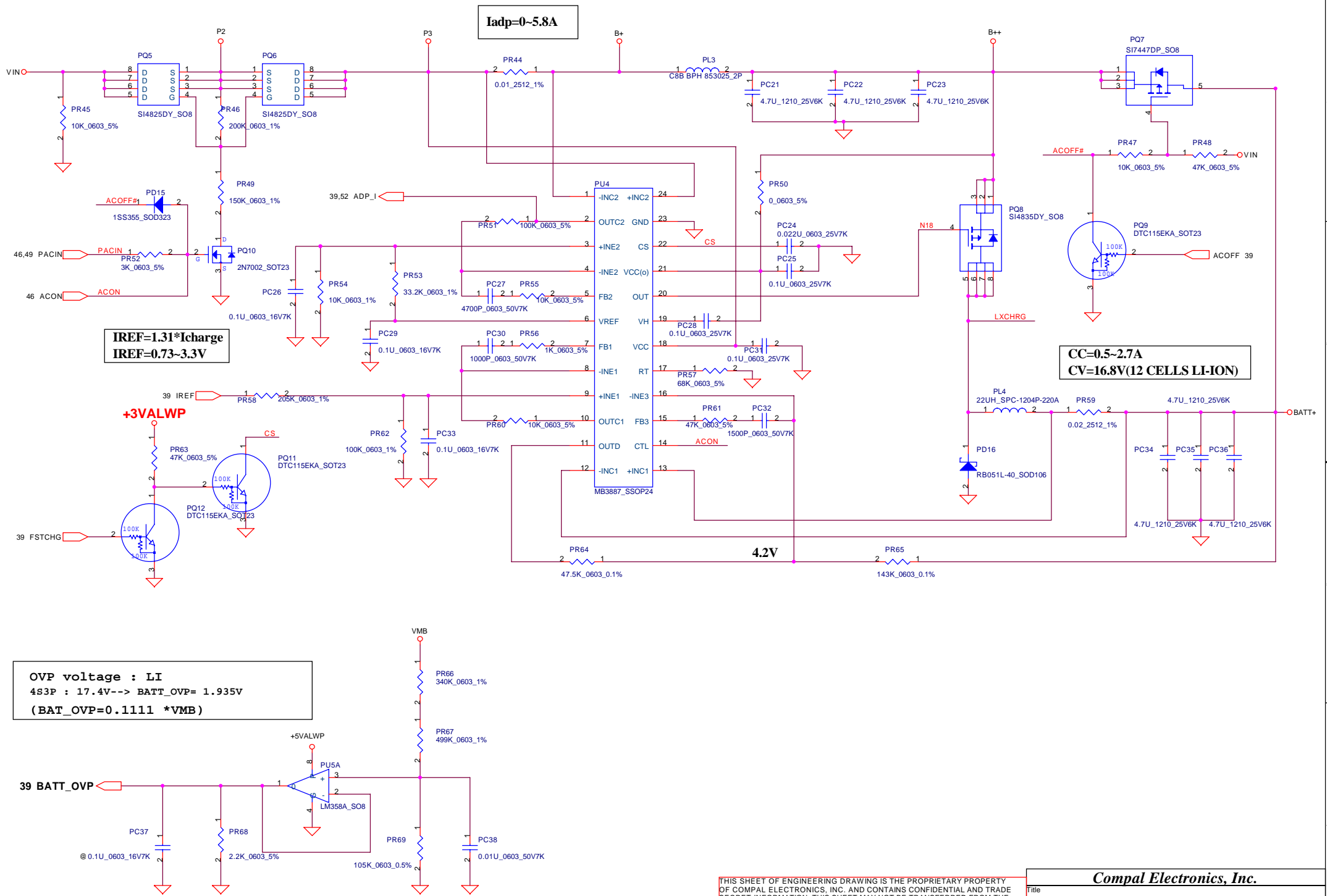


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| | | |
|------------------|---------------------|----------------|
| Title | | |
| BATTERY CONN/OTP | | |
| Size | Document Number | R ev |
| | LA-2041 | 0.1 |
| Date: | -P 星期三, 七月 09, 2003 | Sheet 47 of 56 |

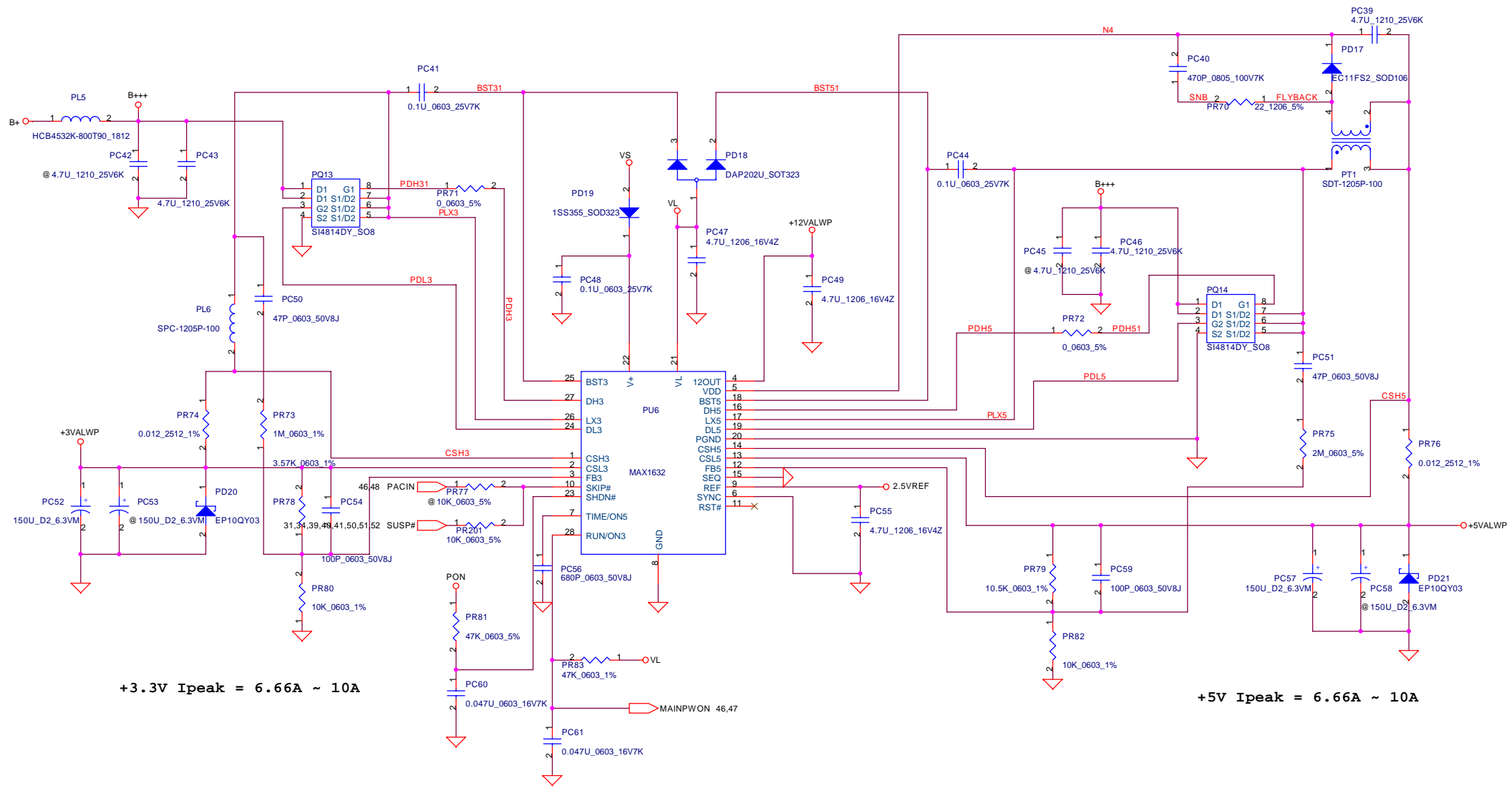
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| Compal Electronics, Inc. | | |
| CHARGER | | |
| Size | Document Number | R ev |
| | LA-2041 | 0.1 |
| Date: | -P 星期三, 七月 09, 2003 | Sheet 48 of 56 |



+3.3V Ipeak = 6.66A ~ 10A

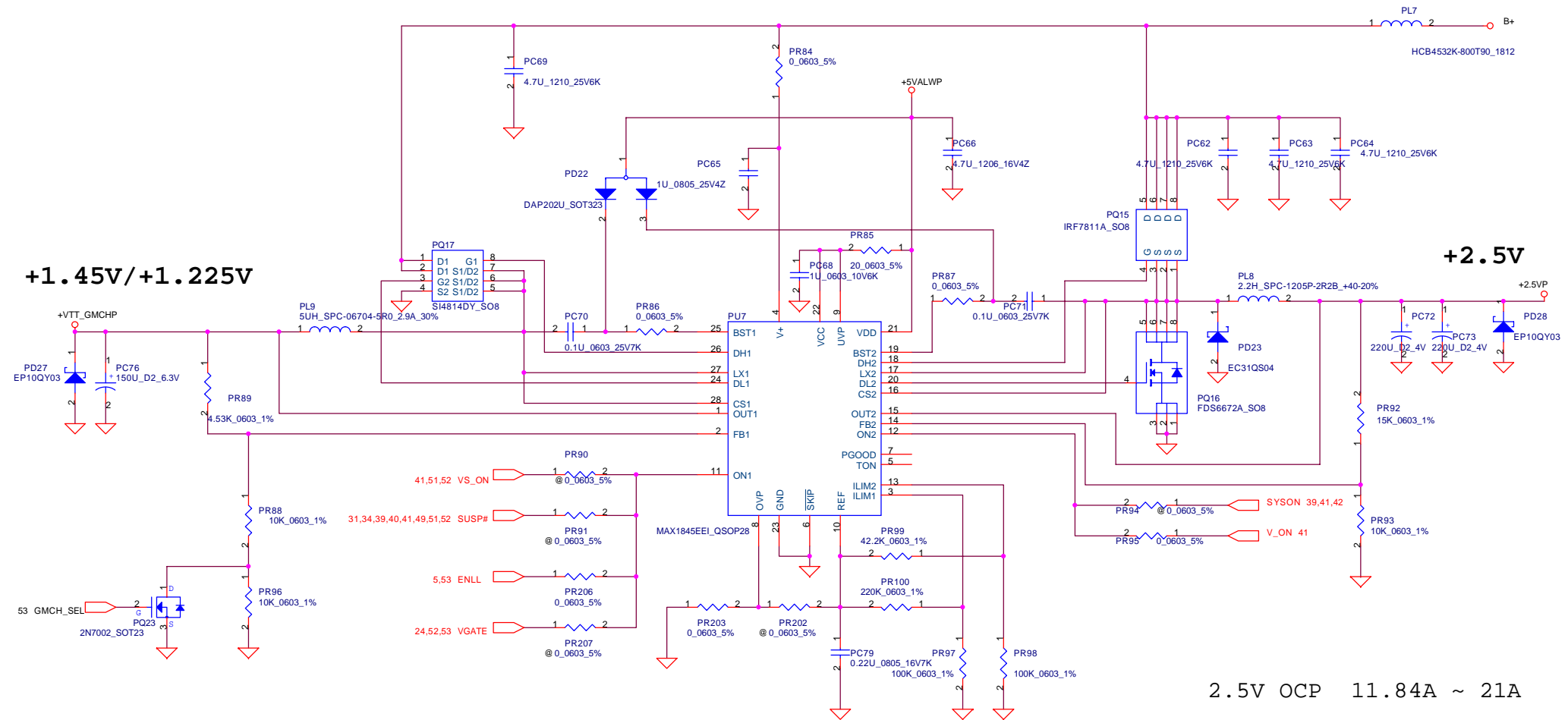
+5V Ipeak = 6.66A ~ 10A

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| | | |
|---------------------------------|-----------------------------------|----------------|
| Compal Electronics, Inc. | | |
| Title 5V/3.3V/12V | | |
| Size | Document Number LA-2041 | Rev 0.1 |
| Date | ~P星期三, 七月 09, 2003 | Sheet 49 of 56 |

+2.5V/+VTT_GMCHP

+1.45V/+1.225V

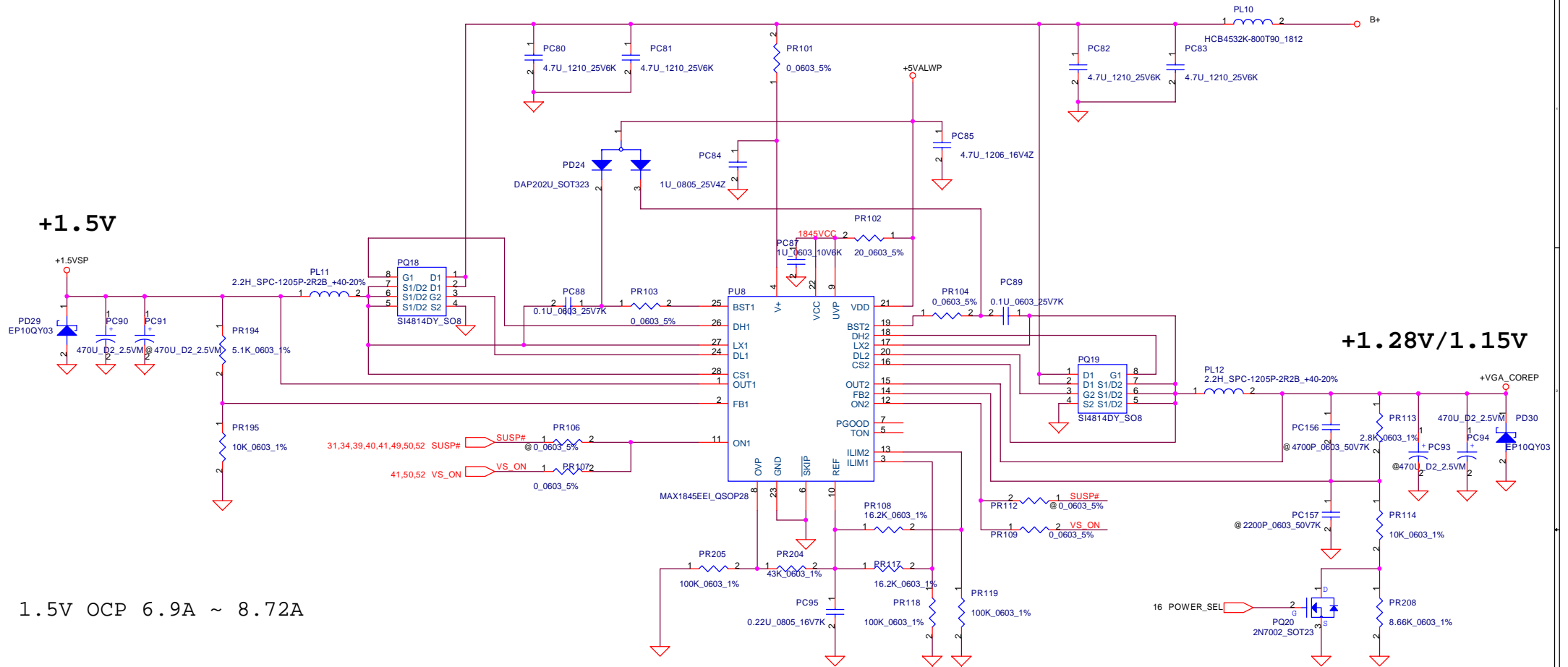


2.5V OCP 11.84A ~ 21A

| | | | |
|------------|-----------|-----------------|-------------------|
| GMCH_SEL=0 | PRESCOTT | VTT_GMCH=1.225V | OCP 1.92A ~ 3.71A |
| GMCH_SEL=1 | NORTHWOOD | VTT_GMCH=1.45V | OCP 1.98A ~ 3.78A |

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|-------------------------------------|----------------|---------|
| Compal Electronics, Inc. | | |
| Title DDR_25V/VTT_GMCH | | |
| Size Document Number LA-2041 | | |
| Date: -P 星期三, 七月 09, 2003 | Sheet 50 of 56 | Rev 0.1 |



+1.5V

+1.28V/1.15V

1.5V OCP 6.9A ~ 8.72A

| NV34M Ultra | | |
|-------------|-----------------------------|---------------------|
| POWER_SEL=1 | VOUT=1.28V OCP 7.1A ~ 8.9A | PR113=2.8K_0603_1% |
| POWER_SEL=0 | VOUT=1.15V OCP 6.85A ~ 8.7A | PR208=8.66K_0603_1% |

| NV31 | | |
|-------------|----------------------------|--------------------|
| POWER_SEL=1 | VOUT=1.27V OCP 7.1A ~ 8.9A | PR113=2.7K_0603_1% |
| POWER_SEL=0 | VOUT=1V OCP 6.85A ~ 8.7A | Unpop PR208 |

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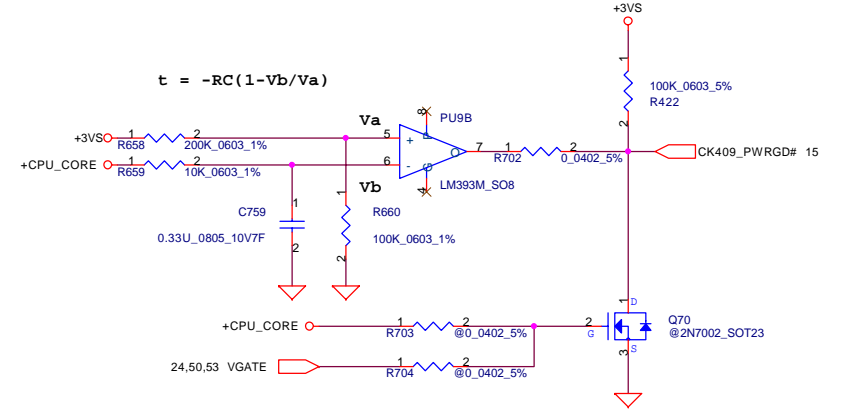
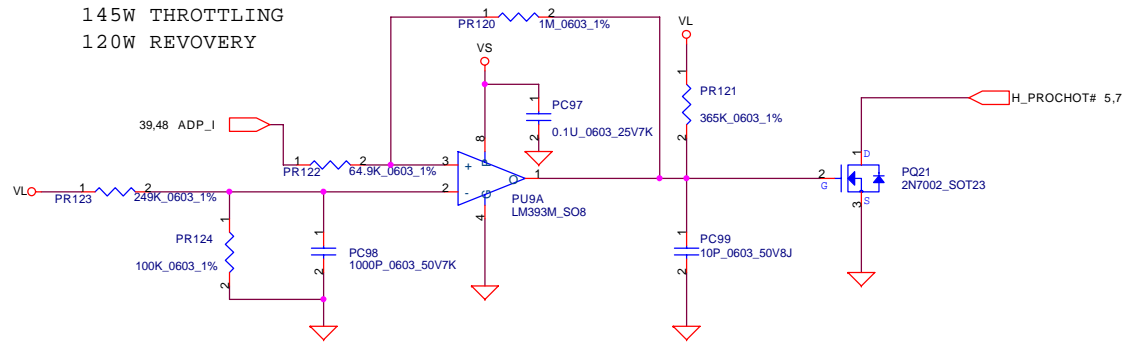
Compal Electronics, Inc.

Title: **VGA_CORE/1.5V**

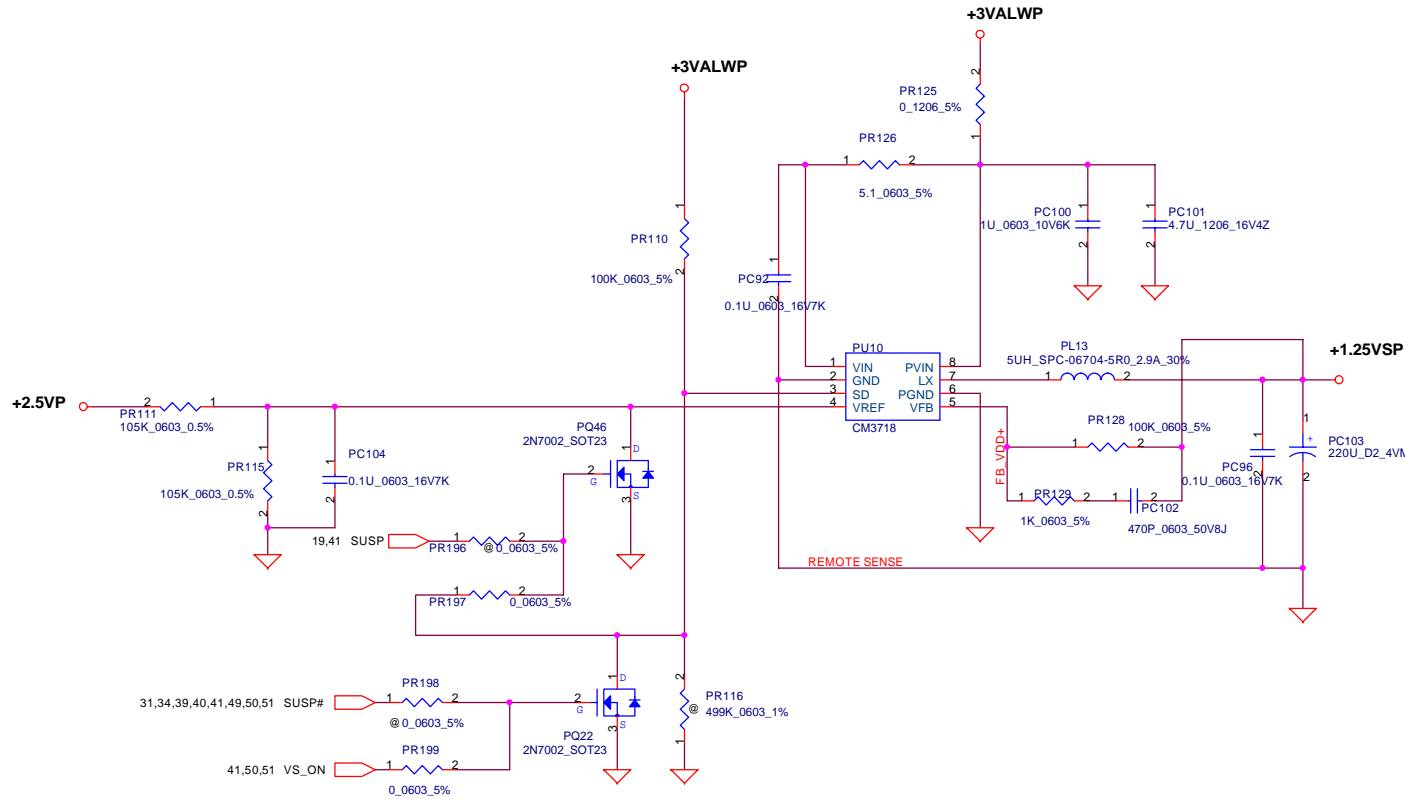
Size: _____ Document Number: **LA-2041** Rev: **0.1**

Date: **-P 星期三, 七月 09, 2003** Sheet: **51** of **56**

145W THROTTLING
120W RECOVERY



$$t = -RC(1 - V_b/V_a)$$

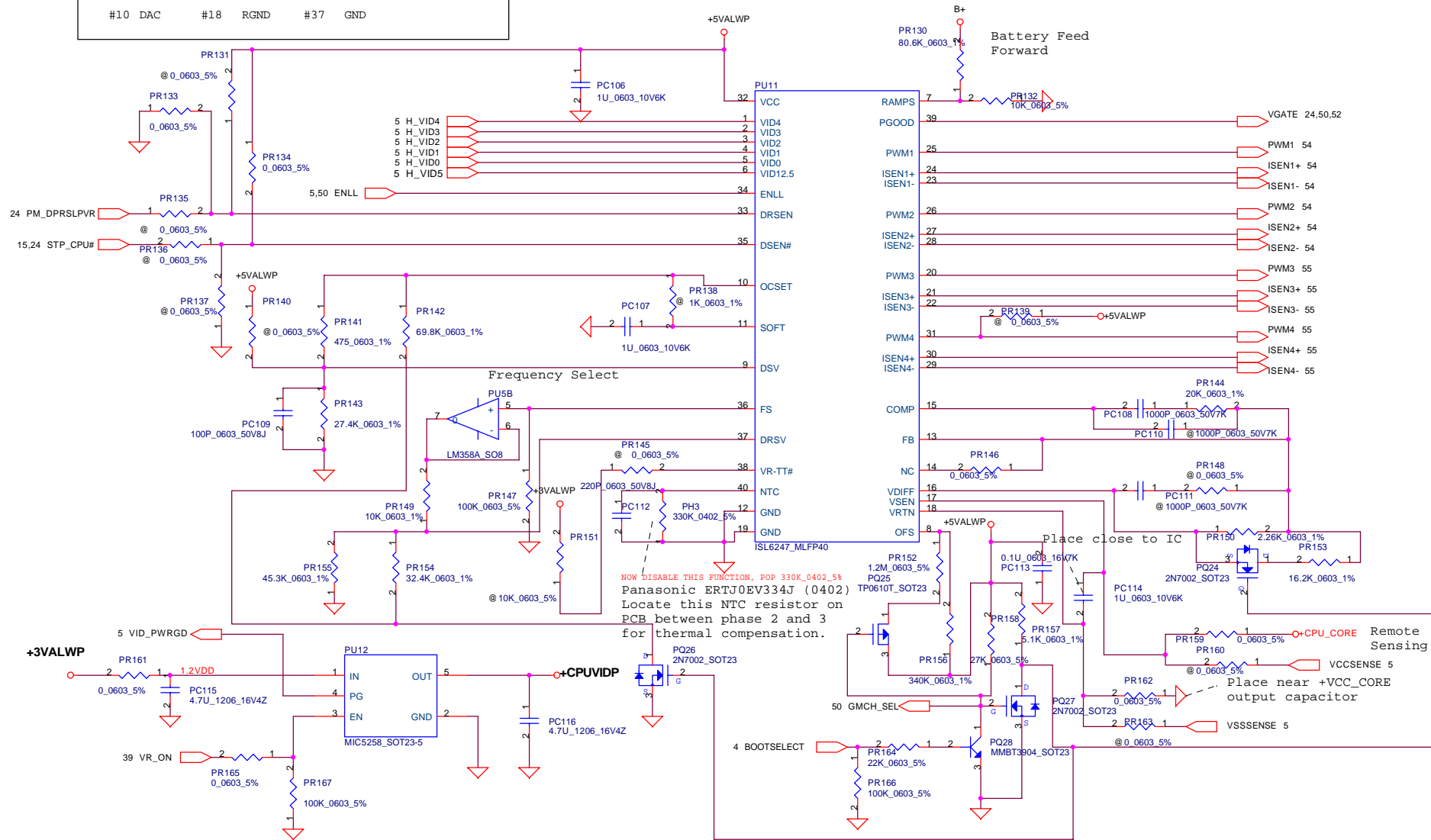


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| | | |
|--------------------------------------------|-----------------------------------|----------------|
| Compal Electronics, Inc. | | |
| Title DDR_1.25V/CLOCK THROTTLING | | |
| Size | Document Number LA-2041 | Rev 0.1 |
| Date: | ~P期三, 七月 09, 2003 | Sheet 52 of 56 |

Different Pin Definition for ISL6561 in PU9

| | | | | | | | |
|-----|-------|-----|--------|-----|-----|-----|-----|
| #7 | GND | #11 | REF | #33 | EN | #38 | OVP |
| #9 | TCOMP | #14 | IDROOP | #35 | GND | #40 | GND |
| #10 | DAC | #18 | RGND | #37 | GND | | |



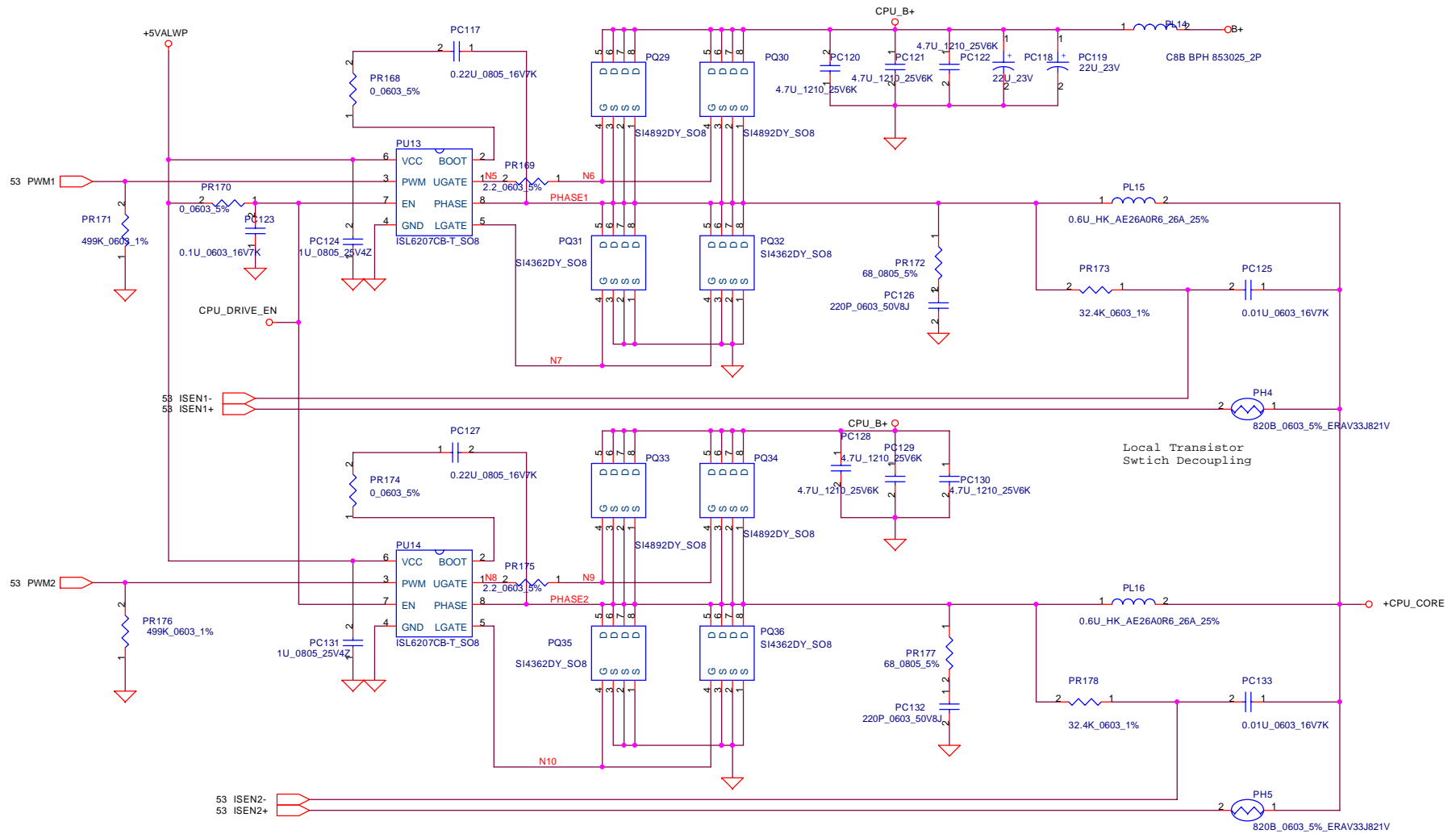
NOW DISABLE THIS FUNCTION, POP 330K_0402_58
 Panasonic ERTJ0EV334T (0402) TP0610T_SOT23
 Locate this NTC resistor on PCB between phase 2 and 3 for thermal compensation.

1. When mode control signal is high/ low, the VR will operate to Northwood/ Prescott load line.
2. VID5(12.5) should be pulled high, when the VR operates to Northwood load line.

| | |
|--------------|-----------|
| BOOTSELECT=1 | PRESCOTT |
| BOOTSELECT=0 | NORTHWOOD |

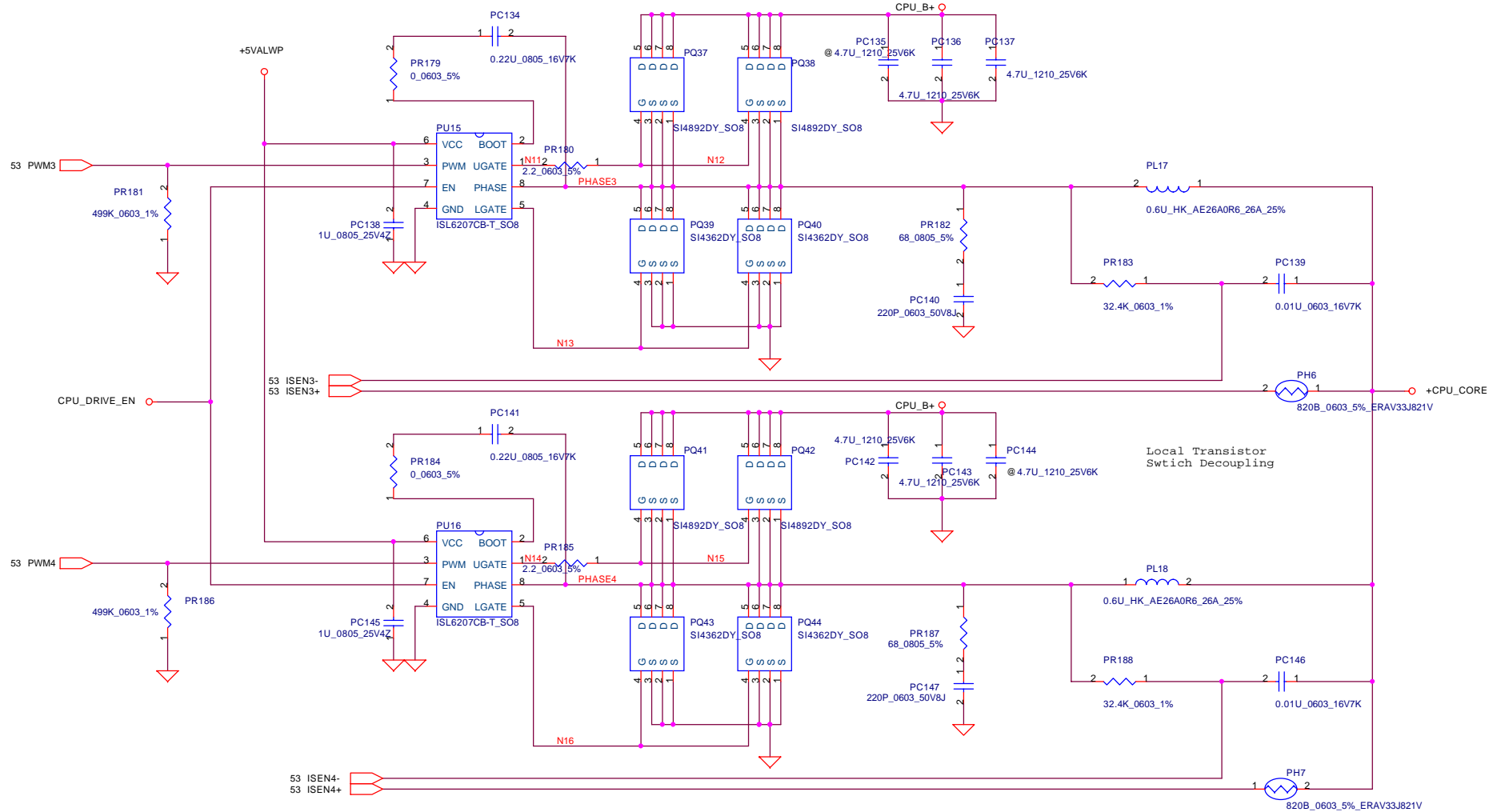
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| | | |
|---------------------------------|--------------------|----------------|
| Compal Electronics, Inc. | | |
| Title | | |
| CPU_CORE_Controller | | |
| Size | Document Number | Rev |
| | LA-2041 | 0.1 |
| Date: | -P 版三, 七月 09, 2003 | Sheet 53 of 56 |



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| | | |
|----------------------------------------|-----------------------------------|----------------|
| Compal Electronics, Inc. | | |
| Title CPU_CORE Power stage 1 | | |
| Size | Document Number LA-2041 | Rev 0.1 |
| Date | -P 星期三, 七月 09, 2003 | Sheet 54 of 56 |



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| | | |
|----------------------------------------|-----------------------------------|----------------|
| Compal Electronics, Inc. | | |
| Title CPU_CORE_Power stage 2 | | |
| Size | Document Number LA-2041 | Rev 0.1 |
| Date | -P 星期三, 七月 09, 2003 | Sheet 55 of 56 |

DBQ01 PIR LIST

***** Rev0.1 PIR List *****

Compal Electronics, Inc.

| | | |
|----------------|---------------------|----------------|
| Title | | |
| DBQ01 PIR LIST | | |
| Size | Document Number | Rev |
| B | LA-2041 | 0.1 |
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