

IALAA

Minnesota 10A/10AG

LA3631P REV 1A Schematic

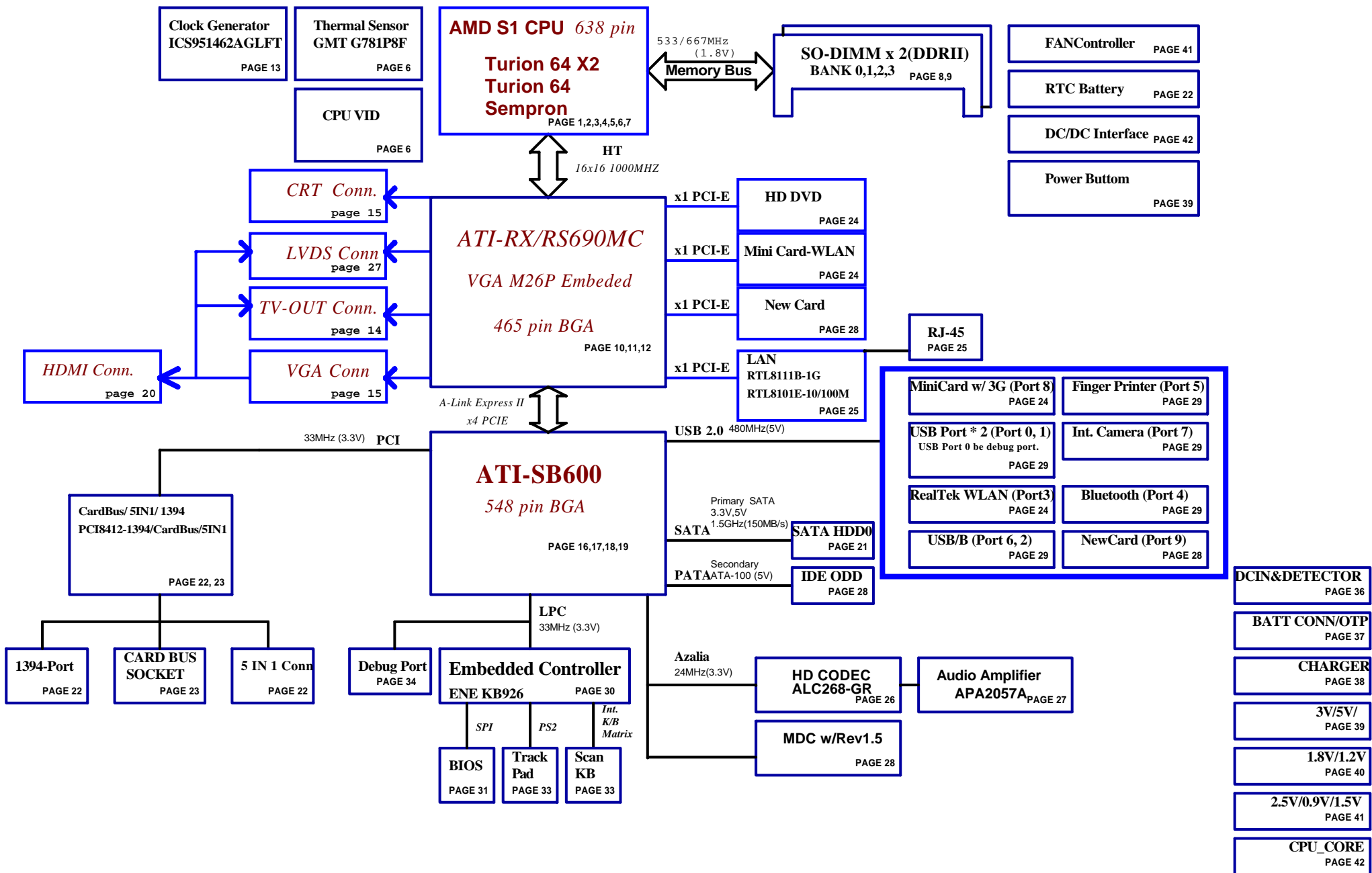
AMD Turion, Sempron/ATI RX690/RS690MC / ATI SB600
2007-05-04 Rev. 1A

| | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|----------|--------------------------|----------------------------|
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| | | | | Rev | 1A |

Compal confidential IALAA Minnesota10A FUNCTION BLOCK DIAGRAM

File Name : IALAA Minnesota10A LA3631P

P/N :



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Voltage Rails

| Power Plane | Description | S1 | S3 | S5 |
|-------------|---------------------------------------------|----|-----|-----|
| VIN | Adapter power supply (19V) | ON | ON | ON |
| B+ | AC or battery power rail for power circuit. | ON | ON | ON |
| +RTCVCC | RTC power | ON | ON | ON |
| +VSB | B+ switched power rail | ON | ON | ON |
| +5VALW | 5V always on power rail | ON | ON | ON |
| +3VALW | 3.3V always on power rail | ON | ON | ON |
| +1.2VALW | 1.2V always on power rail | ON | ON | ON |
| +1.8V | 1.8V power rail | ON | ON | OFF |
| +0.9V | 0.9V switched power rail | ON | ON | OFF |
| +5VS | 5VS switched power rail | ON | OFF | OFF |
| +3VS | 3.3VS switched power rail | ON | OFF | OFF |
| +2.5VS | 2.5VS switched power rail | ON | OFF | OFF |
| +1.8VS | 1.8VS switched power rail | ON | OFF | OFF |
| +1.5VS | 1.5VS switched power rail | ON | OFF | OFF |
| +CPU_CORE | Core voltage for CPU | ON | OFF | OFF |
| +1.2V_HT | 1.2VS switched power rail | ON | OFF | OFF |
| | | | | |
| | | | | |

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 |
|---------------------|--------|-----------|------------|
| 1394/ CardBus/ 5IN1 | AD20 | 2/2 | PIRQE/F/G |

EC SM Bus1 address

| Device | HEX | Address |
|---------------|-----|-------------|
| Smart Battery | 16H | 0001 011X b |
| 24C16 | A0H | 1010 000X b |

EC SM Bus2 address

| Device | HEX | Address |
|---------------------|-----|-------------|
| CPU Thermal-G781P8F | 98H | 1001 100X b |
| VGA Thermal- | | |

ATi SB600 SM Bus address

SM Bus0 address

| Device | HEX | Address |
|--------------------------------|-----|---------|
| Clock GEN. (ICS951462AGLFT) | | |
| DDR DIMM0 | A4 | |
| DDR DIMM1 | A6 | |
| Mini Card-WLAN | | |
| Mini Card-3G | | |
| New Card | | |

SM Bus1 address

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

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 |

| BTN_ID | |
|--------|--|
| 0 | |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |

| BTO | BOM STURCTURE |
|-----|---------------|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

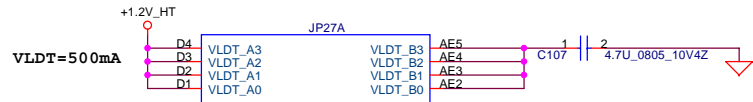
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| Issued Date | 2007/5/4 | Deciphered Date | 2008/5/4 | Title Notes List | |
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| | | | | Rev | 1A |

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<10> H_CADIN[0..15] H_CADIN[0..15]

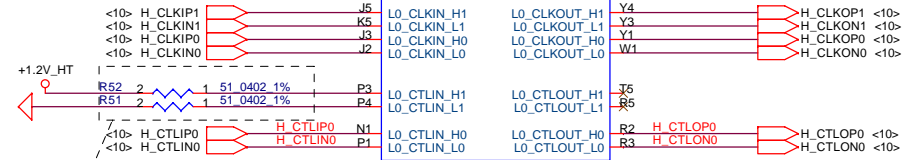
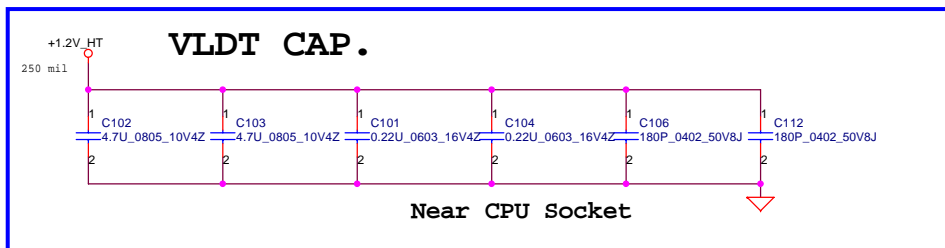
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H_CADON[0..15] H_CADON[0..15] <10>



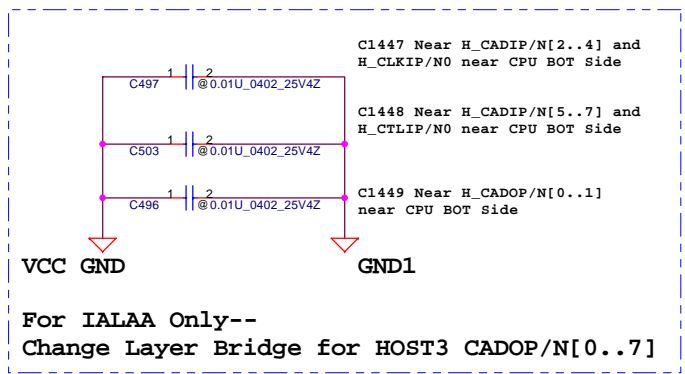
| Signal | Pin | Signal | Pin |
|-----------|-----|--------------|---------------|
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| H_CADIN15 | P5 | L0_CADIN_L15 | L0_CADOUT_L15 |
| H_CADIP14 | M3 | L0_CADIN_H14 | L0_CADOUT_H14 |
| H_CADIN14 | M4 | L0_CADIN_L14 | L0_CADOUT_L14 |
| H_CADIP13 | L5 | L0_CADIN_H13 | L0_CADOUT_H13 |
| H_CADIN13 | K3 | L0_CADIN_L13 | L0_CADOUT_L13 |
| H_CADIP12 | M5 | L0_CADIN_H12 | L0_CADOUT_H12 |
| H_CADIN12 | K4 | L0_CADIN_L12 | L0_CADOUT_L12 |
| H_CADIP11 | H3 | L0_CADIN_H11 | L0_CADOUT_H11 |
| H_CADIN11 | H4 | L0_CADIN_L11 | L0_CADOUT_L11 |
| H_CADIP10 | G5 | L0_CADIN_H10 | L0_CADOUT_H10 |
| H_CADIN10 | H6 | L0_CADIN_L10 | L0_CADOUT_L10 |
| H_CADIP9 | F3 | L0_CADIN_H9 | L0_CADOUT_H9 |
| H_CADIN9 | F4 | L0_CADIN_L9 | L0_CADOUT_L9 |
| H_CADIP8 | E5 | L0_CADIN_H8 | L0_CADOUT_H8 |
| H_CADIN8 | E6 | L0_CADIN_L8 | L0_CADOUT_L8 |
| H_CADIP7 | N3 | L0_CADIN_H7 | L0_CADOUT_H7 |
| H_CADIN7 | N2 | L0_CADIN_L7 | L0_CADOUT_L7 |
| H_CADIP6 | L1 | L0_CADIN_H6 | L0_CADOUT_H6 |
| H_CADIN6 | M1 | L0_CADIN_L6 | L0_CADOUT_L6 |
| H_CADIP5 | L3 | L0_CADIN_H5 | L0_CADOUT_H5 |
| H_CADIN5 | L2 | L0_CADIN_L5 | L0_CADOUT_L5 |
| H_CADIP4 | J1 | L0_CADIN_H4 | L0_CADOUT_H4 |
| H_CADIN4 | K1 | L0_CADIN_L4 | L0_CADOUT_L4 |
| H_CADIP3 | G1 | L0_CADIN_H3 | L0_CADOUT_H3 |
| H_CADIN3 | H1 | L0_CADIN_L3 | L0_CADOUT_L3 |
| H_CADIP2 | G3 | L0_CADIN_H2 | L0_CADOUT_H2 |
| H_CADIN2 | G2 | L0_CADIN_L2 | L0_CADOUT_L2 |
| H_CADIP1 | E1 | L0_CADIN_H1 | L0_CADOUT_H1 |
| H_CADIN1 | F1 | L0_CADIN_L1 | L0_CADOUT_L1 |
| H_CADIP0 | E3 | L0_CADIN_H0 | L0_CADOUT_H0 |
| H_CADIN0 | E2 | L0_CADIN_L0 | L0_CADOUT_L0 |

HTT Interface



FOX_PZ63823-284S-41F
Athlon 64 S1 Processor Socket

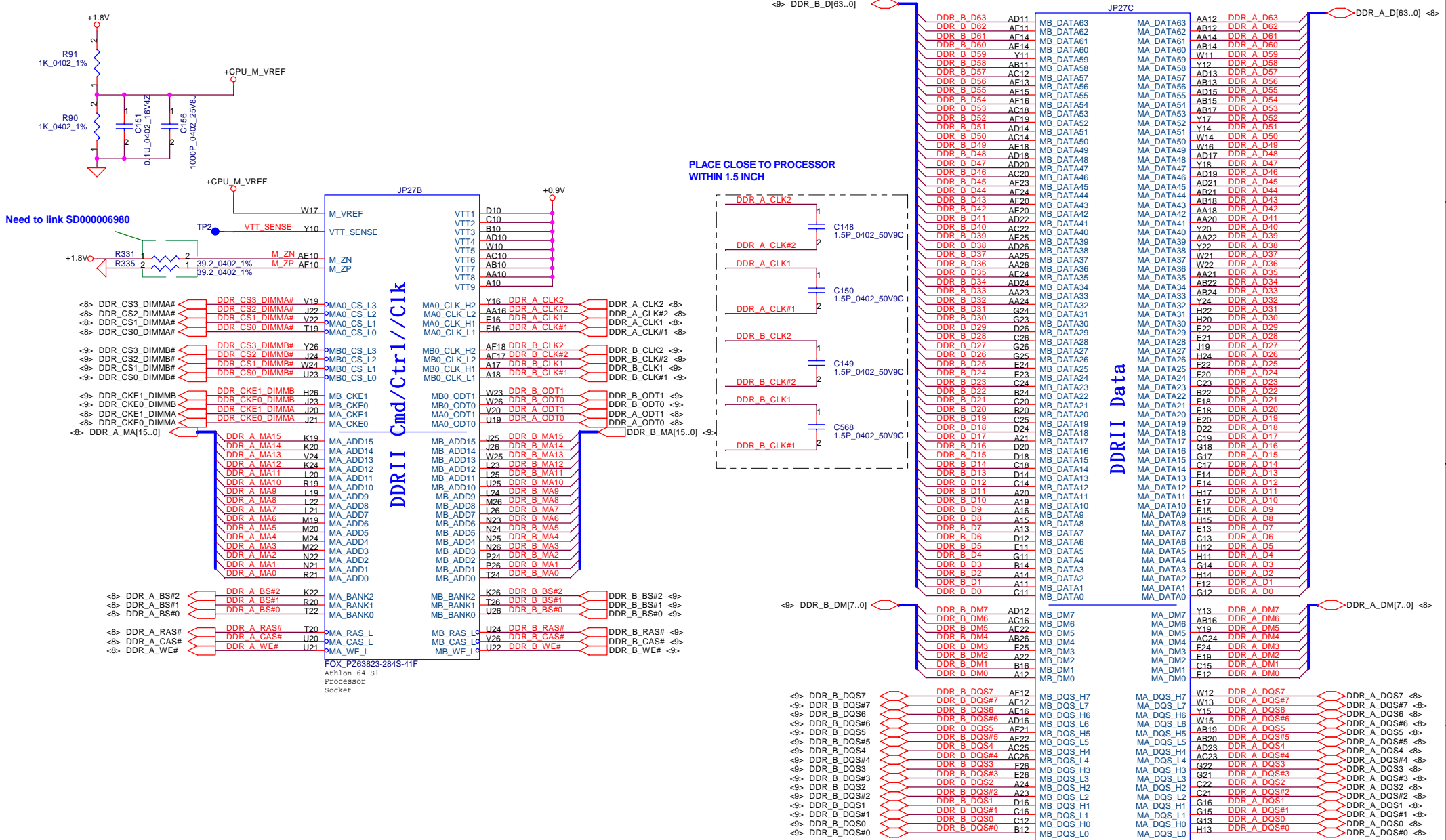
AMD : 49.9 1%
ATI : 51 1%



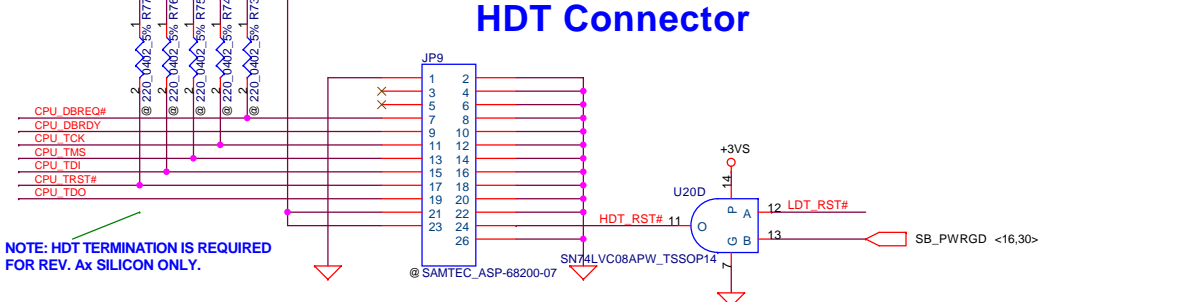
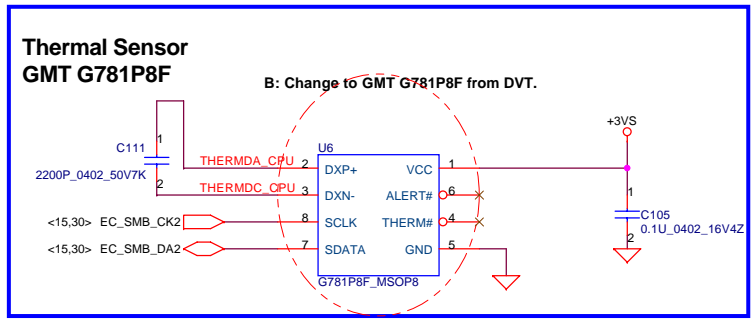
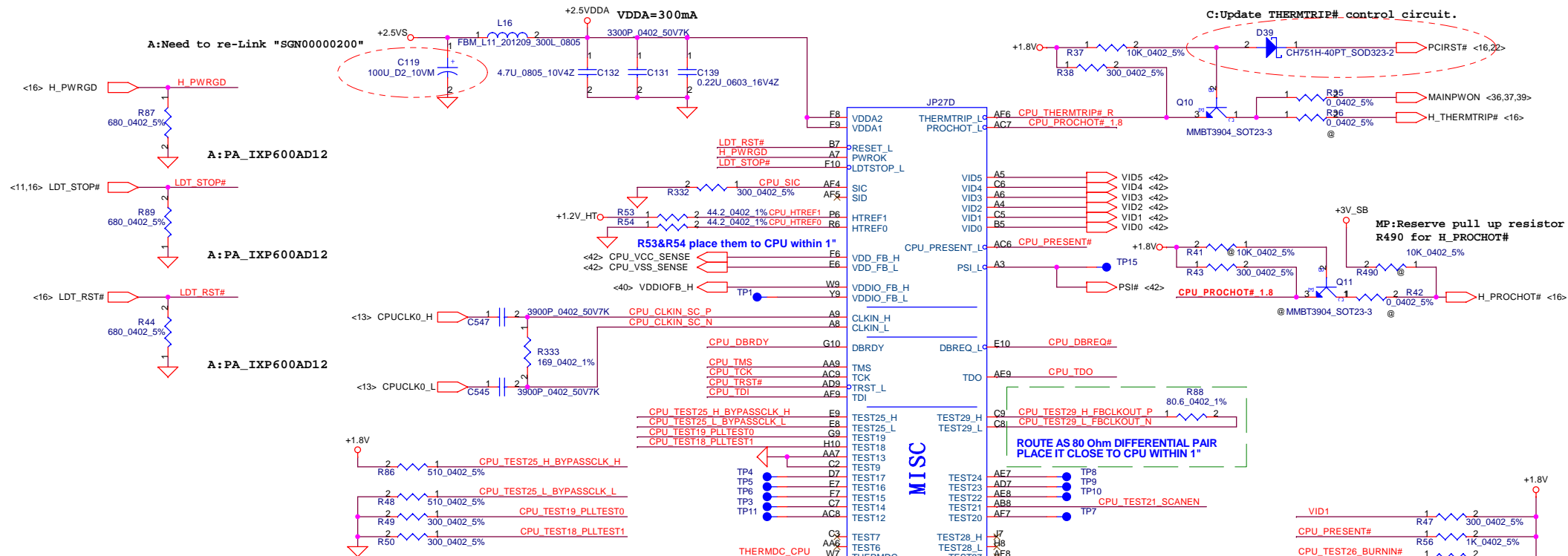
For IALAA Only--
Change Layer Bridge for HOST3 CADOP/N[0..7]

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Processor DDR2 Memory Interface

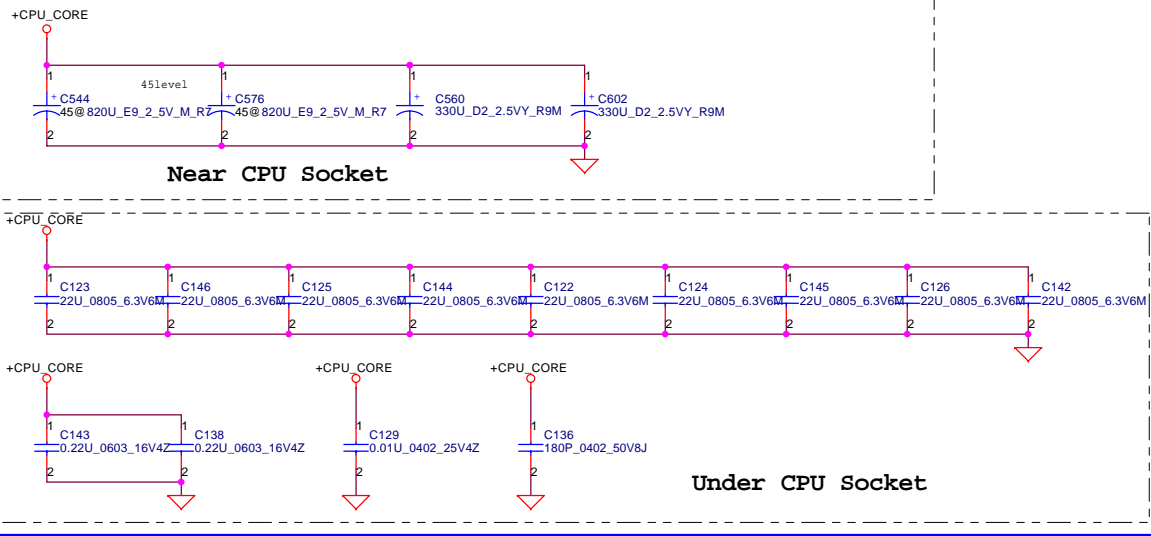


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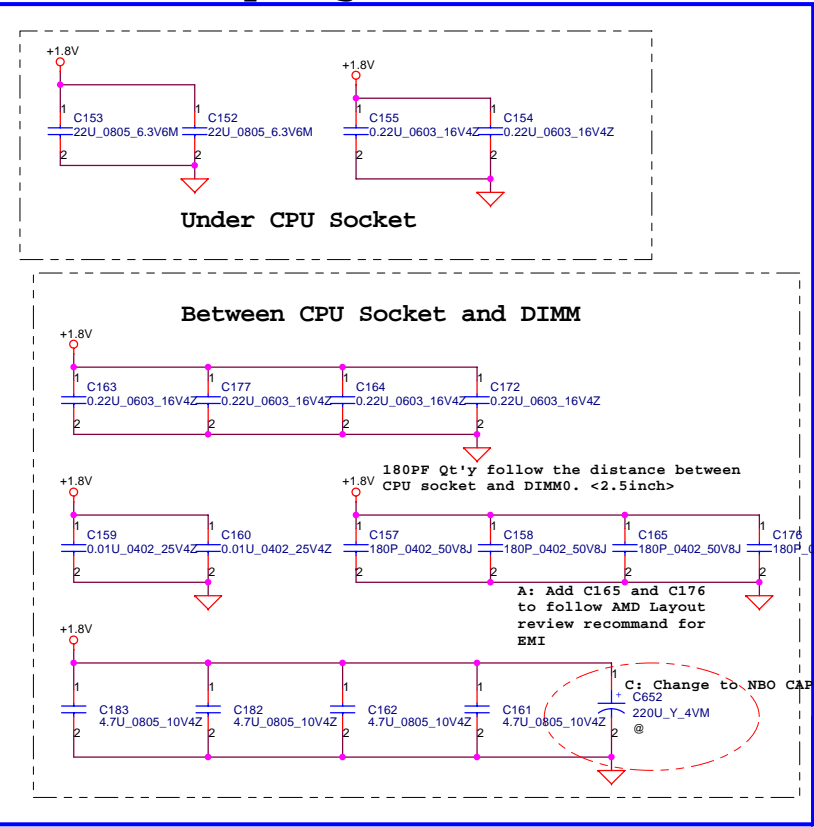


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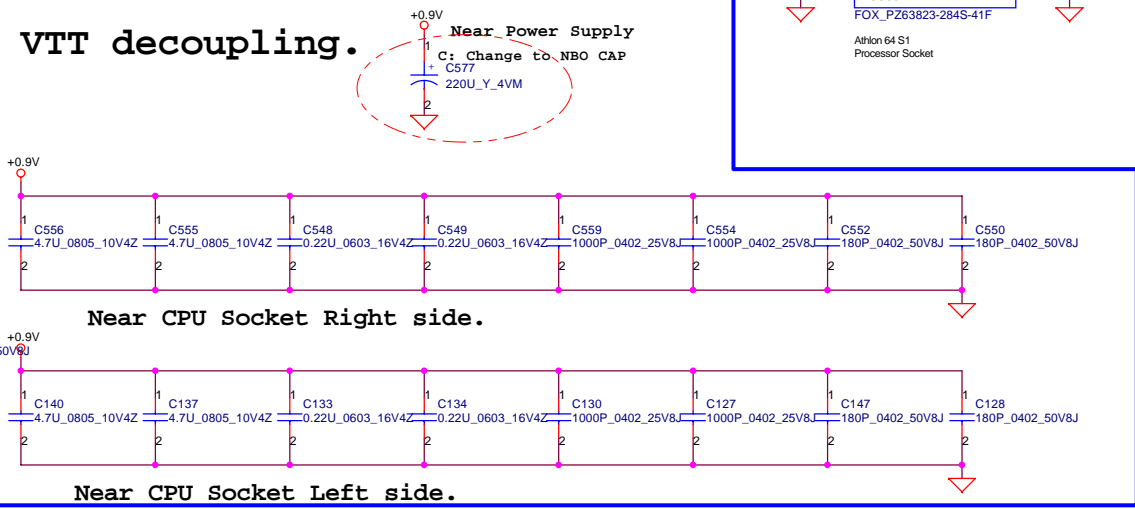
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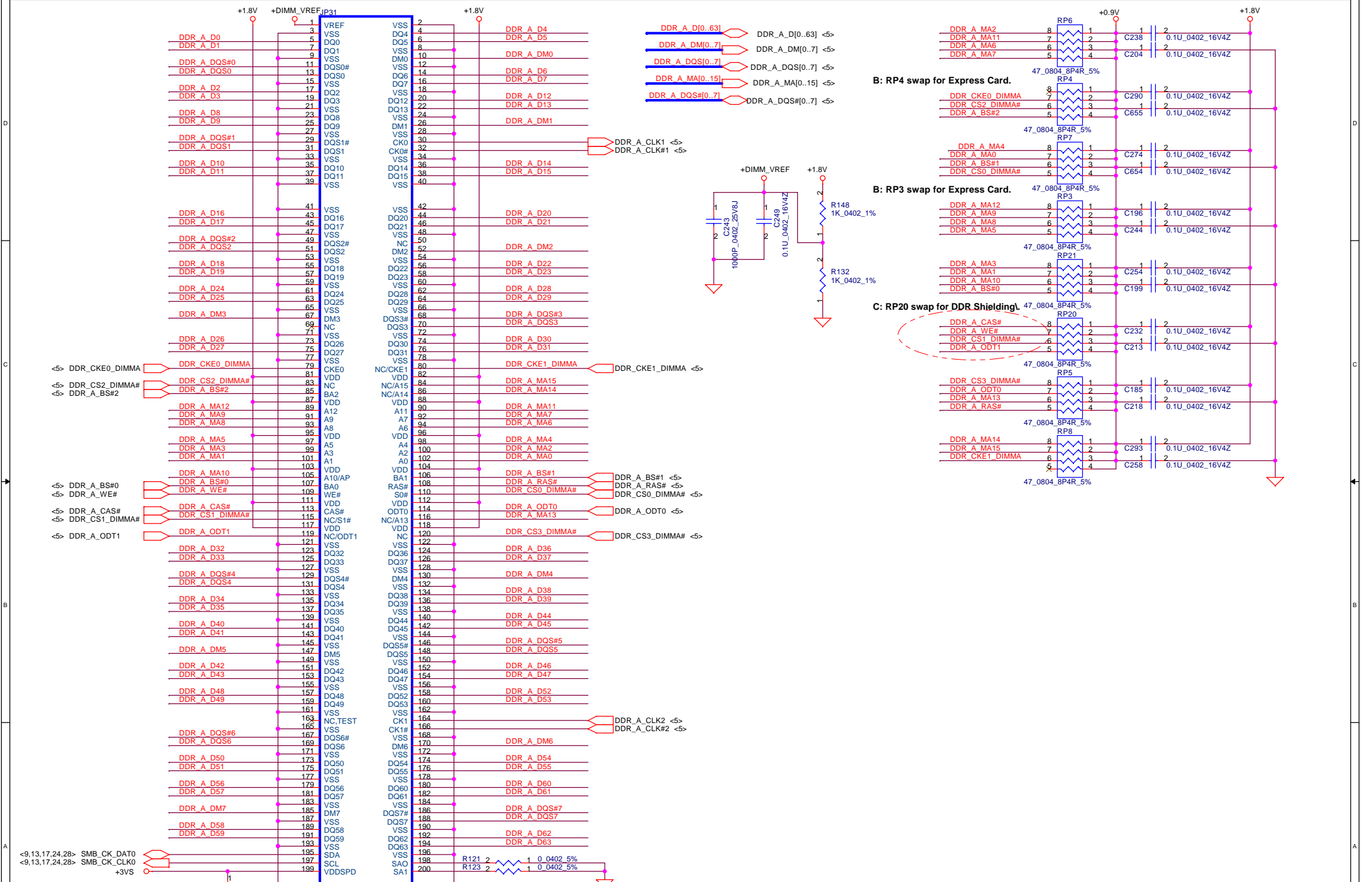
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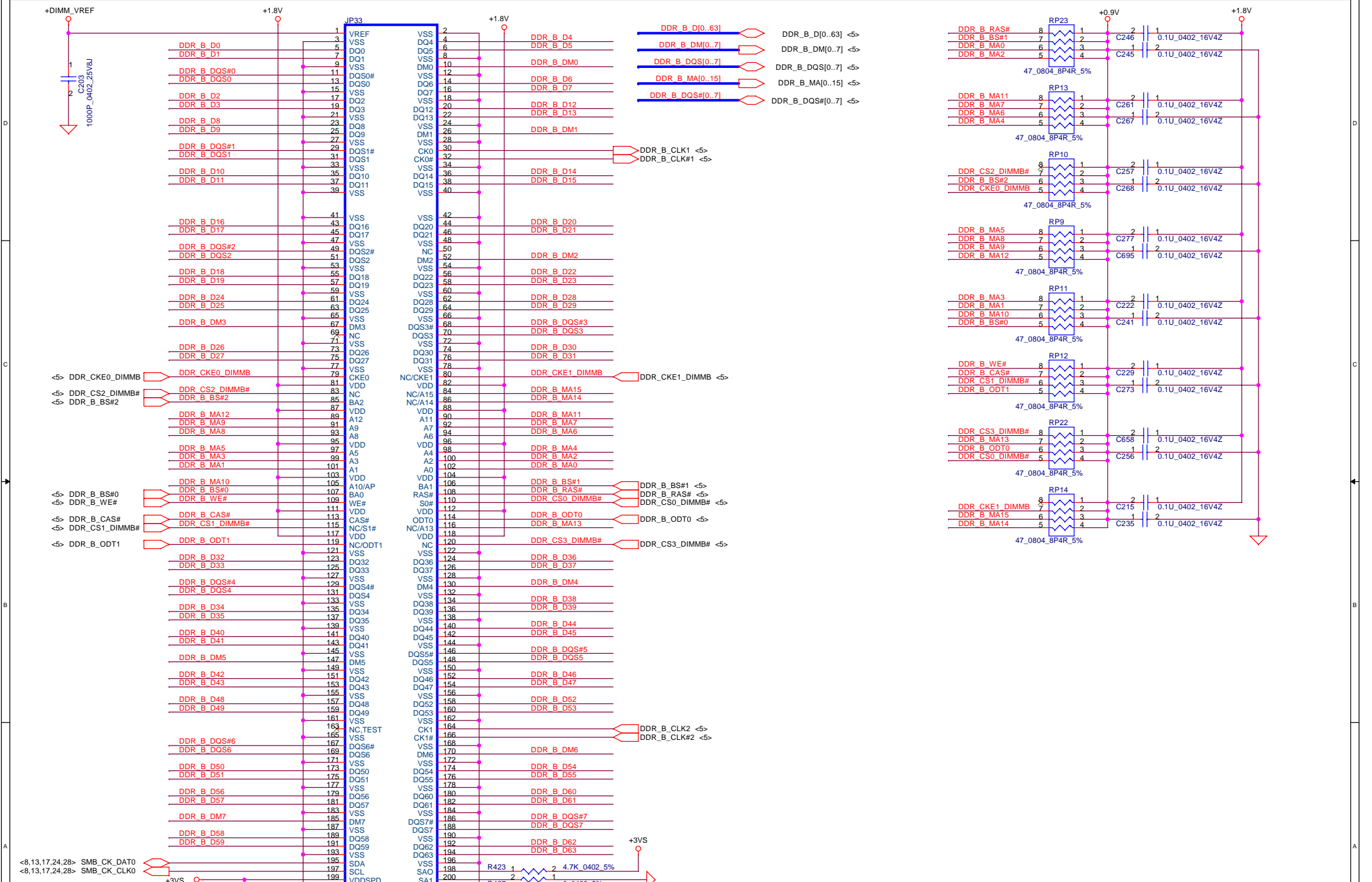
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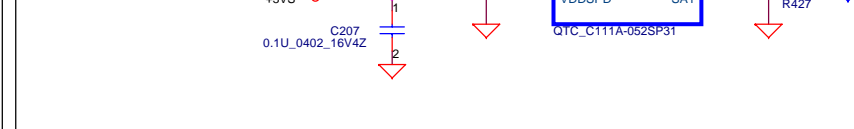
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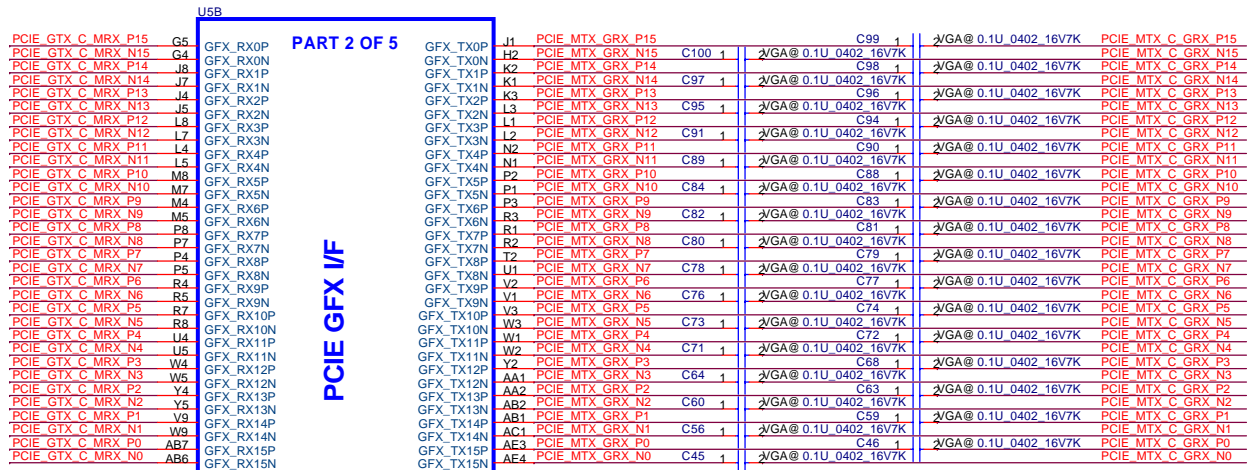
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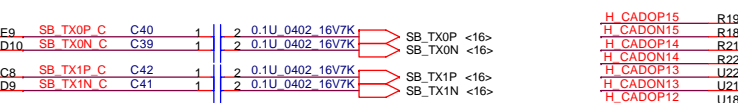
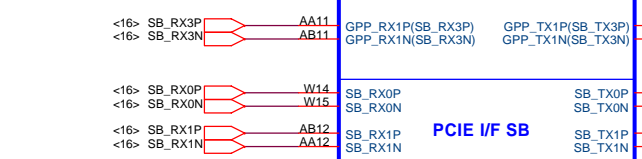
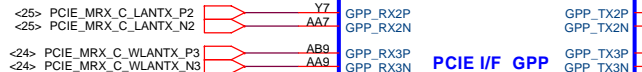
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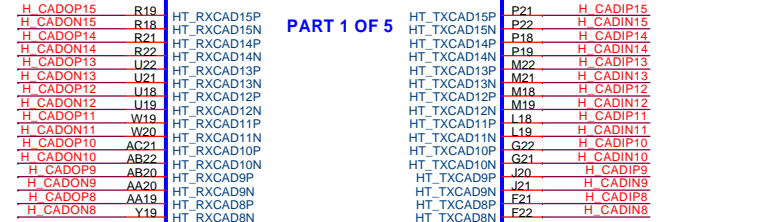
PART 2 OF 5

PCIE GTX I/F

PCIE I/F SB

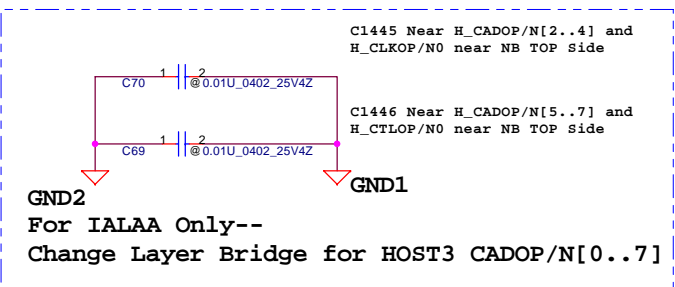


USA

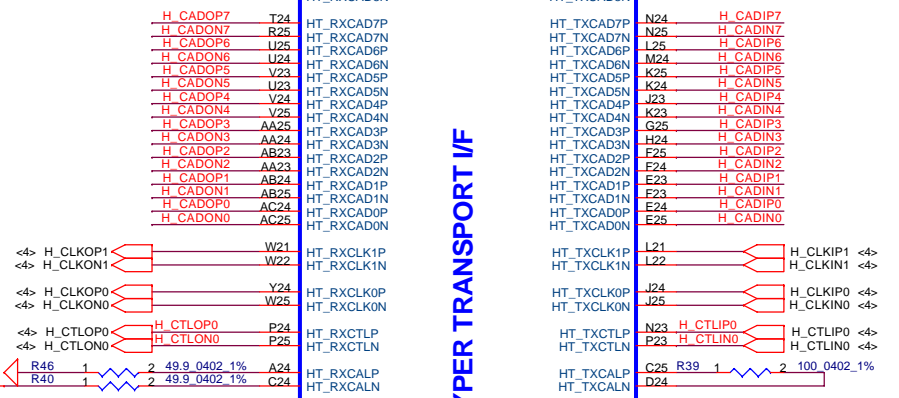


PART 1 OF 5

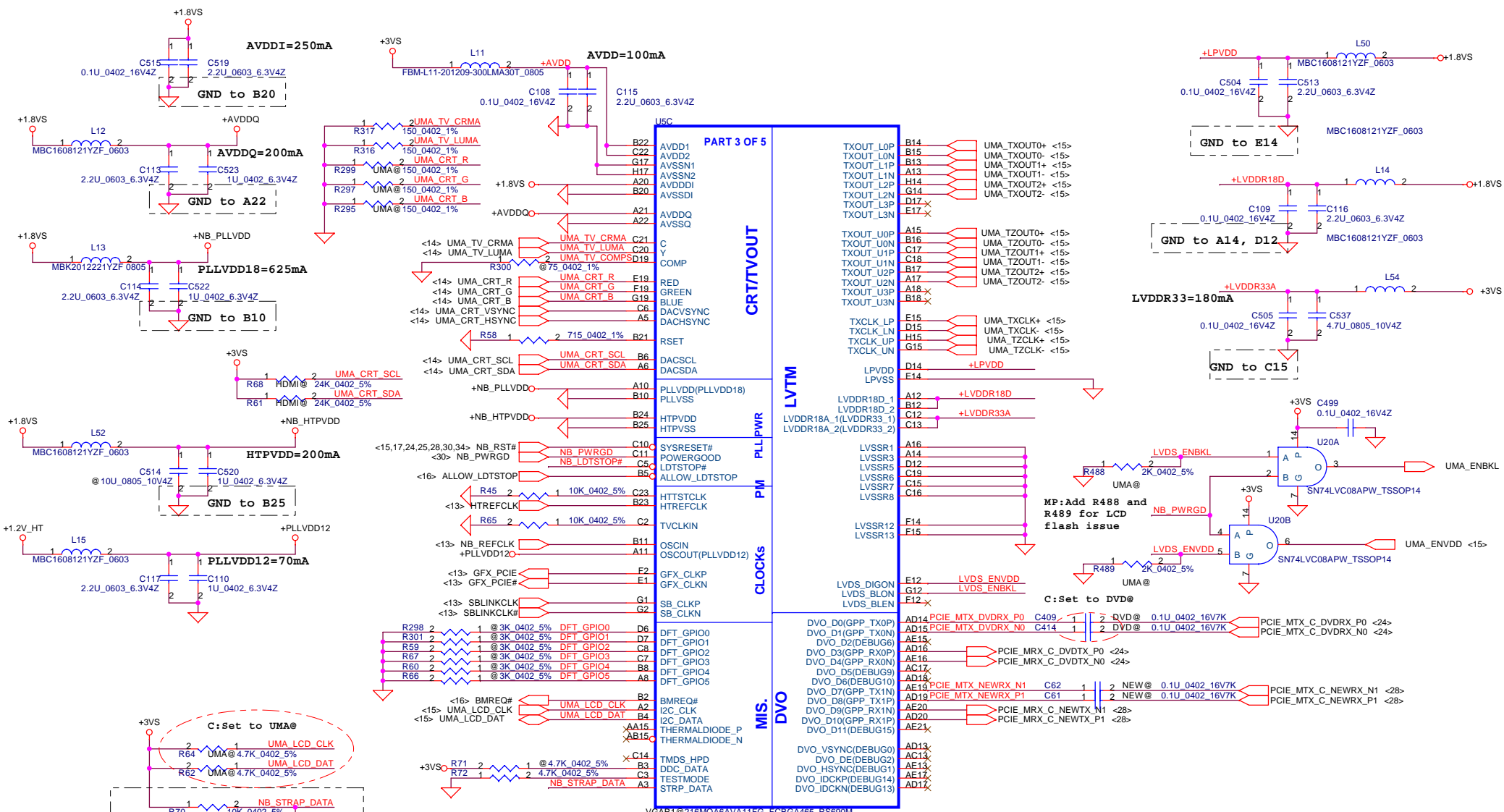
HYPER TRANSPORT I/F



GND2
 For IALAA Only--
 Change Layer Bridge for HOST3 CADOP/N[0..7]



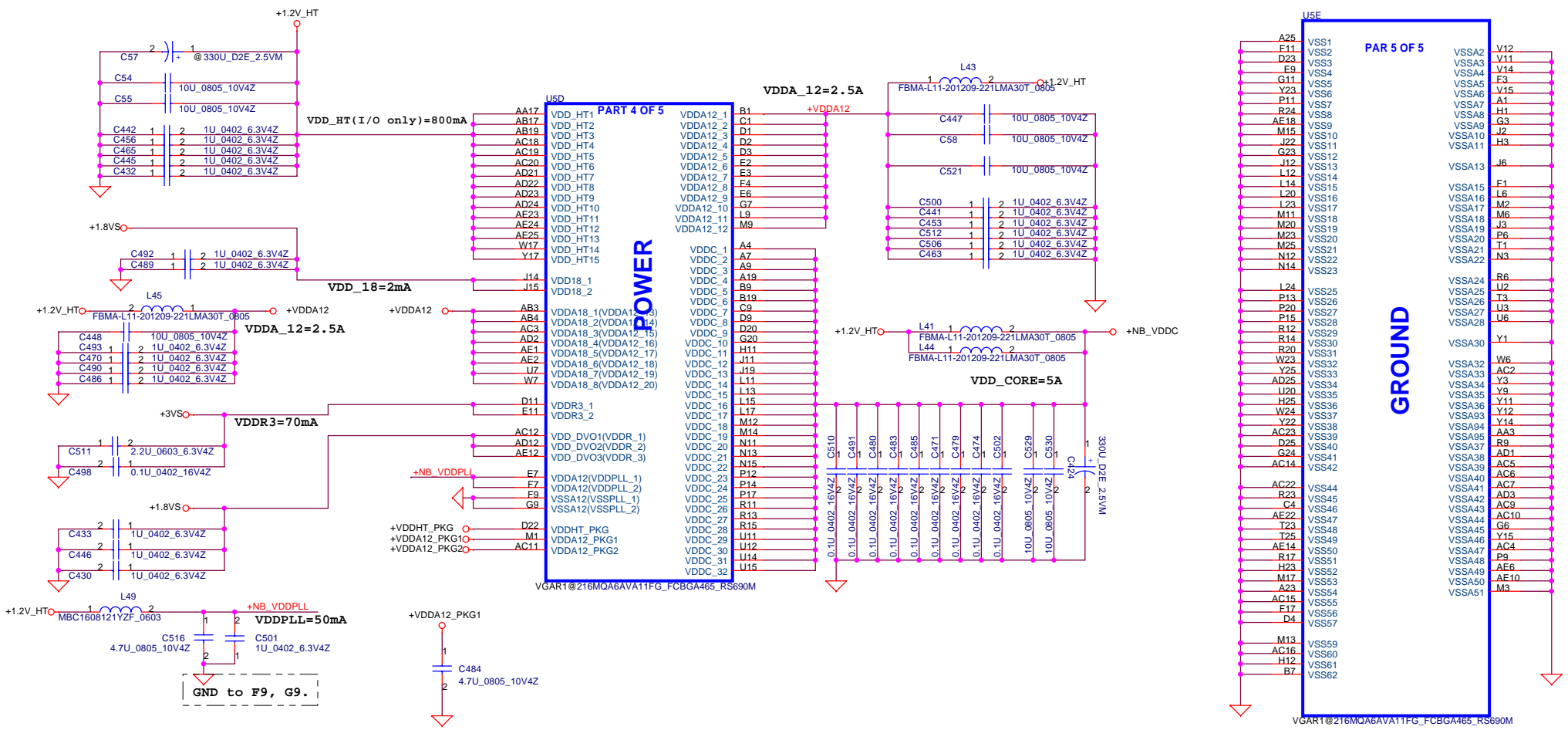
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| Security Classification | Compal Secret Data | | Title | RX690/RS690MC HT/VMEM | |
| Issued Date | 2007/5/4 | Deciphered Date | 2008/5/4 | Size Custom | Document Number |
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VGAR1@216MQA6AVA11FG_FCBGA465_RS690M

| PULL HIGH (internally pulled high) | RS690 | | RS690 only | |
|------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| | DFT_GPIO0 | DFT_GPIO1 | DFT_GPIO[4:2] | DFT_GPIO5 |
| | Memory side port not available DEFAULT | Bypass the loading of EEPROM straps and use Hardware default values DEFAULT | These pin straps are used to configure PCI-E GPP mode: 111: register defined (register default to Config E) DEFAULT 101: 4-0-0-0 Config A 100: 4-4 Config B 011: 4-2-1-1 Config D 010: 4-1-1-1 Config E others: register defined (register default to Config E) | Enable debug bus via the memory IO pads, if available in the package use default values DEFAULT |
| PULL LOW | Memory side port available | I2C Master can load strap values from EEPROM if connected, or use default values if not connected | | use the memory data bus to output the debug bus |

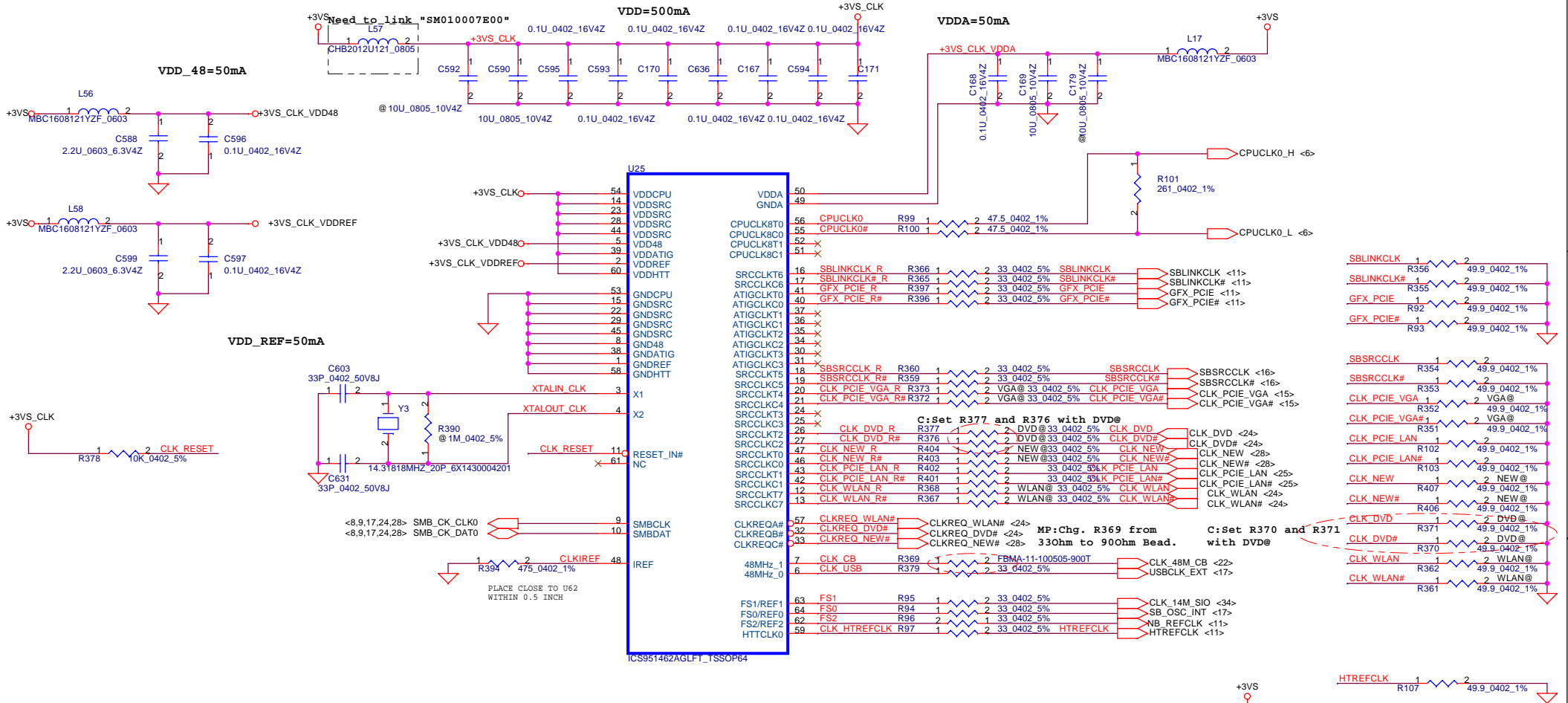
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| Security Classification | Compal Secret Data | | Title | RX690/RS690MC VIDEO_IF/CLOCK GEN |
| Issued Date | 2007/5/4 | Deciphered Date | 2008/5/4 | |
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| Date: | Wednesday, May 16, 2007 | Sheet | 11 of 45 | Rev 1A |



POWER

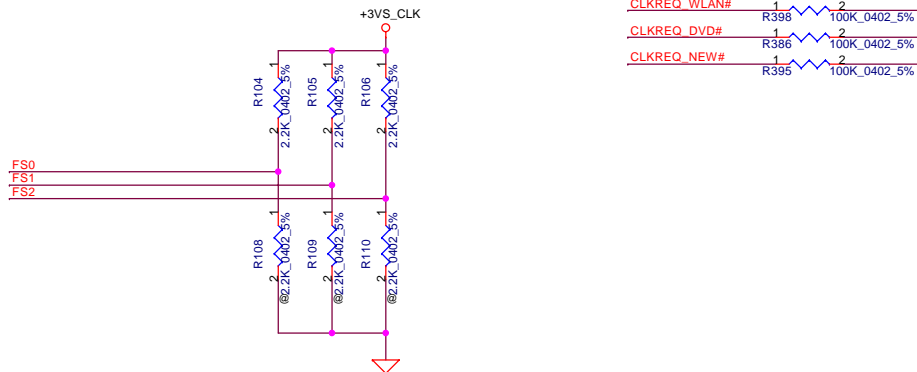
GROUND

| | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------|----------|----------------------------|-----------------|
| Security Classification | Compal Secret Data | | Title | RX690/RS690MC Power/GND | |
| Issued Date | 2007/5/4 | Deciphered Date | 2008/5/4 | Size | Document Number |
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| Date: | Monday, May 14, 2007 | Sheet | 12 | of | 45 |

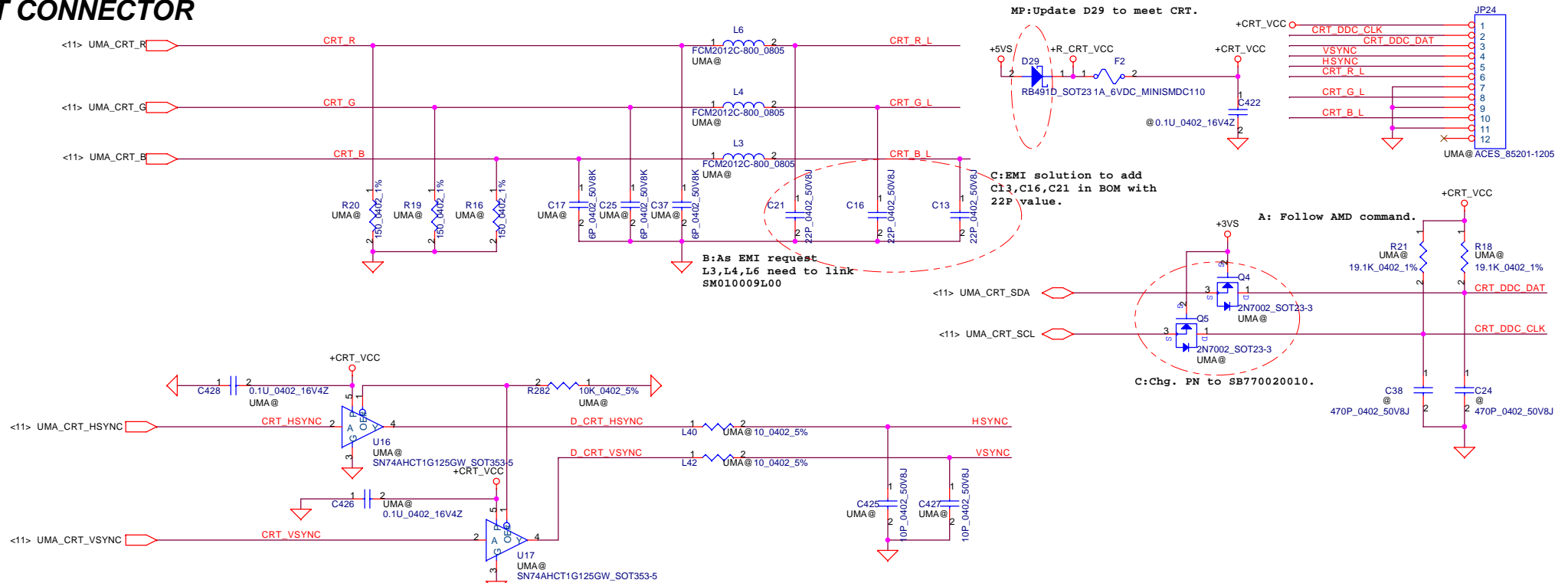


EXT CLK FREQUENCY SELECT TABLE(MHZ)

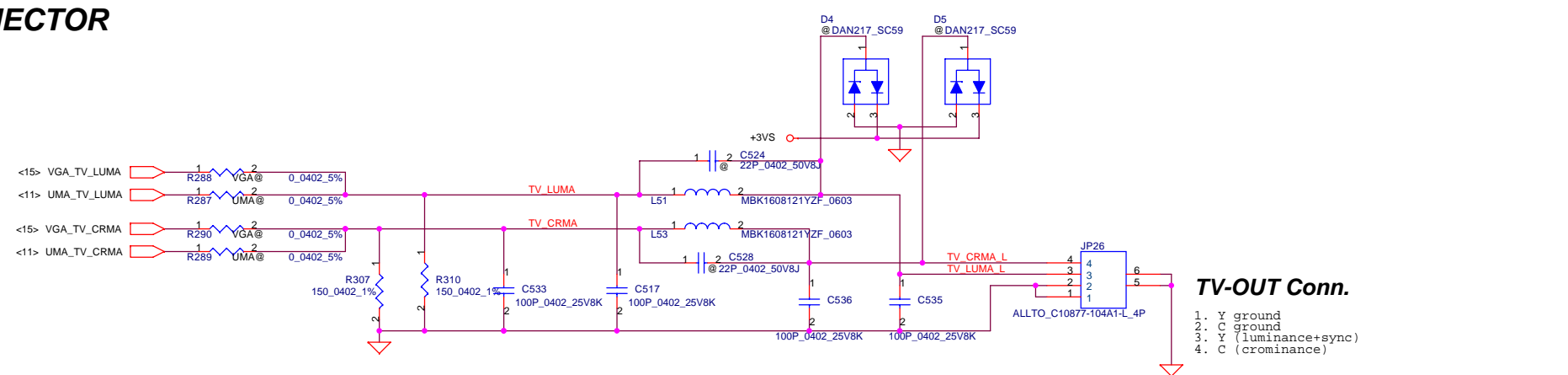
| FS2 | FS1 | FS0 | CPU | SRCCLK [2:1] | HIT | PCI | USB | COMMENT |
|-----|-----|-----|--------|--------------|-------|-------|-------|---------------------------|
| 0 | 0 | 0 | Hi-Z | 100.00 | Hi-Z | Hi-Z | 48.00 | Reserved |
| 0 | 0 | 1 | X | 100.00 | X/3 | X/6 | 48.00 | Reserved |
| 0 | 1 | 0 | 180.00 | 100.00 | 60.00 | 30.00 | 48.00 | Reserved |
| 0 | 1 | 1 | 220.00 | 100.00 | 36.56 | 73.12 | 48.00 | Reserved |
| 1 | 0 | 0 | 100.00 | 100.00 | 66.66 | 33.33 | 48.00 | Reserved |
| 1 | 0 | 1 | 133.33 | 100.00 | 66.66 | 33.33 | 48.00 | Reserved |
| 1 | 1 | 1 | 200.00 | 100.00 | 66.66 | 33.33 | 48.00 | Normal ATHLON64 operation |



CRT CONNECTOR



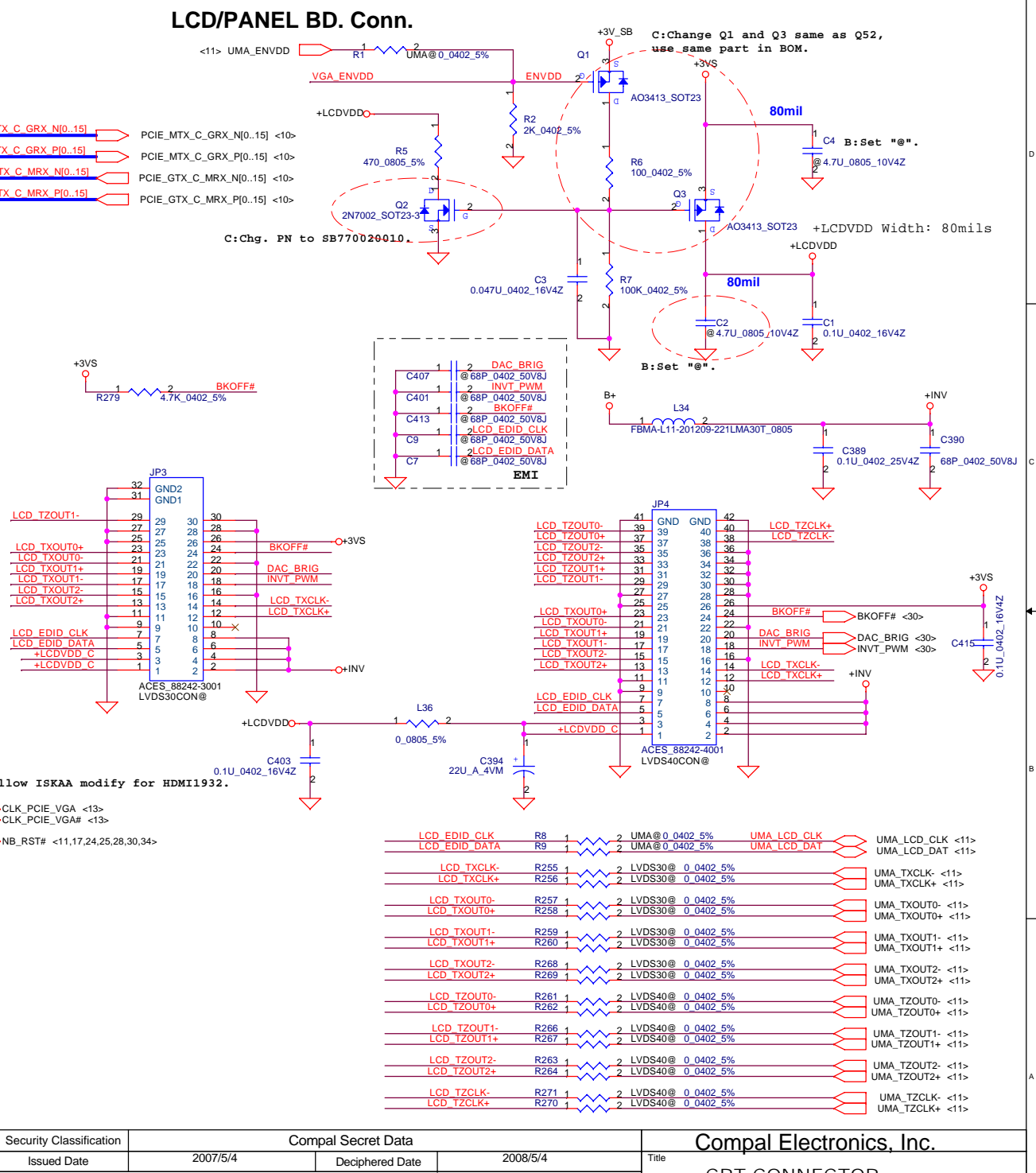
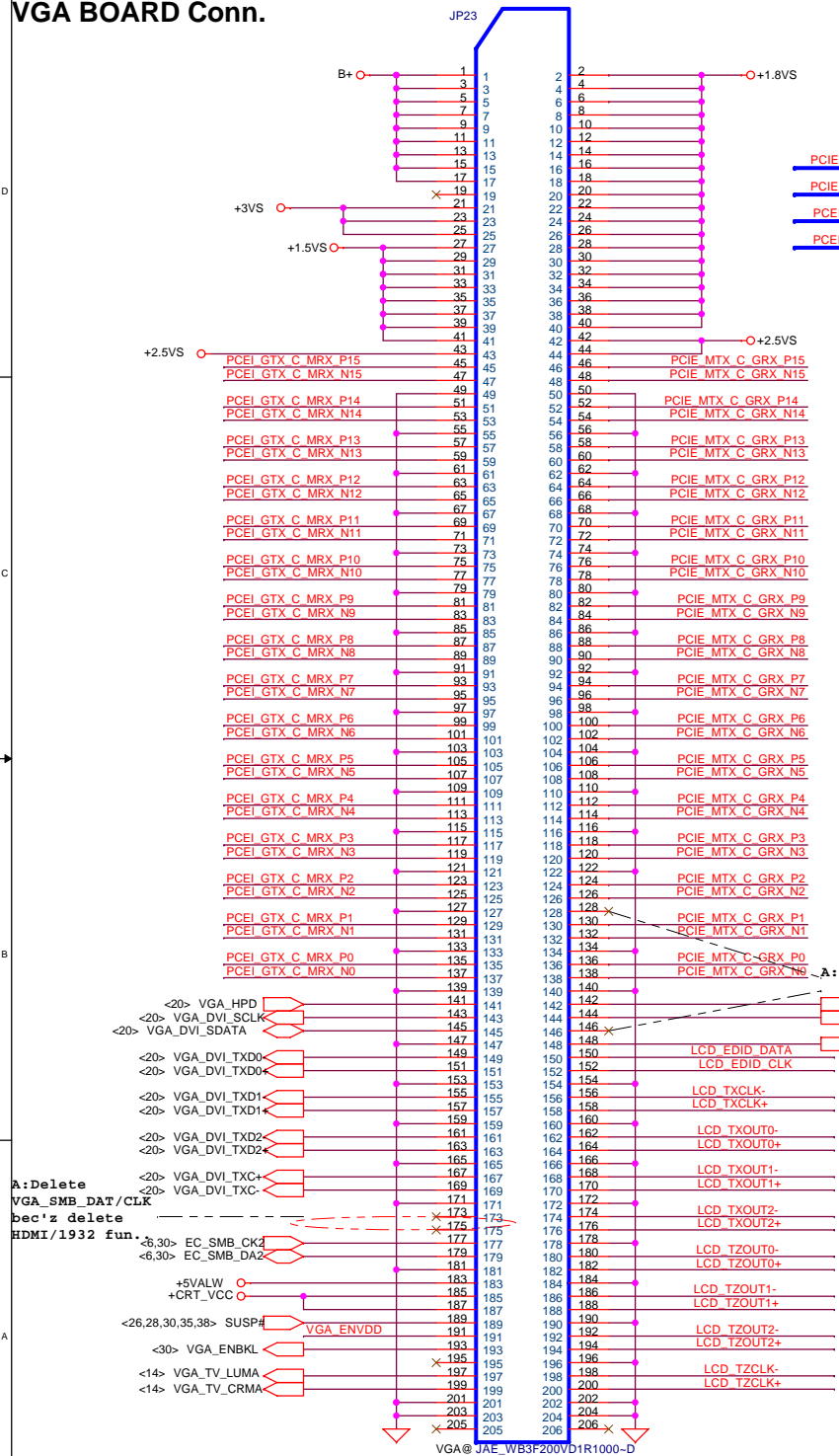
TV-OUT CONNECTOR



| | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------|----------|--------------------------|
| Security Classification | Compal Secret Data | | Title | |
| Issued Date | 2007/5/4 | Deciphered Date | 2008/5/4 | Compal Electronics, Inc. |
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| Size B | Document Number | Date: | | Rev 1A |
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VGA BOARD Conn.

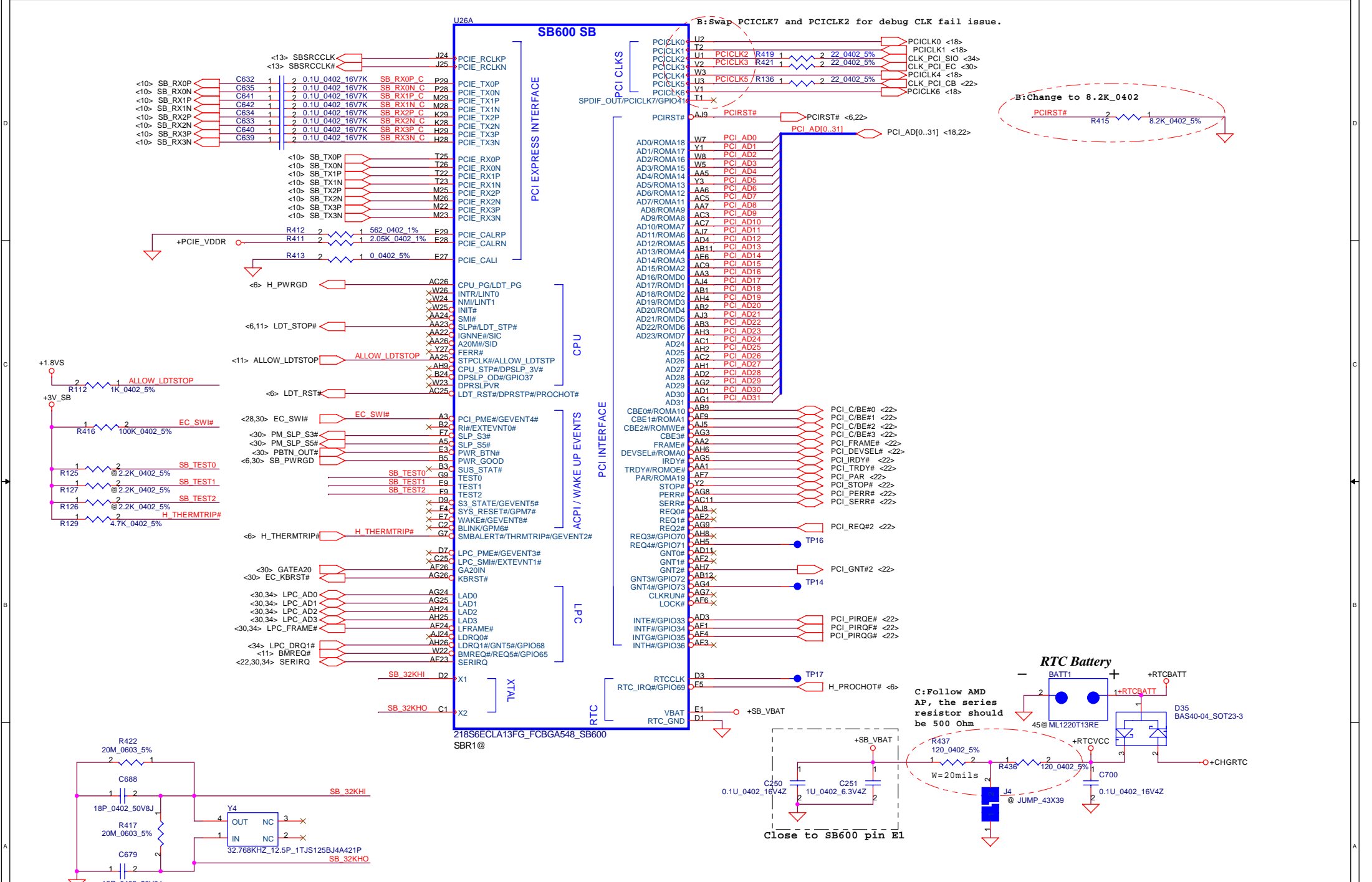
LCD/PANEL BD. Conn.



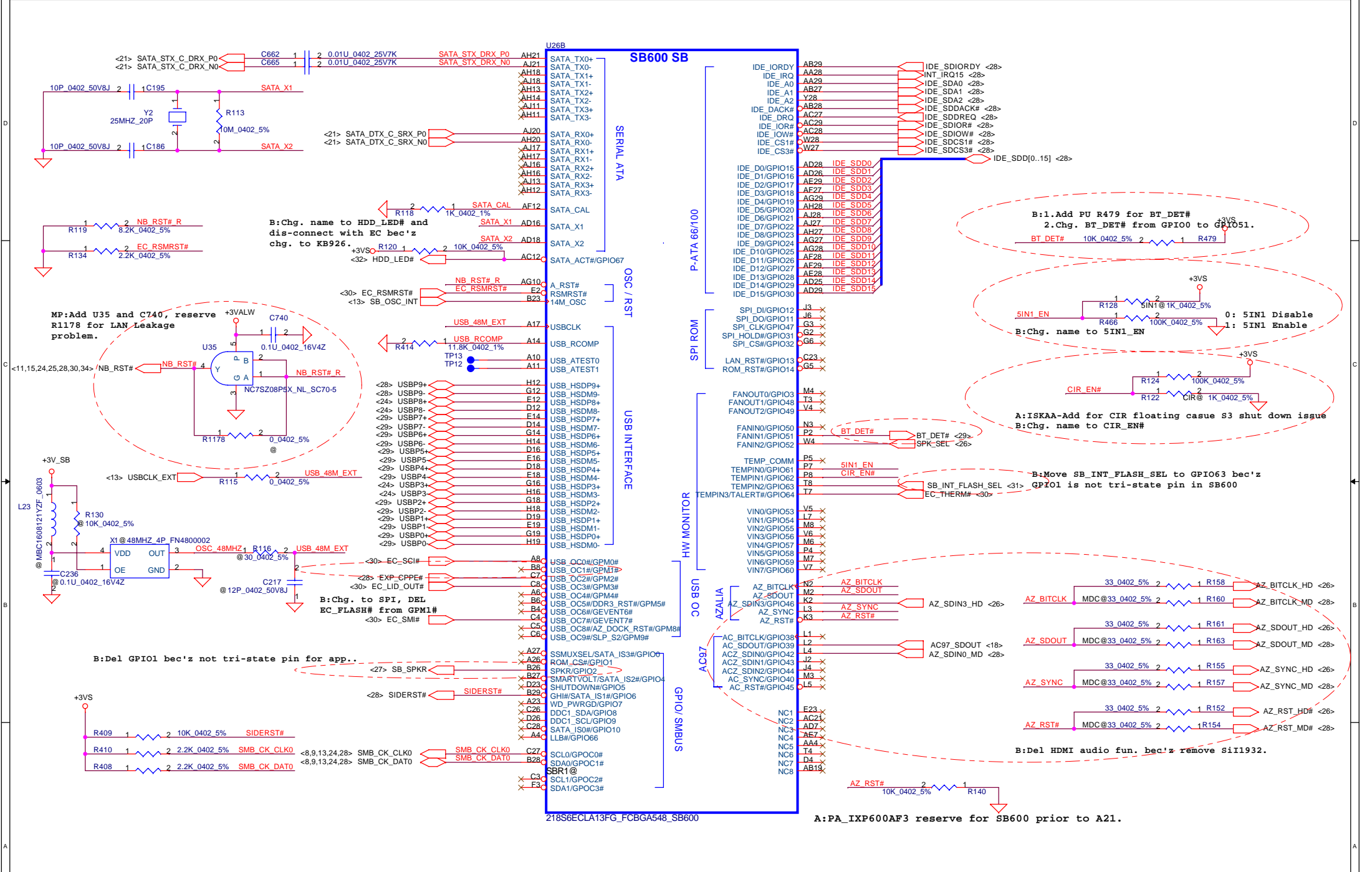
A:Delete
VGA_SMB_DAT/CLK
bec'z delete
HDMI/1932 fun.

A:Follow ISKAA modify for HDMI1932.

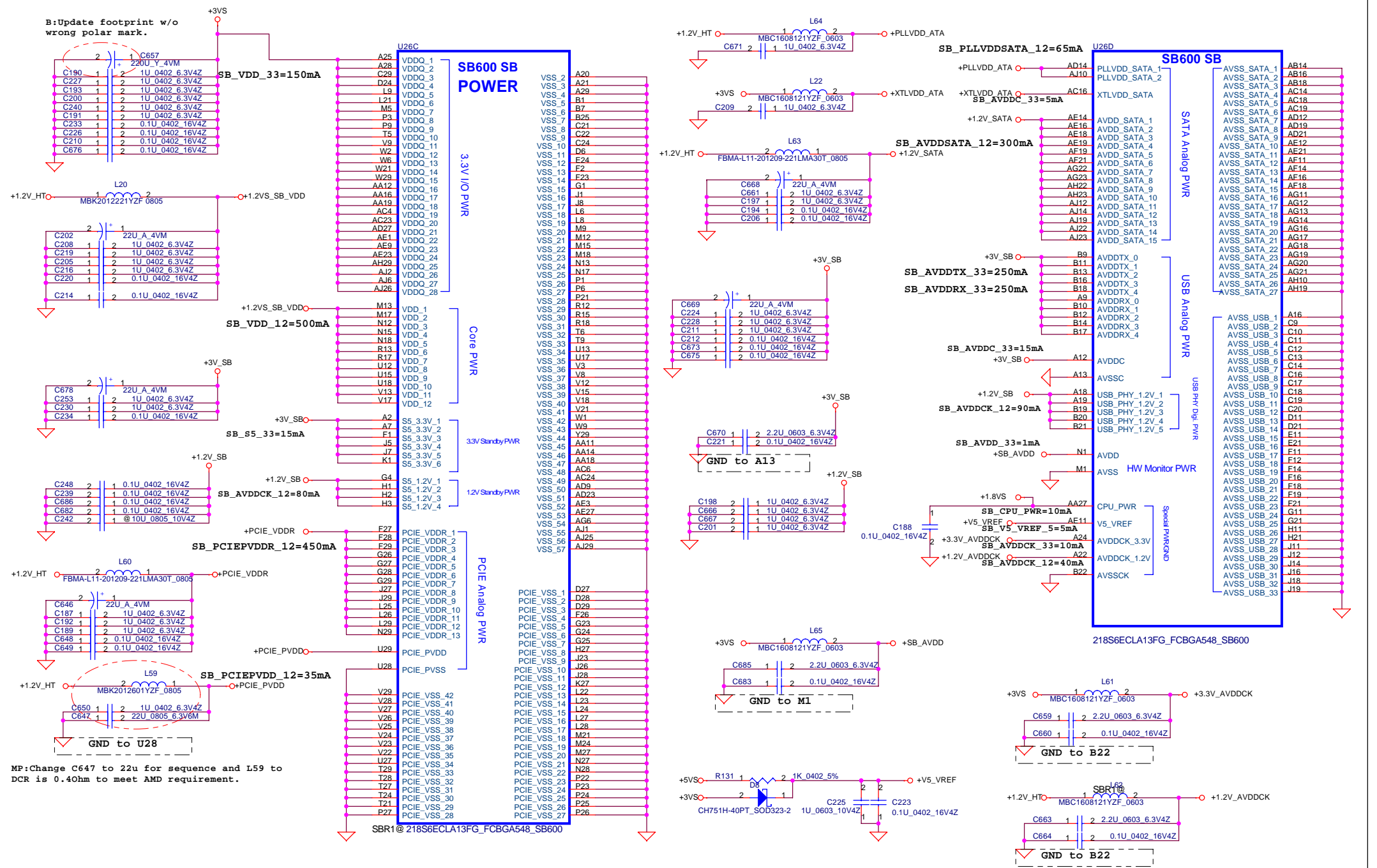
| | | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------|----------------------|--------------------------|---------------|
| Security Classification | | Compal Secret Data | | Compal Electronics, Inc. | |
| Issued Date | 2007/5/4 | Deciphered Date | 2008/5/4 | Title | CRT CONNECTOR |
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| Size B | Document Number | Date: | Monday, May 14, 2007 | Sheet | 15 of 45 |
| | I\ALAA-Minnesota10A LA3631P | | | Rev | 1A |



| | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------------|----------|----------------------------------|
| Security Classification | Compal Secret Data | | | Title |
| Issued Date | 2007/5/4 | Deciphered Date | 2008/5/4 | SB600-PCI_EXP/PCI/LPC/RTC |
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| Size Custom | Document Number | IALAA-Minnesota10A LA3631P | | Rev 1A |
| Date: | Monday, May 14, 2007 | Sheet | 16 of 45 | |

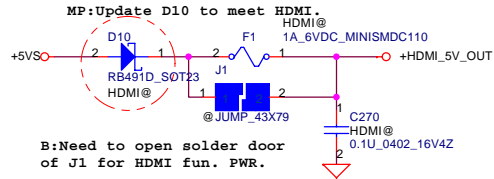


| | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------|----------|--------------------------|----------|
| Security Classification | | Compal Secret Data | | Title | |
| Issued Date | 2007/5/4 | Deciphered Date | 2008/5/4 | SB600-USB/ACPI/AC97/GPIO | |
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| Size Custom | Document Number | Date | | Rev | |
| | IALAA-Minnesota10A LA3631P | Monday, May 14, 2007 | | 1A | |
| | | | | Sheet | 17 of 45 |

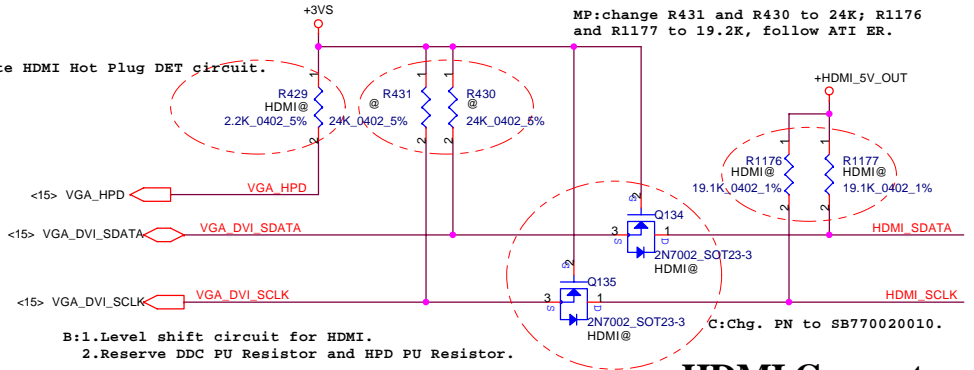


| Security Classification | | Compal Secret Data | | Title | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------|----------|-----------------|----------------------------|
| Issued Date | 2007/5/4 | Deciphered Date | 2008/5/4 | SB600-Power/GND | |
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| | | | | Custom | IALAA-Minnesota10A LA3631P |
| Date: | Monday, May 14, 2007 | Sheet | 19 | of | 45 |

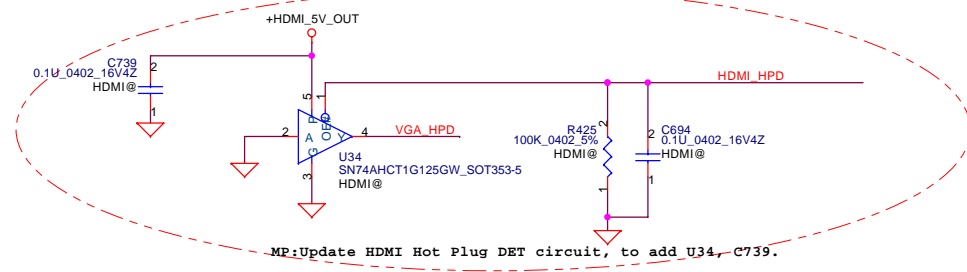
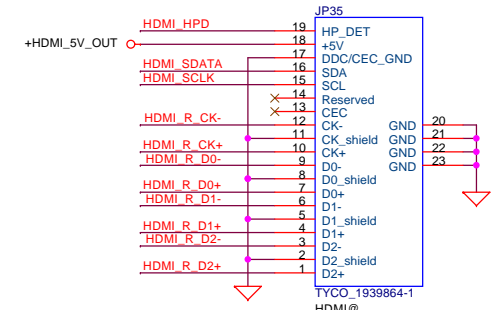
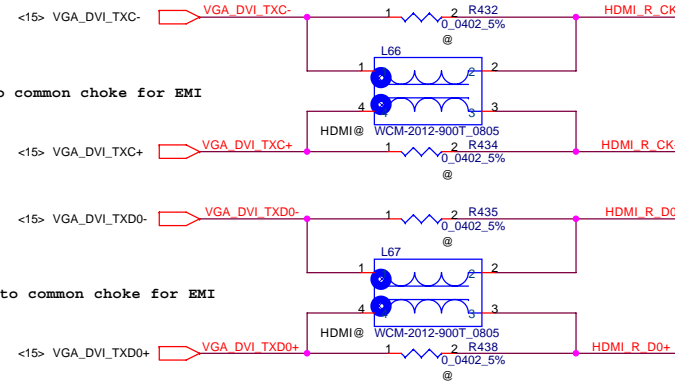
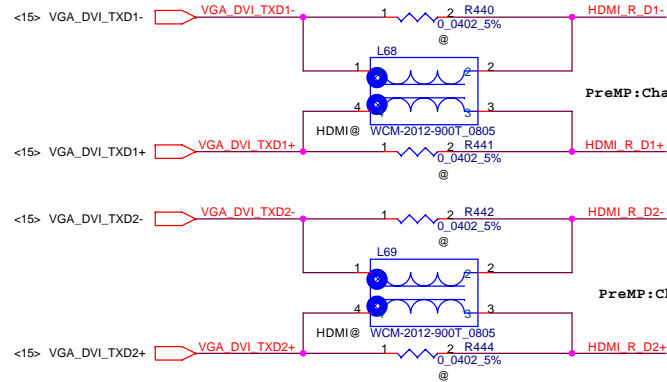
B:Remove HDMI transistor, Si11932; and support by GPU only.



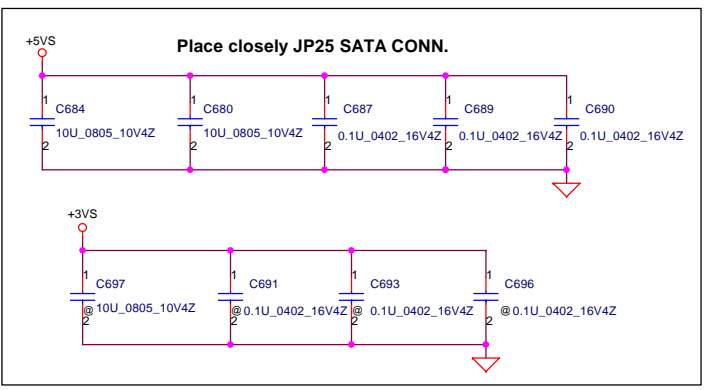
MP:Update HDMI Hot Plug DET circuit.



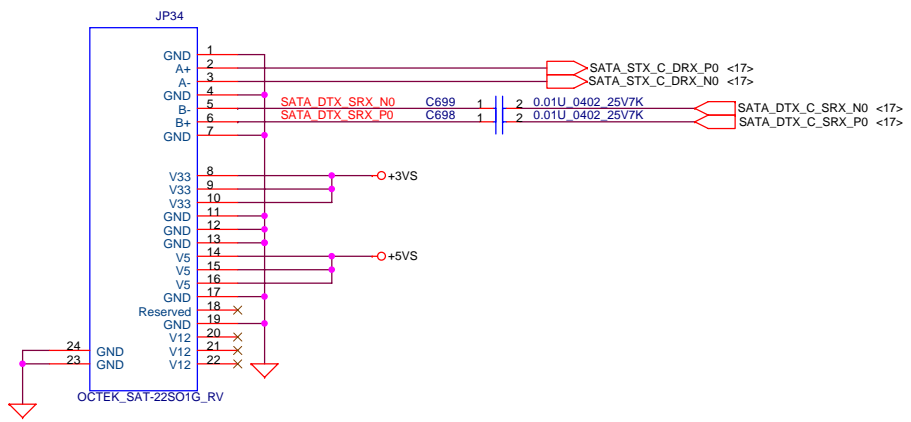
HDMI Connector



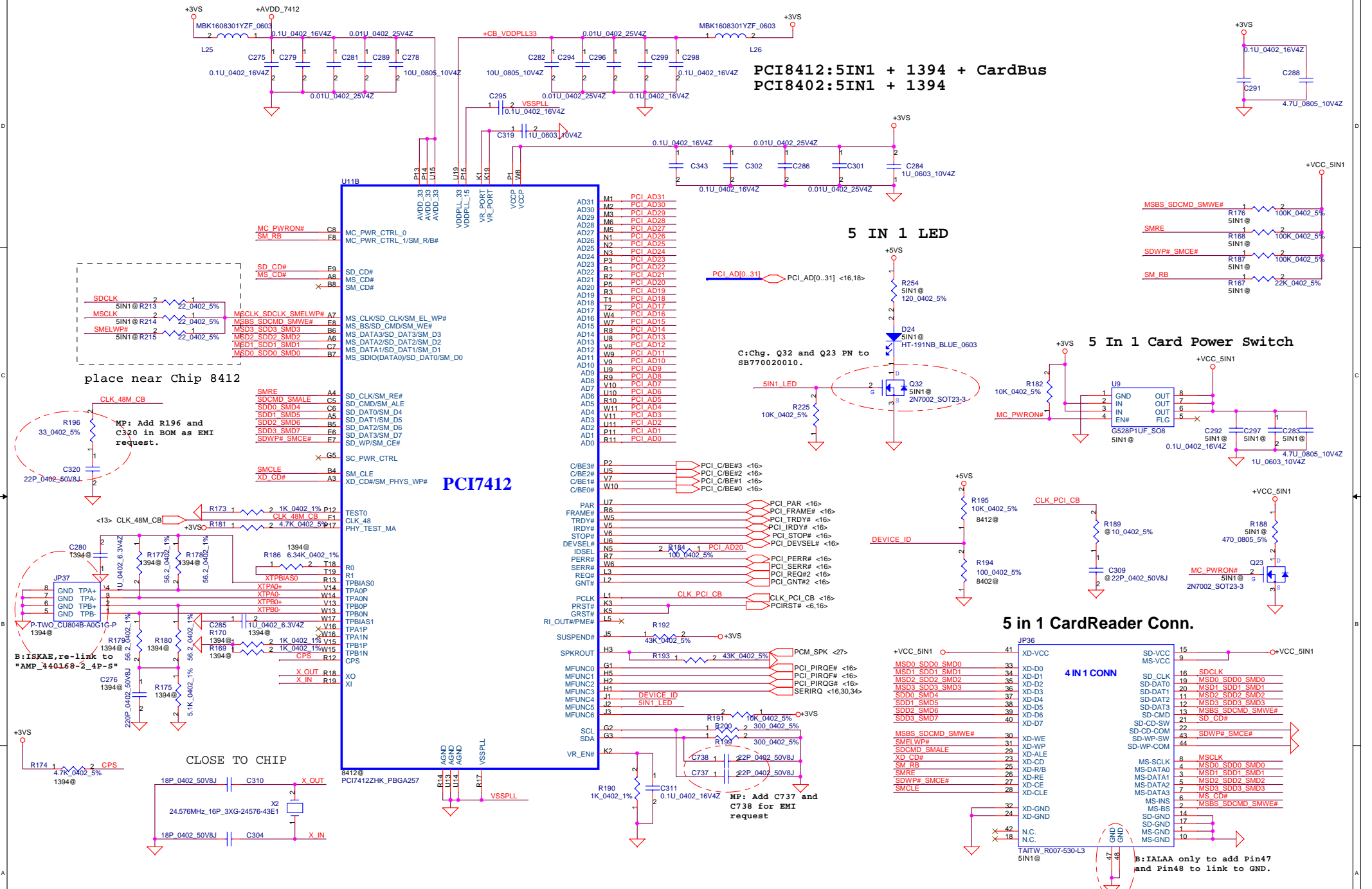
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|--------------------------|----------------------------|
| Security Classification | Compal Secret Data | | Compal Electronics, Inc. | |
| Issued Date | 2007/5/4 | Deciphered Date | 2008/5/4 | Title |
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| | | | | Document Number |
| | | | | IALAA-Minnesota10A LA3631P |
| | | | | Rev |
| | | | | 1A |
| Date: Monday, May 14, 2007 | | Sheet 20 of 45 | | |



SATA HDD Conn.



| | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------|----------|----------------------------|----------------------|
| Security Classification | | Compal Secret Data | | Title | |
| Issued Date | 2007/5/4 | Deciphered Date | 2008/5/4 | HDD/CDROM | |
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| | | | | IALAA-Minnesota10A LA3631P | |
| | | | | Date: | Monday, May 14, 2007 |
| | | | | Sheet | 21 of 45 |
| | | | | Rev | 1A |



PCI8412:5IN1 + 1394 + CardBus
 PCI8402:5IN1 + 1394

5 IN 1 LED

5 In 1 Card Power Switch

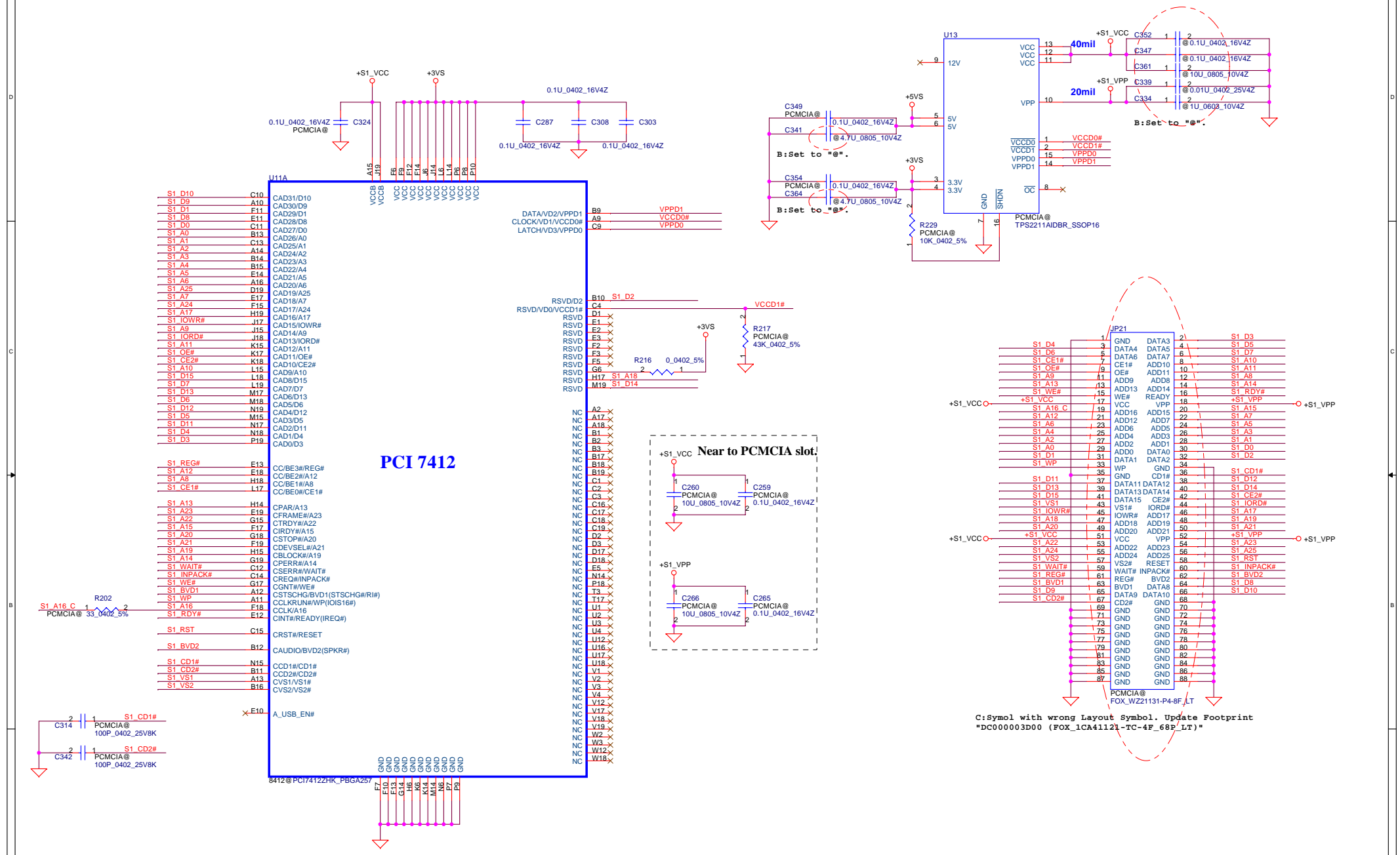
5 in 1 CardReader Conn.

4 in 1 CONN

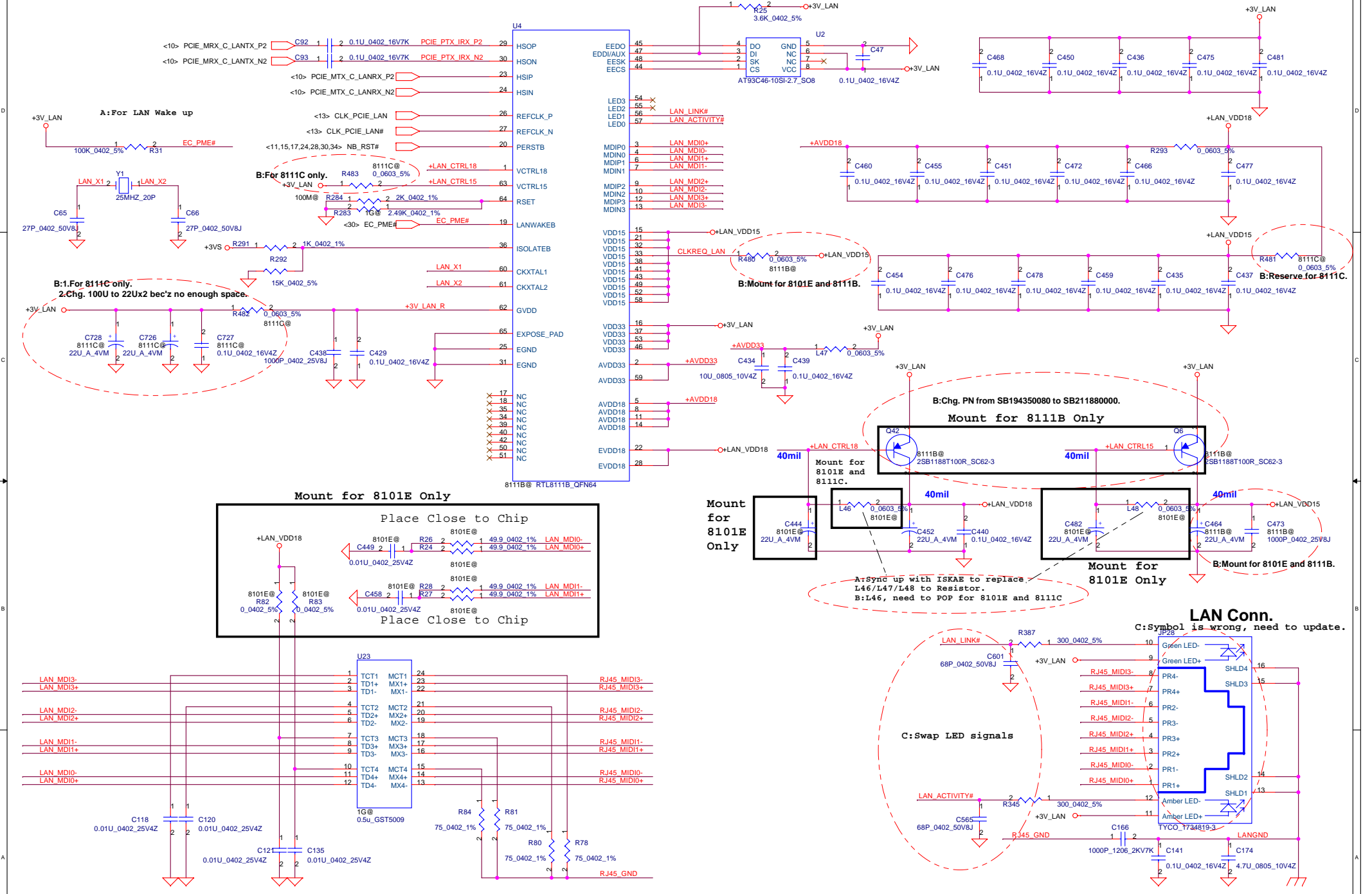
Bottom Side, Normal Insertion

| | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------|----------|--------------------------|-----------------|
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| Issued Date | 2007/5/4 | Deciphered Date | 2008/5/4 | Compal Electronics, Inc. | |
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| | | | | IALAA-Minnesota10A | LA3631P |
| Date: | Tuesday, May 15, 2007 | Sheet | 22 | of | 45 |

CardBus Power Switch



| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------|----------|--------------------------|
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| Size | Document Number | Rev | | |
| | IATAA-Minnesota10A LA3631P | 1A | | |
| Date: | Monday, May 14, 2007 | Sheet | 23 | of 45 |



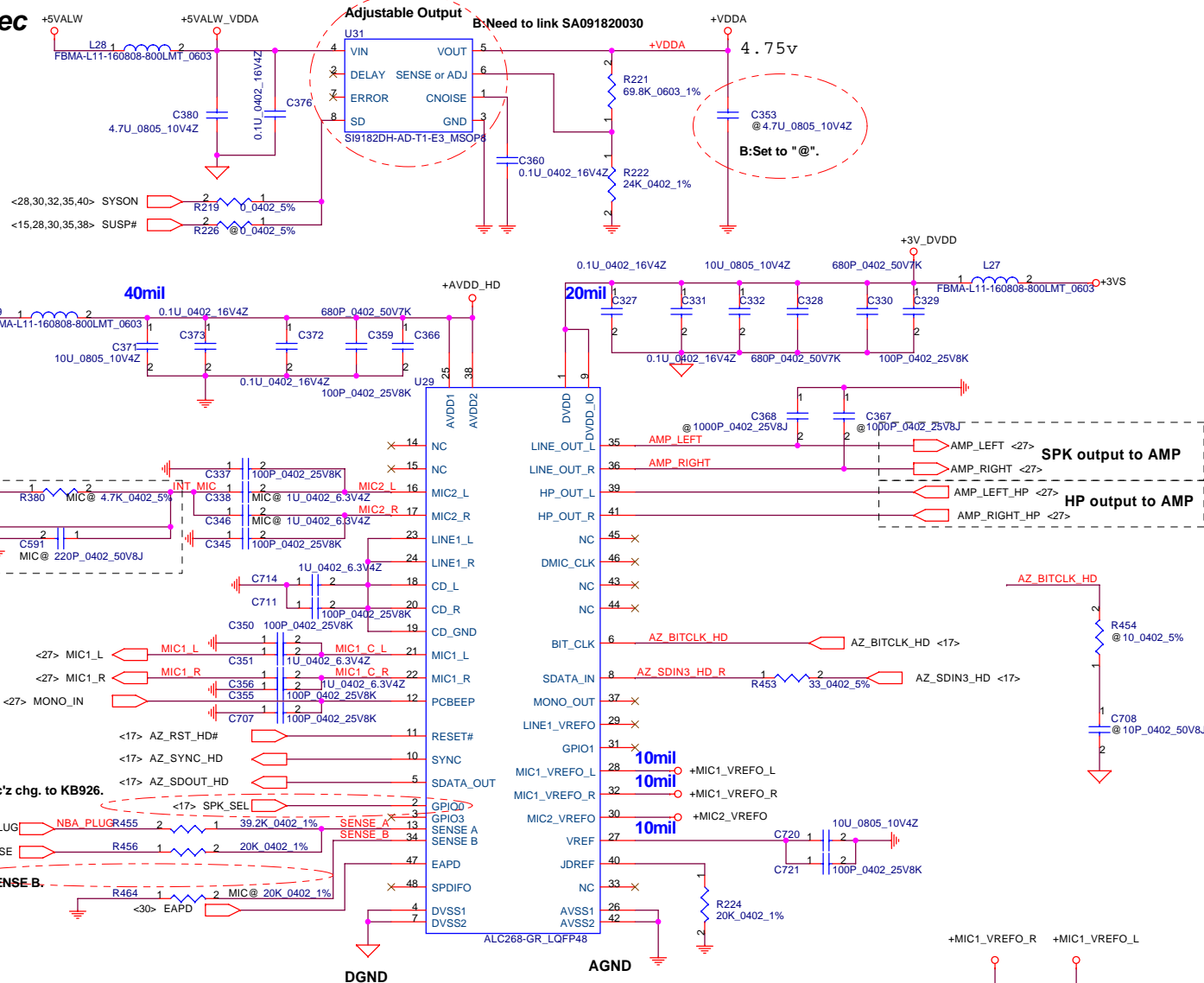
Place these components
colsed to LAN chip

GST5009 for GIGA LAN
TST1284 for 10/100 LAN

| Security Classification | | Compal Secret Data | |
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|--------------------------------------------|-----------------------------------|----------------|
| Title RTL8111B(1G)/8101E(10/100) | | |
| Size | Document Number | Rev |
| | IALLA-Minnesota10A LA3631P | 1A |
| Date: | Mokey, May 14, 2007 | Sheet 25 of 45 |

HD Audio Codec

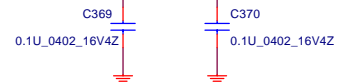
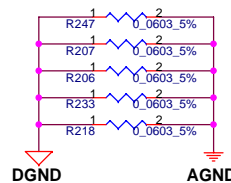


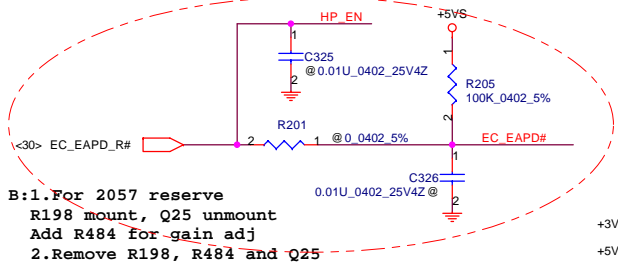
B:Chg. to link w/ SB600 bec'z chg. to KB926.

B:Remove NBA_PLUG on SENSE B.

| Sense Pin | Impedance | Codec Signals |
|-----------|-----------|---------------------|
| SENSE A | 39.2K | PORT-A (PIN 39, 41) |
| | 20K | PORT-B (PIN 21, 22) |
| | 10K | PORT-C (PIN 23, 24) |
| | 5.1K | PORT-D (PIN 35, 36) |
| SENSE B | 39.2K | PORT-E (PIN 14, 15) |
| | 20K | PORT-F (PIN 16, 17) |
| | 10K | PORT-G (PIN 43, 44) |
| | 5.1K | PORT-H (PIN 45, 46) |

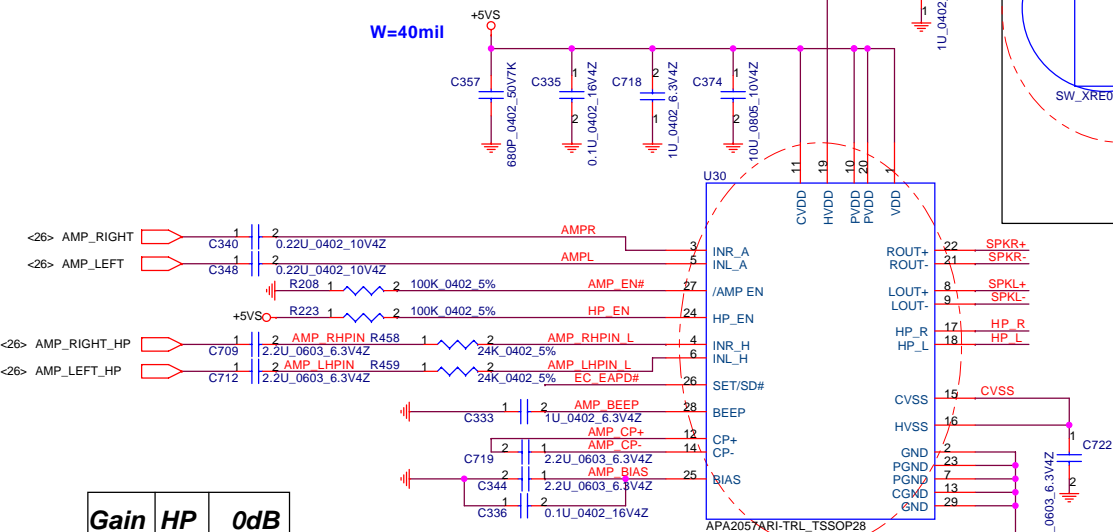
DGND To AGND Bypass





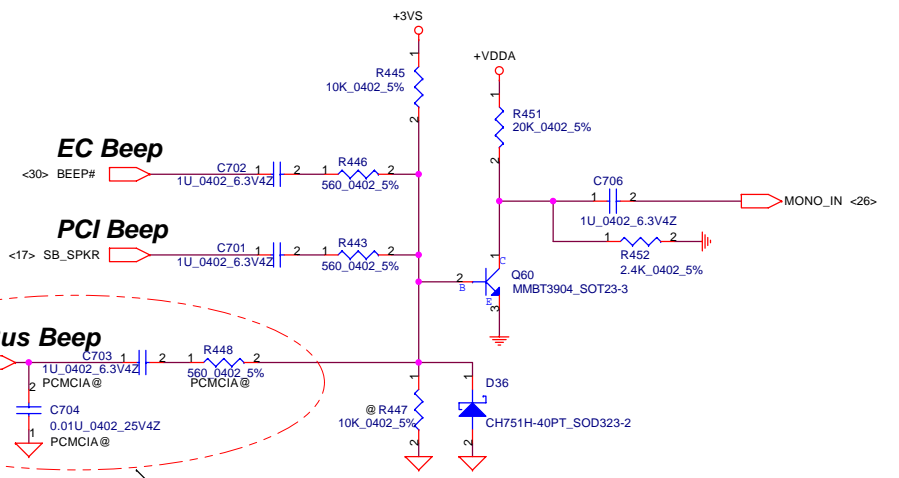
B:1.For 2057 reserve
R198 mount, Q25 unmount
Add R484 for gain adj
2.Remove R198, R484 and Q25

W=40mil



| Gain | HP | 0dB |
|------|-----|------|
| | SPK | 10dB |

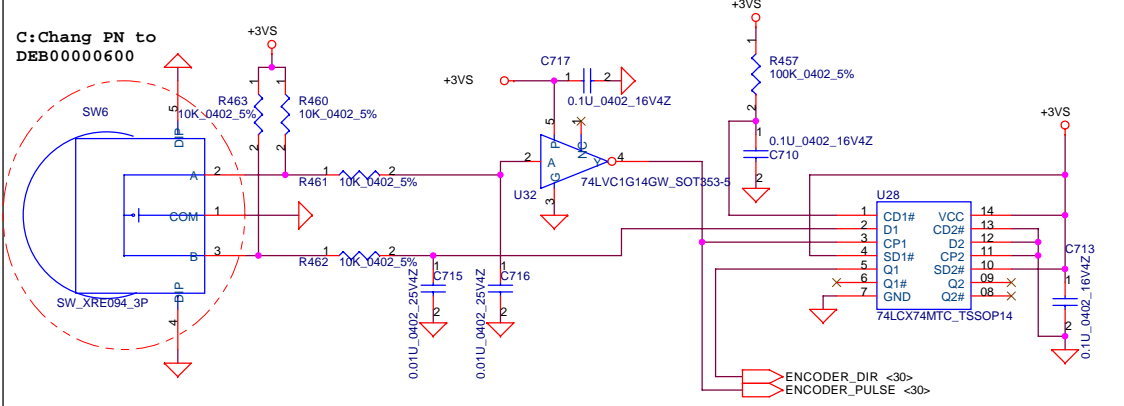
B:Co-Layout for
APA2056A and APA2057A



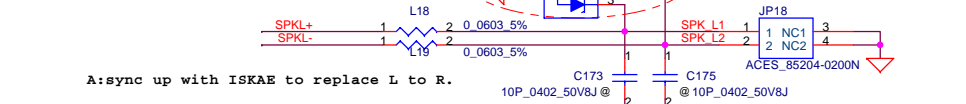
A:Set PCMCIA@ on CardBus Beep circuit
B:Remove NSE_DPR circuit, bec'z chg. to KB926.

Volume Control

C:Chang PN to
DEB00000600

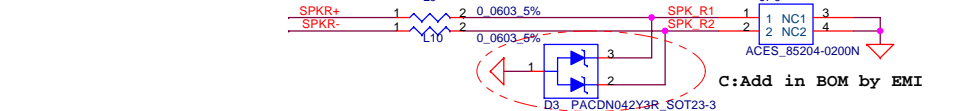


Left Speaker Connector

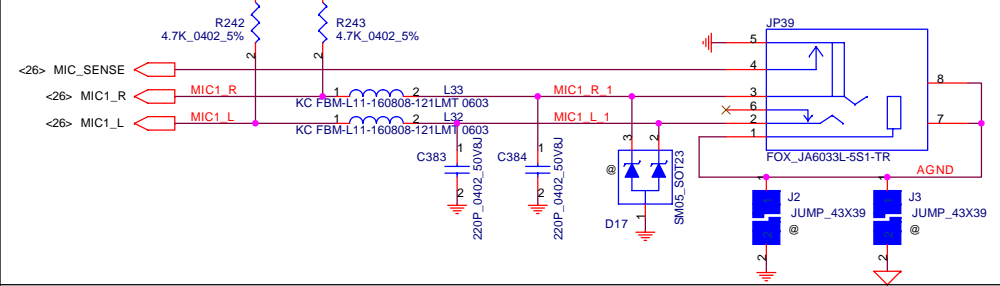


A:sync up with ISKAE to replace L to R.

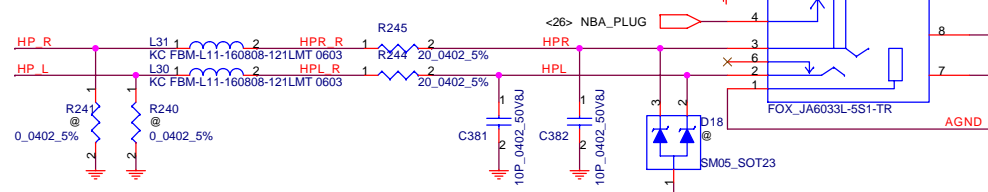
Right Speaker Connector



Microphone-In Jack

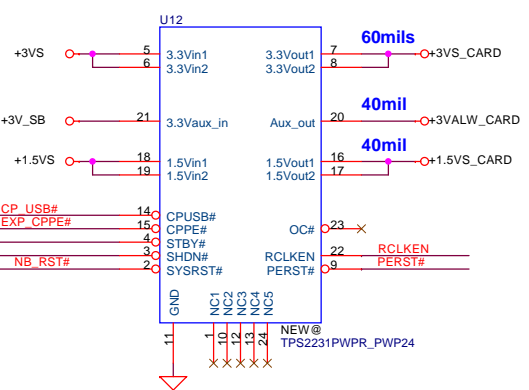
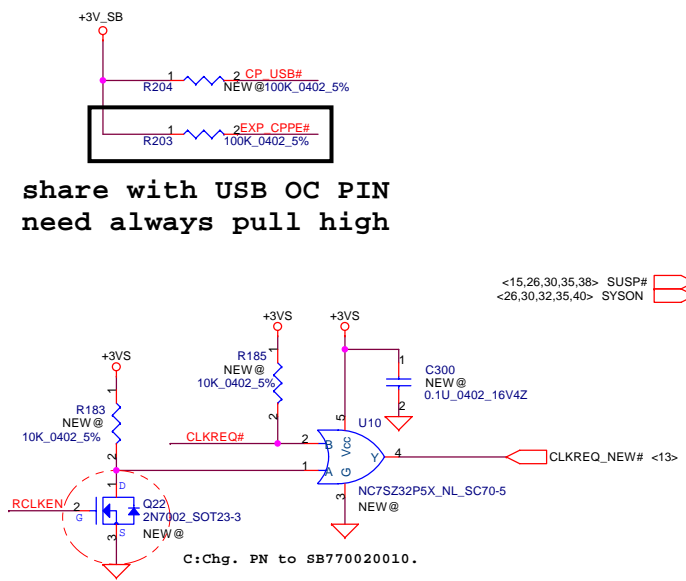
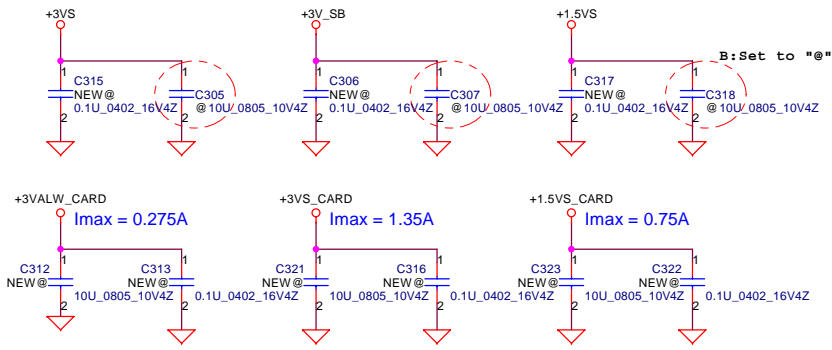
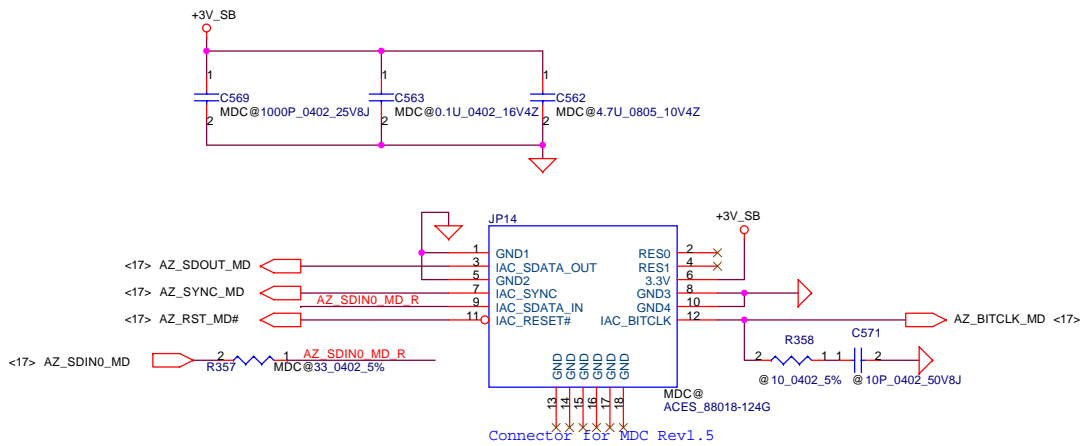


Headphone-Out Jack

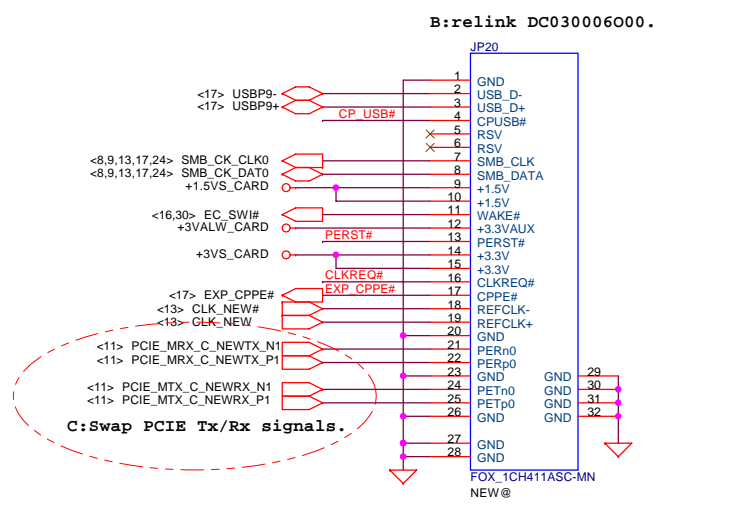
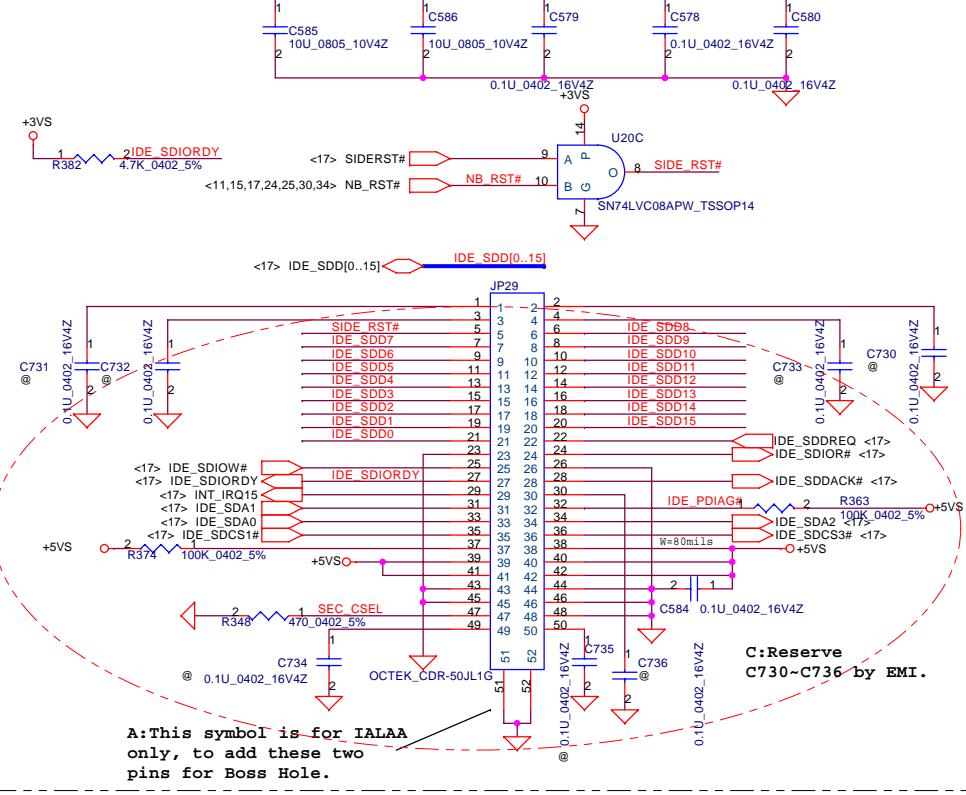


| | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------------|----------------|--------------------|
| Security Classification | Compal Secret Data | | Title | |
| Issued Date | 2007/5/4 | Deciphered Date | 2008/5/4 | AMP&Audio Jack/MDC |
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| | I\ALAA-Minnesota10A LA3631P | Monday, May 14, 2007 | Sheet 27 of 45 | |

MDC 1.5 Conn.



ODD CONN



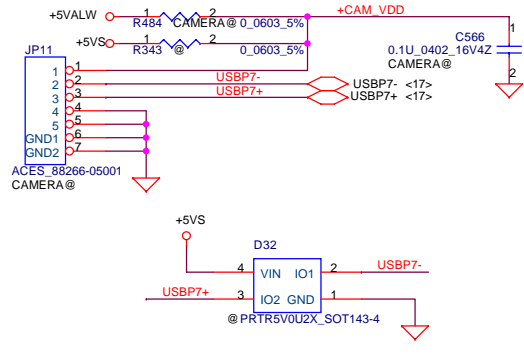
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| Security Classification | Compal Secret Data | |
| Issued Date | 2007/5/4 | Deciphered Date |
| | | 2008/5/4 |
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| | | |
|--------------------------|----------------------------|----------------|
| Compal Electronics, Inc. | | |
| Title | TPM/ ODD CONNECTORS | |
| Size | Document Number | Rev |
| B | IALAA-Minnesota10A LA3631P | 1A |
| Date: | Monday, May 14, 2007 | Sheet 28 of 45 |

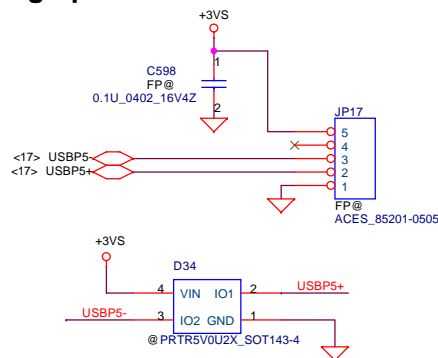
Int. Camera Conn

check 5/5 of 3/5

W=20mils

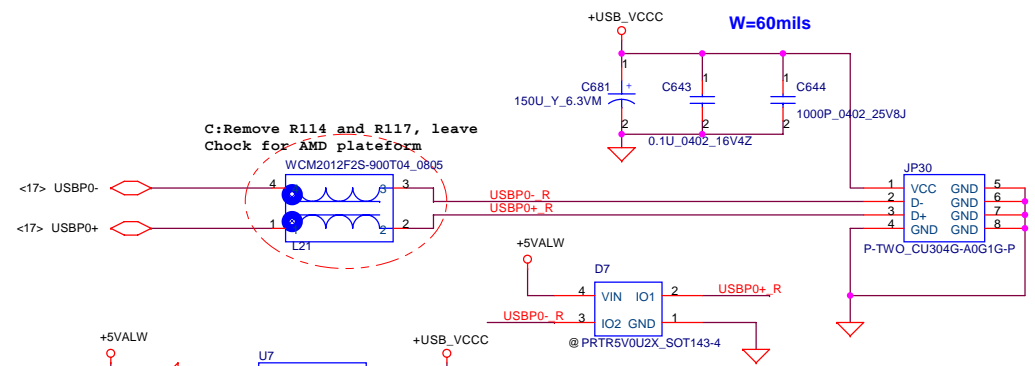


Fingerprint Conn



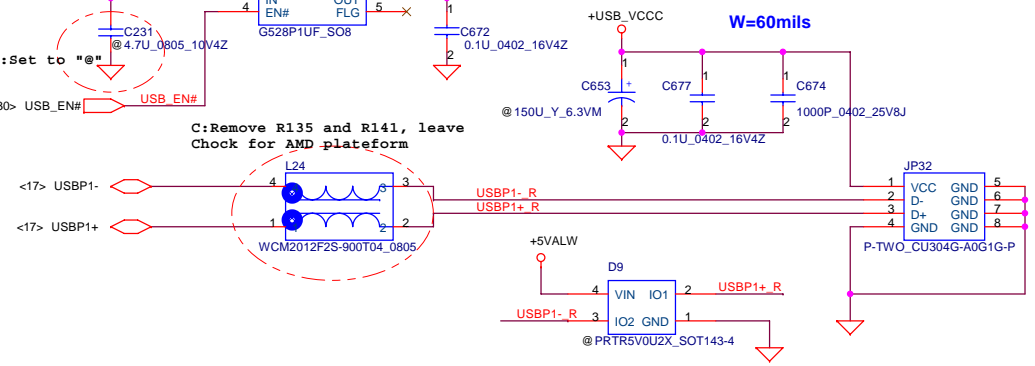
USB CONN. 1

W=60mils

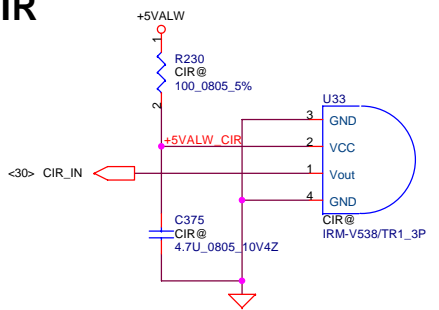


USB CONN.2

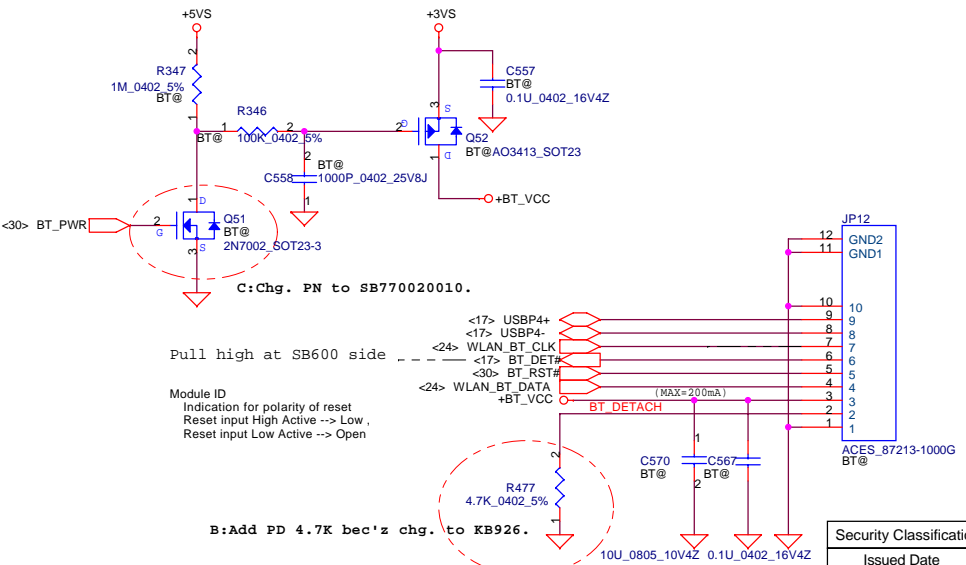
W=60mils



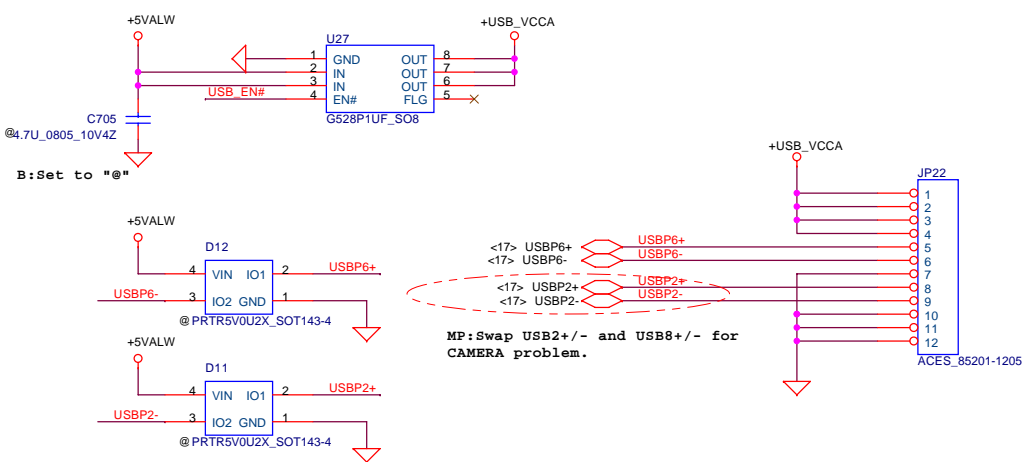
CIR



BlueTooth Interface

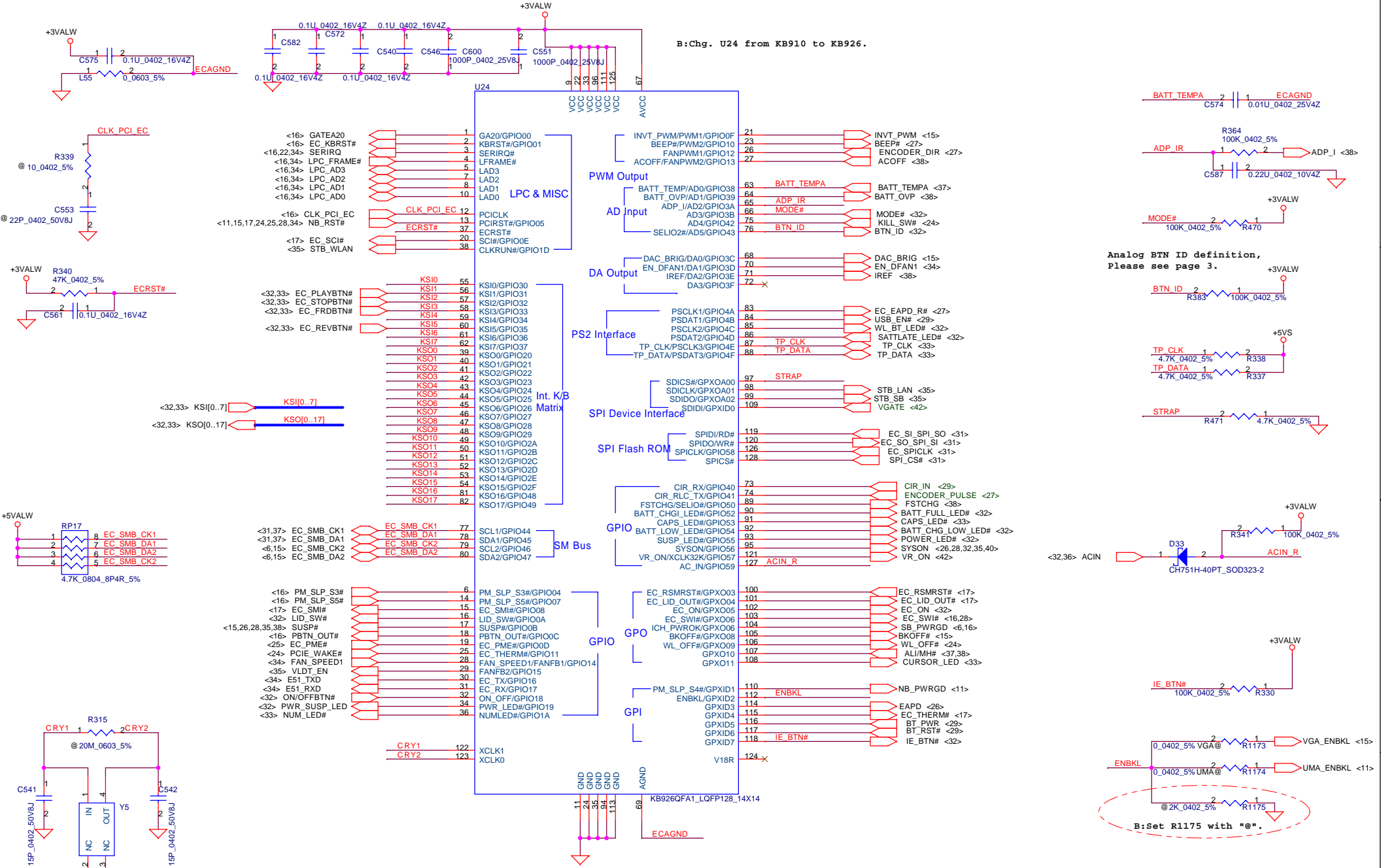


USB Small Board



| | | |
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| Title | | |
| USB Conn. | | |
| Size | Document Number | Rev |
| B | IAlAA-Minnesota10A LA3631P | 1A |
| Date: | Monday, May 14, 2007 | Sheet 29 of 45 |



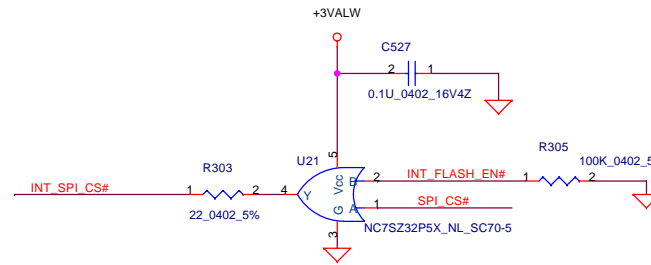
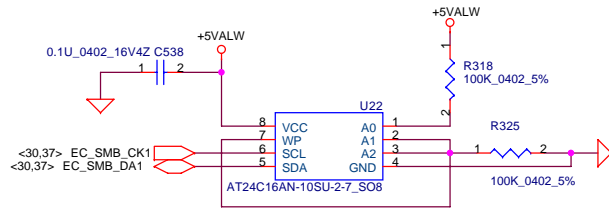
B:Chg. U24 from KB910 to KB926.

Analog BTN ID definition, Please see page 3.

B:Set R1175 with "@".

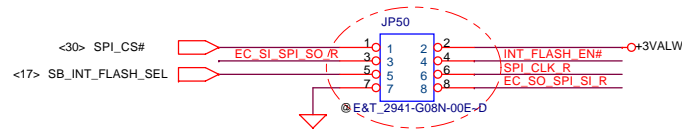
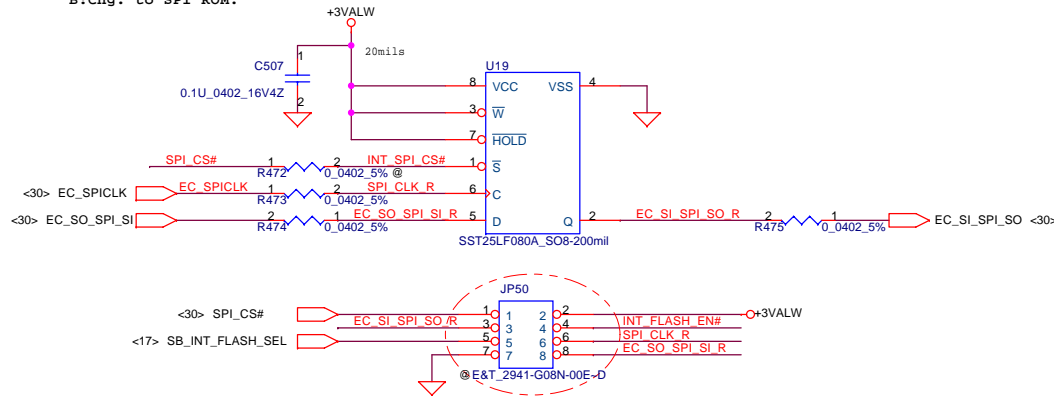
32.768KHZ_12.5P_11NS125BJ4421P
 MP:ENE's recommend, change C541 and C542 from 10P to 27P.
 MP:ENE's recommend, change back C541 and C542 from 27P to 15P.

| | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------|----------|----------------------|-----------------|
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| Date: | Monday, May 14, 2007 | Sheet | 30 | of | 45 |



SPI Flash (8Mb*1)

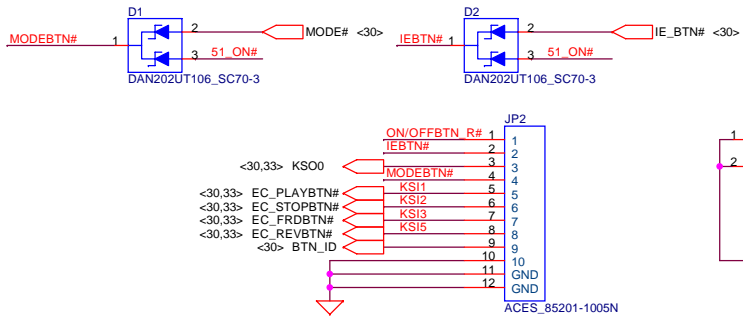
B:Chg. to SPI ROM.



C:Chg. PN to LTC00000200

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| Size | Document Number | Rev | | |
| B | I/LAA-Minnesota10A LA3631P | 1A | | |
| Date: | Monday, May 14, 2007 | Sheet | 31 | of 45 |

SW/LED Connector

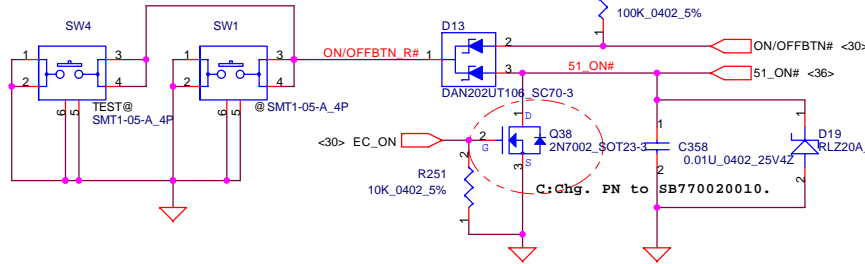


Power Button

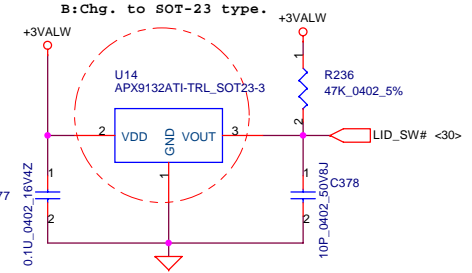
For debug only

BTN

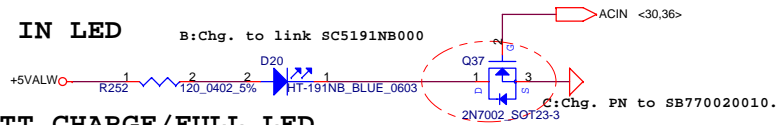
TOP
 B: Remove SW1 from DVT for interfere issue.



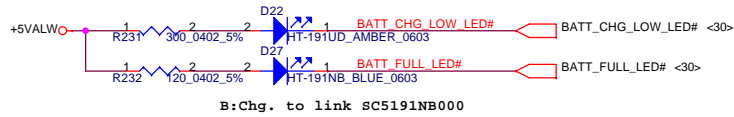
Lid SW



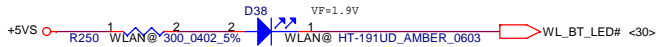
AC IN LED



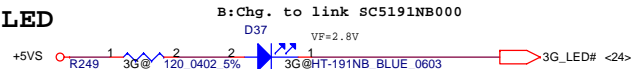
BATT CHARGE/FULL LED



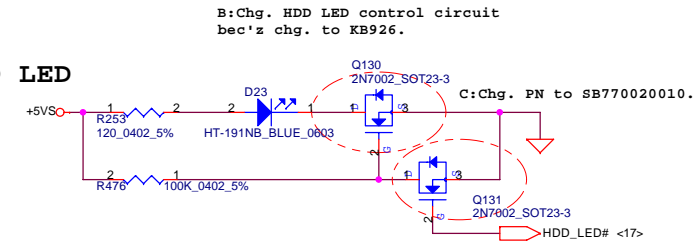
WL&BT LED



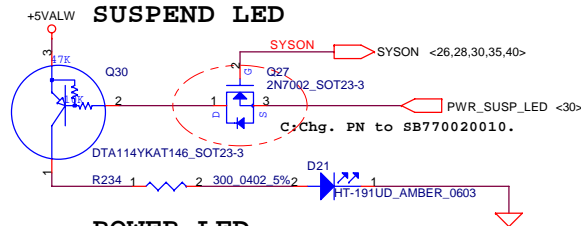
3G LED



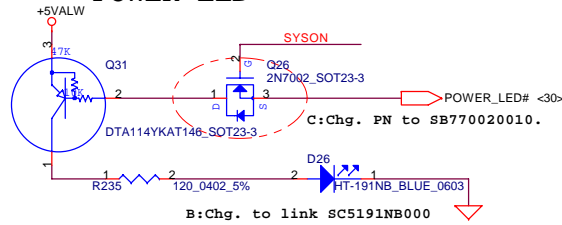
HDD LED



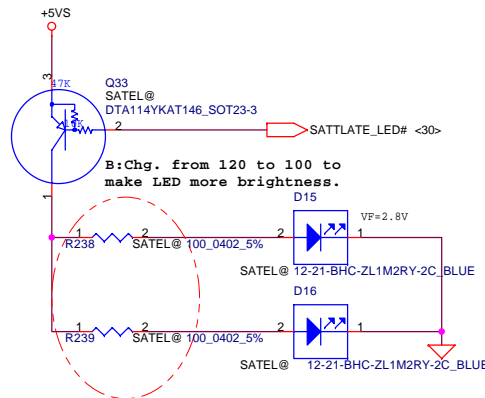
SUSPEND LED



POWER LED

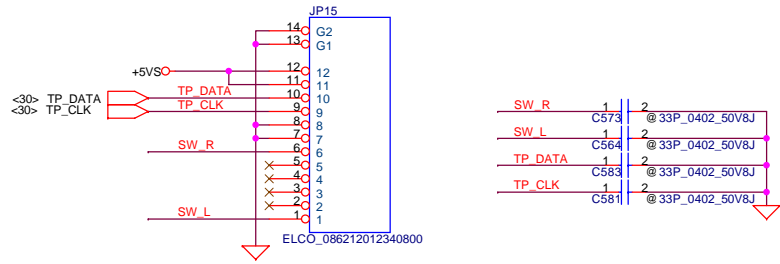


Satellite LED

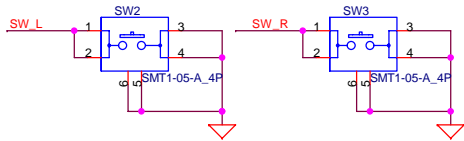


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| Size | Document Number | Rev | | 1A |
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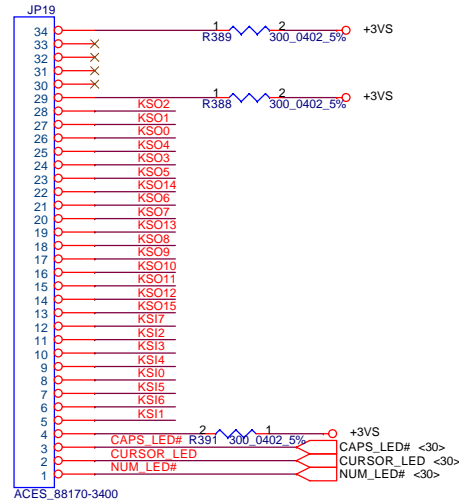
TP Conn.



TP Button



KEYBOARD CONN.



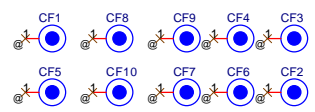
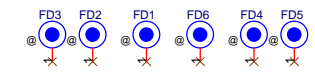
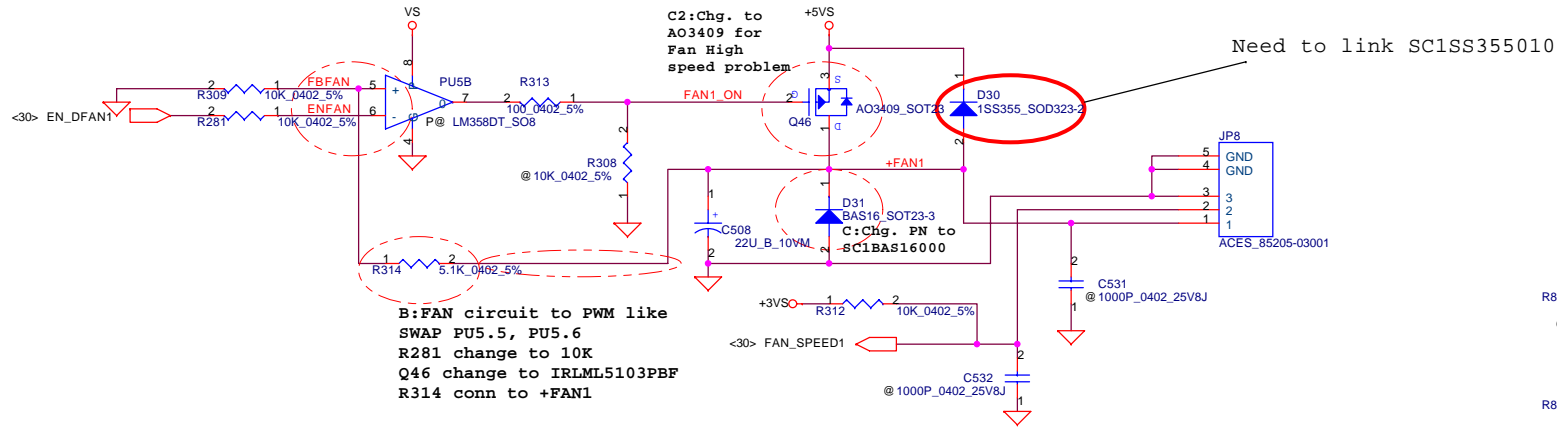
KSI[0..7] KSI[0..7] <30,32>
 KSO[0..15] KSO[0..15] <30,32>

| | | | | |
|------------|------|---|---|-----------------|
| KSO2 | C630 | 1 | 2 | 100P_0402_25V8K |
| KSO1 | C616 | 1 | 2 | 100P_0402_25V8K |
| KSO0 | C629 | 2 | 2 | 100P_0402_25V8K |
| KSO4 | C615 | 1 | 2 | 100P_0402_25V8K |
| KSO3 | C628 | 1 | 2 | 100P_0402_25V8K |
| KSO5 | C614 | 1 | 2 | 100P_0402_25V8K |
| KSO14 | C627 | 1 | 2 | 100P_0402_25V8K |
| KSO6 | C613 | 1 | 2 | 100P_0402_25V8K |
| KSO7 | C626 | 1 | 2 | 100P_0402_25V8K |
| KSO13 | C626 | 1 | 2 | 100P_0402_25V8K |
| KSO8 | C612 | 1 | 2 | 100P_0402_25V8K |
| KSO9 | C625 | 1 | 2 | 100P_0402_25V8K |
| KSO10 | C611 | 1 | 2 | 100P_0402_25V8K |
| KSO10 | C624 | 1 | 2 | 100P_0402_25V8K |
| KSO11 | C610 | 1 | 2 | 100P_0402_25V8K |
| KSO12 | C623 | 1 | 2 | 100P_0402_25V8K |
| KSO15 | C623 | 1 | 2 | 100P_0402_25V8K |
| KSI7 | C609 | 1 | 2 | 100P_0402_25V8K |
| KSI2 | C622 | 1 | 2 | 100P_0402_25V8K |
| KSI3 | C608 | 1 | 2 | 100P_0402_25V8K |
| KSI4 | C621 | 1 | 2 | 100P_0402_25V8K |
| KSI4 | C607 | 1 | 2 | 100P_0402_25V8K |
| KSI0 | C620 | 1 | 2 | 100P_0402_25V8K |
| KSI5 | C606 | 1 | 2 | 100P_0402_25V8K |
| KSI6 | C619 | 1 | 2 | 100P_0402_25V8K |
| KSI1 | C605 | 1 | 2 | 100P_0402_25V8K |
| CAPS_LED# | C604 | 1 | 2 | 100P_0402_25V8K |
| CURSOR_LED | C618 | 1 | 2 | 100P_0402_25V8K |
| NUM_LED# | C617 | 1 | 2 | 100P_0402_25V8K |

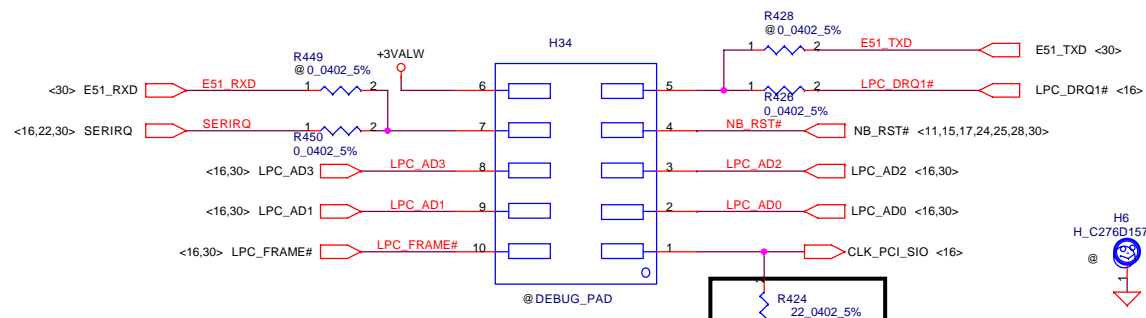
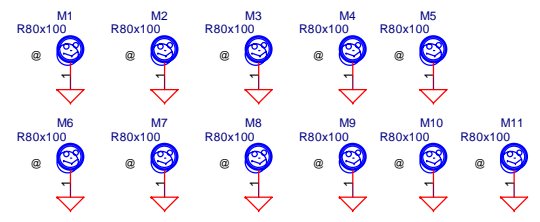
For EMI Request

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| Date: | Monday, May 14, 2007 | Sheet | 33 of 45 | Rev 1A |

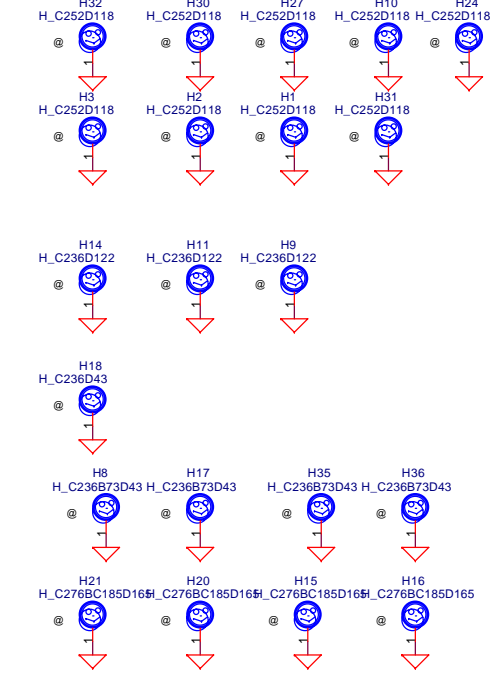
FAN Conn



EMI Shielding Clip PADS

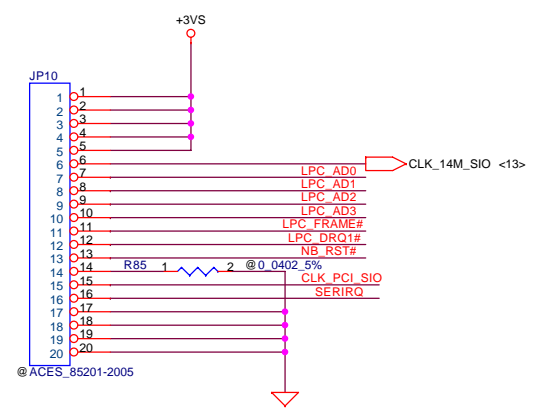


Screw Hole



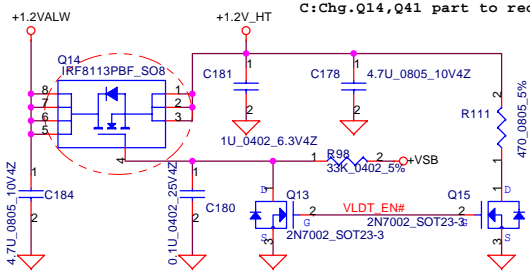
LPC Debug card

LPC Debug Port

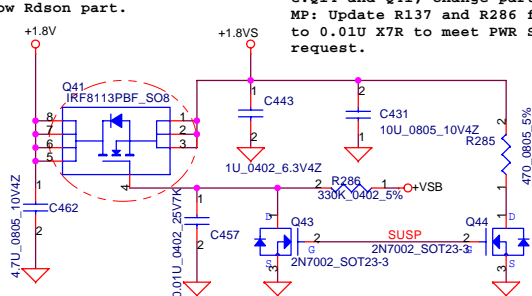


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| Sheet: 34 of 45 | | | Date: Monday, May 14, 2007 | |

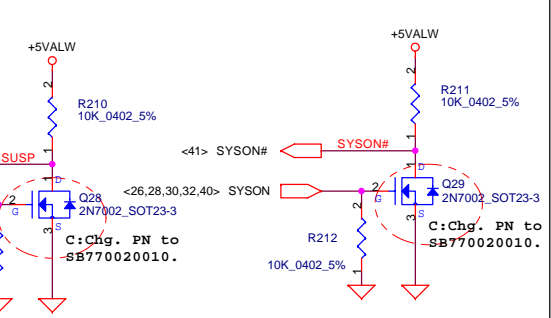
+1.2VALW TO +1.2V_HT



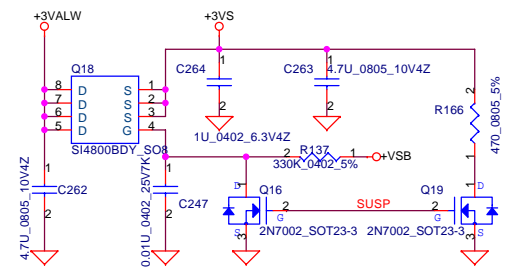
+1.8V TO +1.8VS



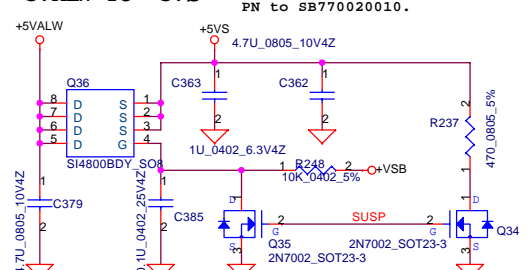
B:Q18 and Q36, need to link "SB548000310"
 C:Q14 and Q41, change part to reduce Rds(on) to improve PWR drop.
 MP: Update R137 and R286 from 22K to 330K and C247 and C457 from 0.1uF Y5V to 0.01uF X7R to meet PWR SEQ, and update C180 and C385 to 25V to meet PWR request.



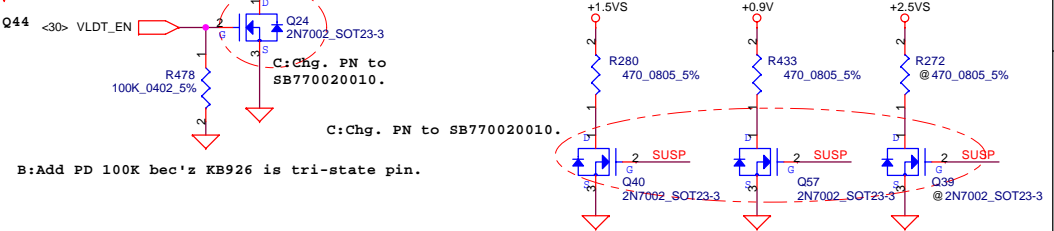
+3VALW TO +3VS



+5VALW TO +5VS



C:Chg. Q13, Q15, Q16, Q19, Q34, Q35, Q43, Q44 PN to SB770020010.

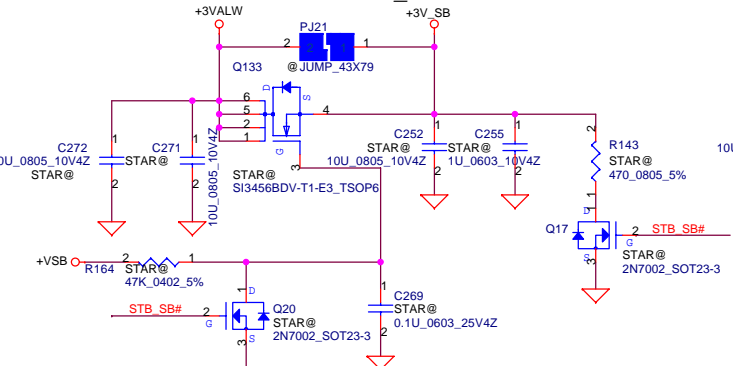


B:Add PD 100K bec'z KB926 is tri-state pin.

C:Chg. PN to SB770020010.

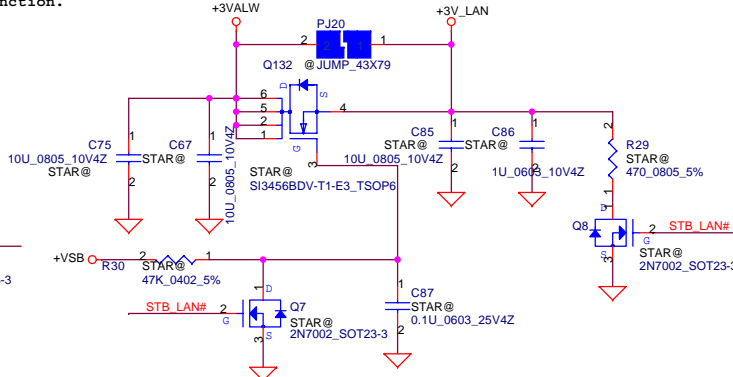
B:Chg. to POP material for discharge.

+3VALW TO +3V_SB



B:1.Chg. PWR SW Q132 and Q133 from AO4422 to SI3456BDV
 2.Remove Energy Star 4.0 function.

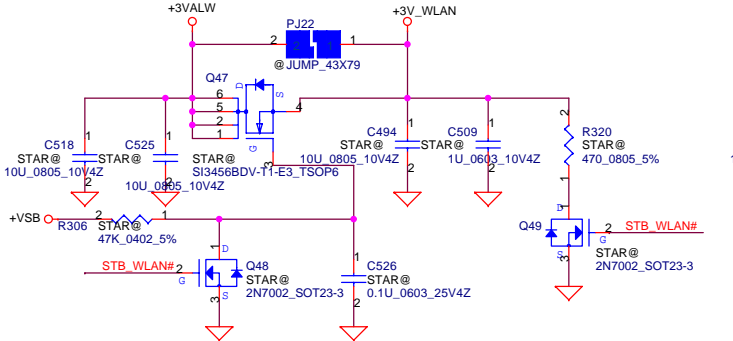
+3VALW TO +3V_LAN



B:Remove Energy Star 4.0 function.

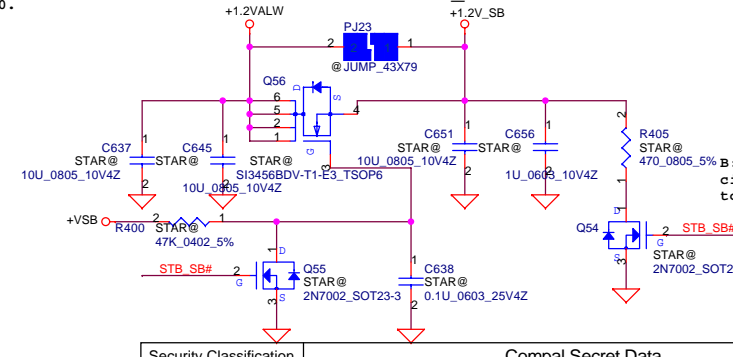
C:Chg. PN to SB770020010.

+3VALW TO +3V_WLAN

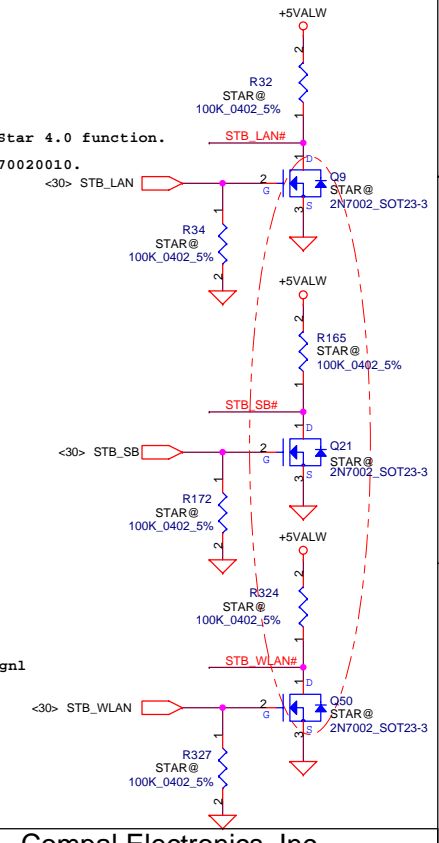


C:Chg. Q17, Q20, Q7, Q8, Q48, Q49, Q54, Q55 PN to SB770020010.

+1.2VALW TO +1.2V_SB

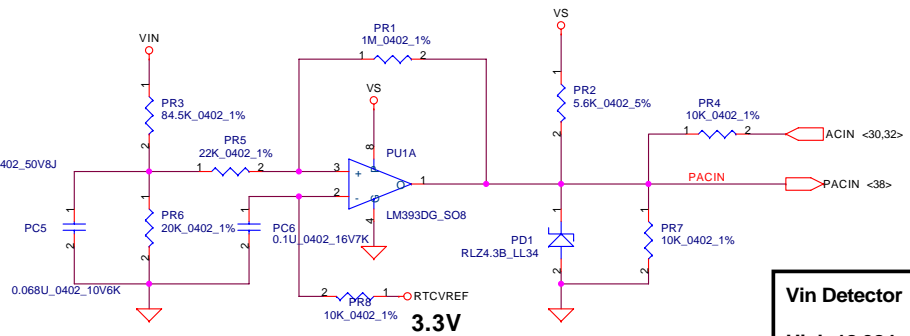
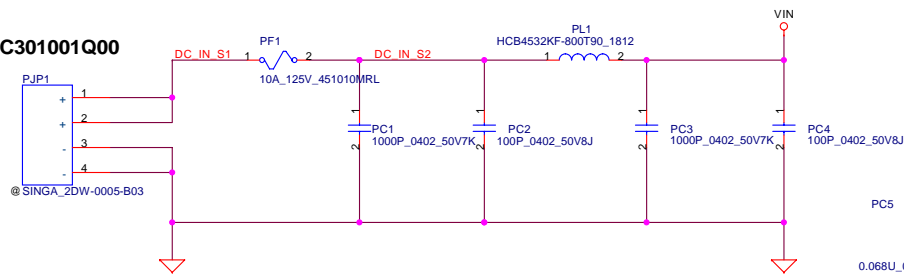


B:Remove STB_12SB# control circuit and chagne control signal to STB_SB#

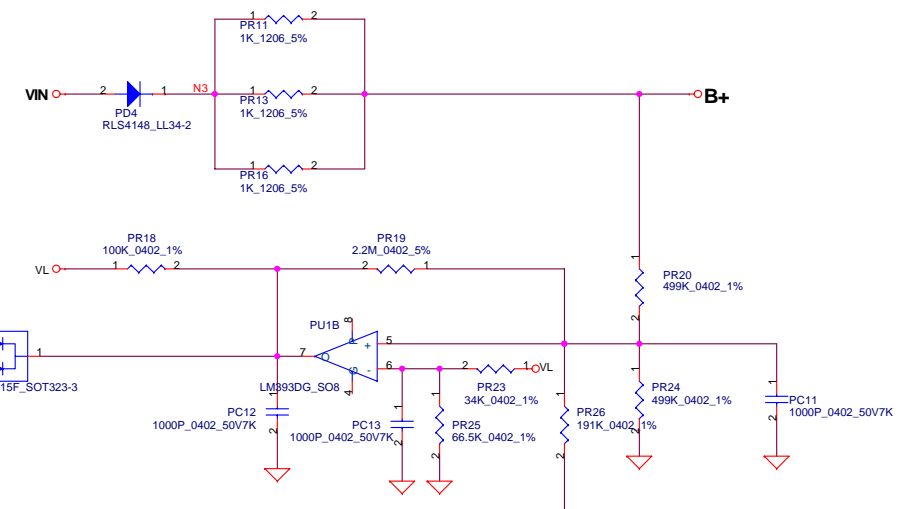
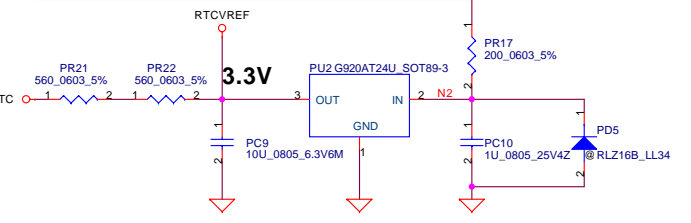
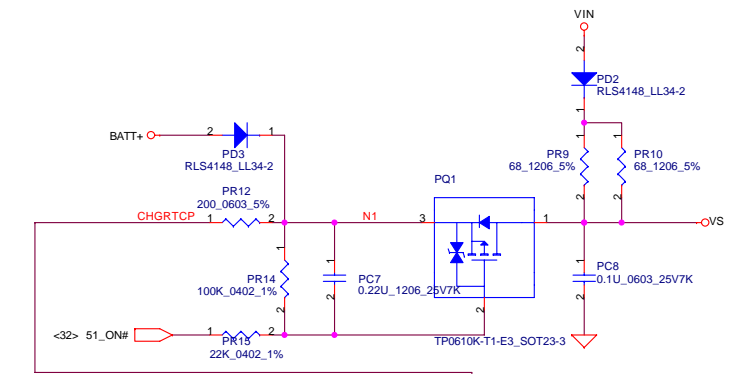


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| Date: | Monday, May 14, 2007 | Sheet | 35 | of | 45 |

DC301001Q00



Vin Detector
 High 18.384 17.901 17.430
 Low 17.728 17.257 16.976

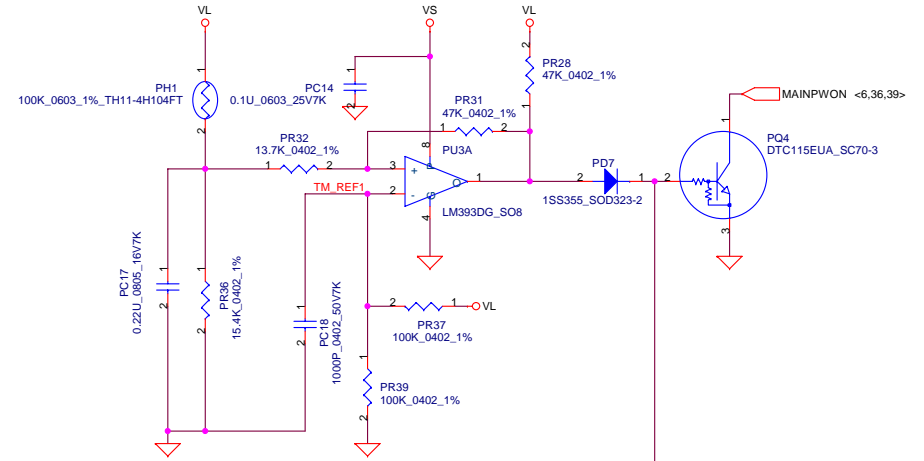
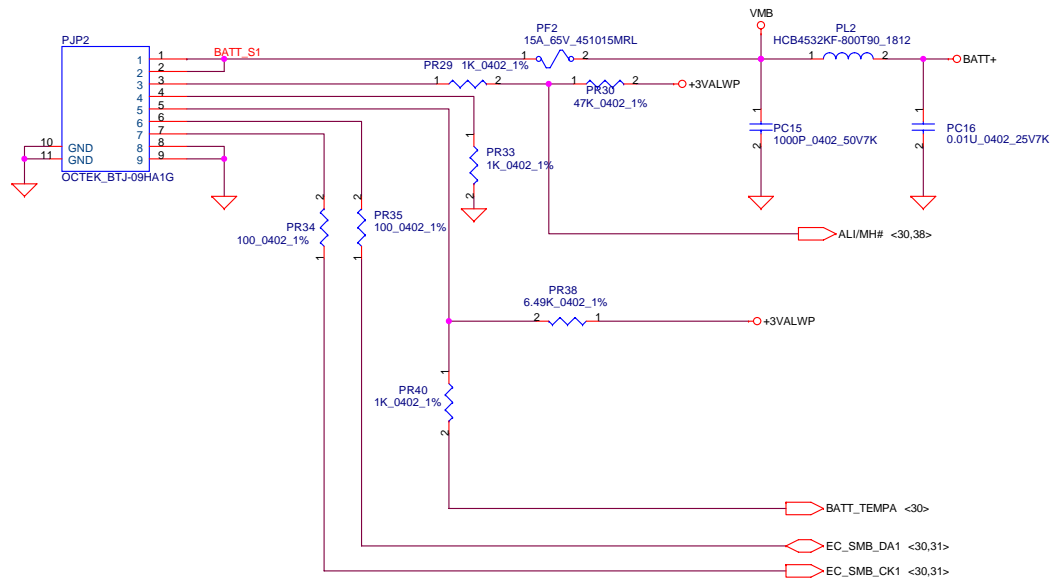


Precharge detector
 15.97V/14.84V FOR
 ADAPTOR

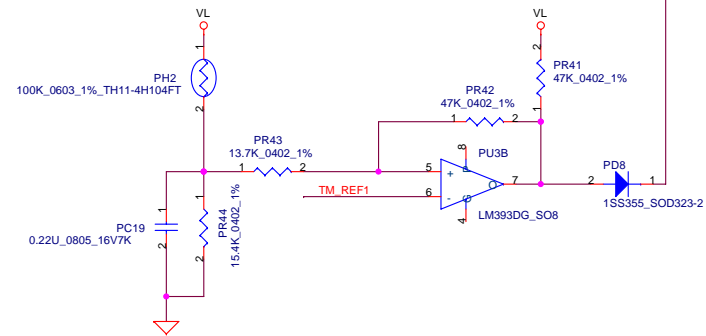
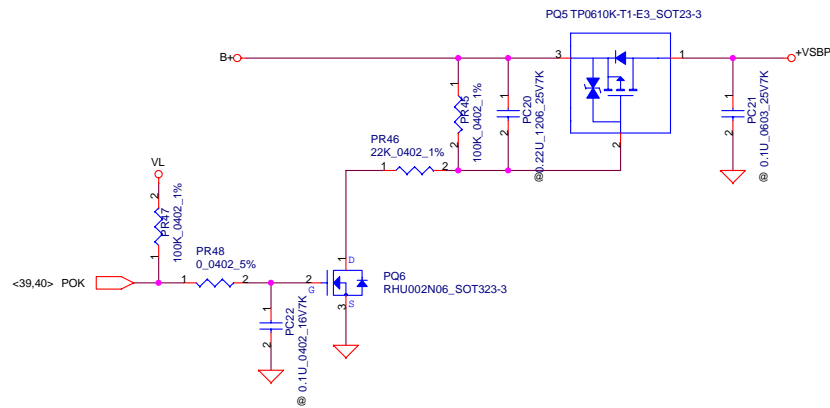
- +3VALWP (5A, 200mils, Via NO.= 10) @ JUMP_43X118
- +1.8VP (8A, 320mils, Via NO.= 16) @ JUMP_43X118
- +5VALWP (5A, 200mils, Via NO.= 10) @ JUMP_43X118
- +1.5VSP (3.0A, 120mils, Via NO.=6) @ JUMP_43X118
- +VSBP (120mA, 40mils, Via NO.= 2) @ JUMP_43X39
- +0.9VP (2A, 80mils, Via NO.= 4) @ JUMP_43X79
- +1.2VALWP (8A, 320mils, Via NO.=16) @ JUMP_43X118
- +2.5VSP (1A, 40mils, Via NO.=2) @ JUMP_43X39

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

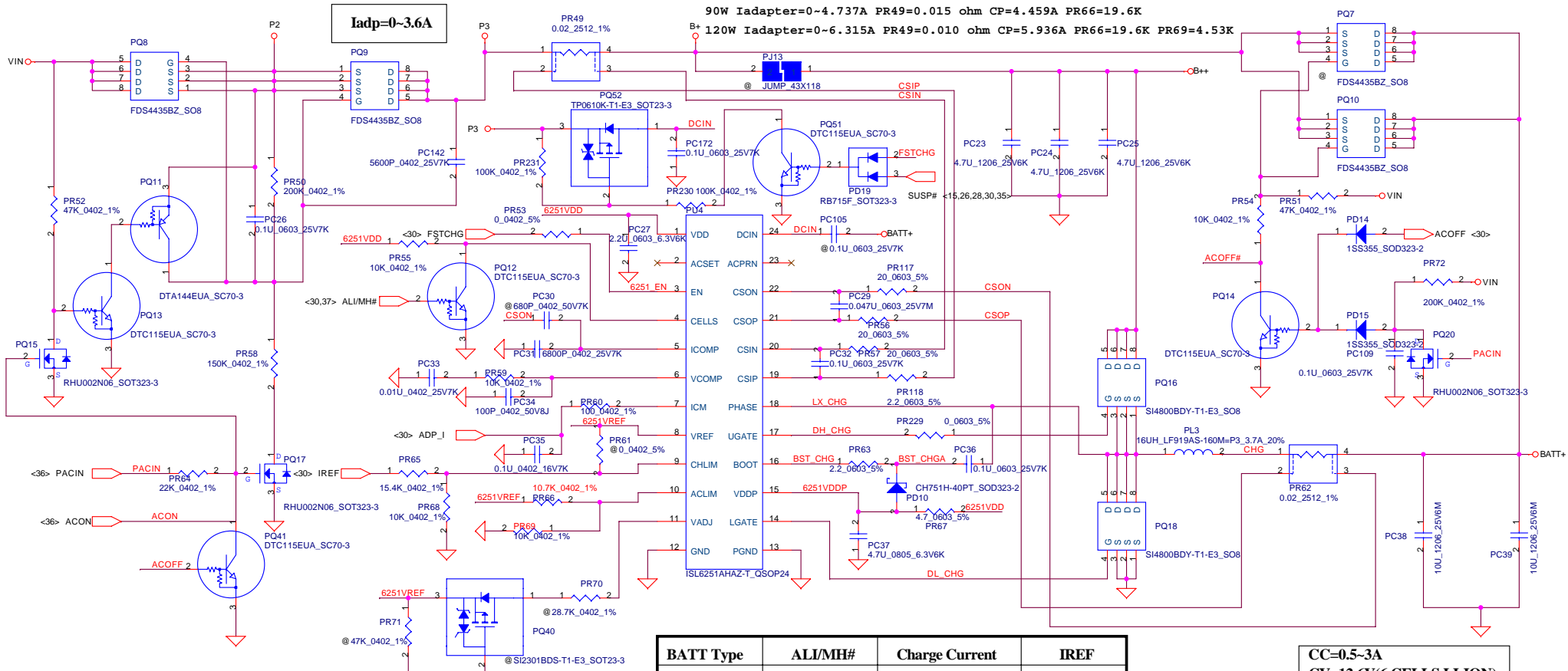


PH2 near main Battery CONN :
 BAT. thermal protection at 92 degree C
 Recovery at 56 degree C



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| | | | | BATTERY CONN / OTP | |
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75W Iadapter=0-3.947A PR49=0.02 ohm CP=3.71A PR66=10.7K
 90W Iadapter=0-4.737A PR49=0.015 ohm CP=4.459A PR66=19.6K
 120W Iadapter=0-6.315A PR49=0.010 ohm CP=5.936A PR66=19.6K PR69=4.53K

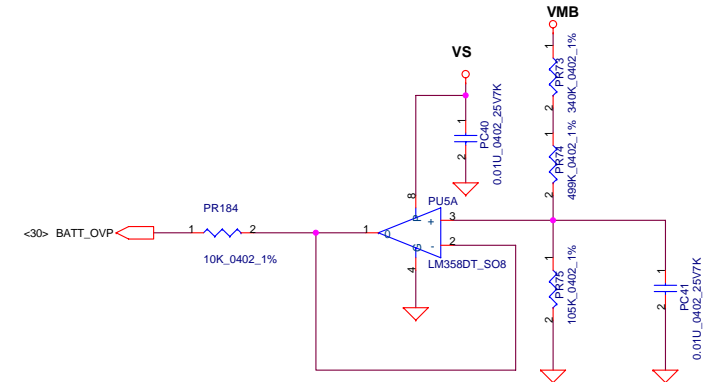
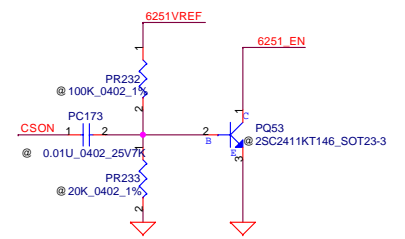


Iadp=0-3.6A

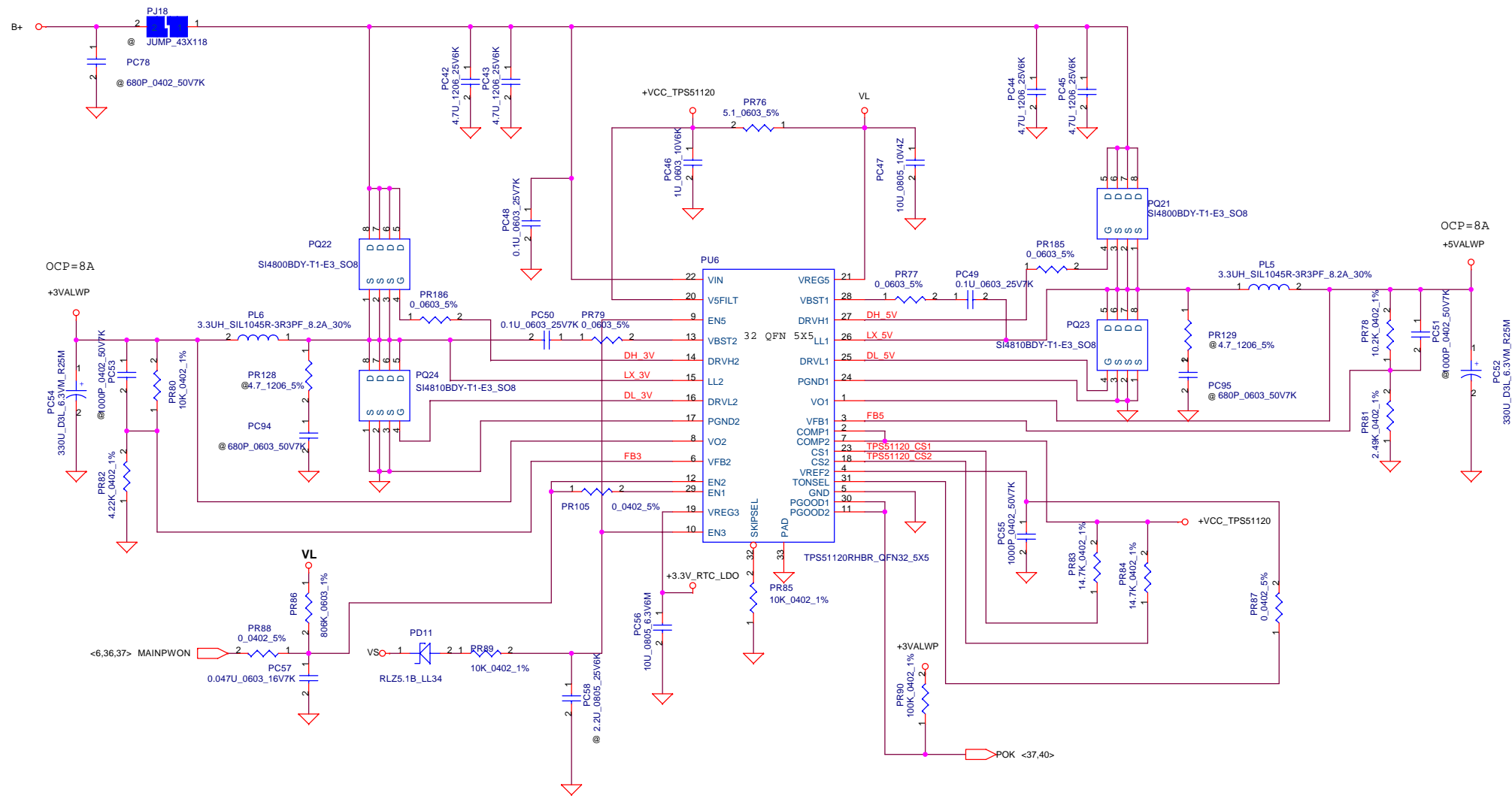
IREF=1.016*Icharge
 IREF=0.508V-3.048V

CC=0.5-3A
 CV=12.6V(6 CELLS LI-ION)

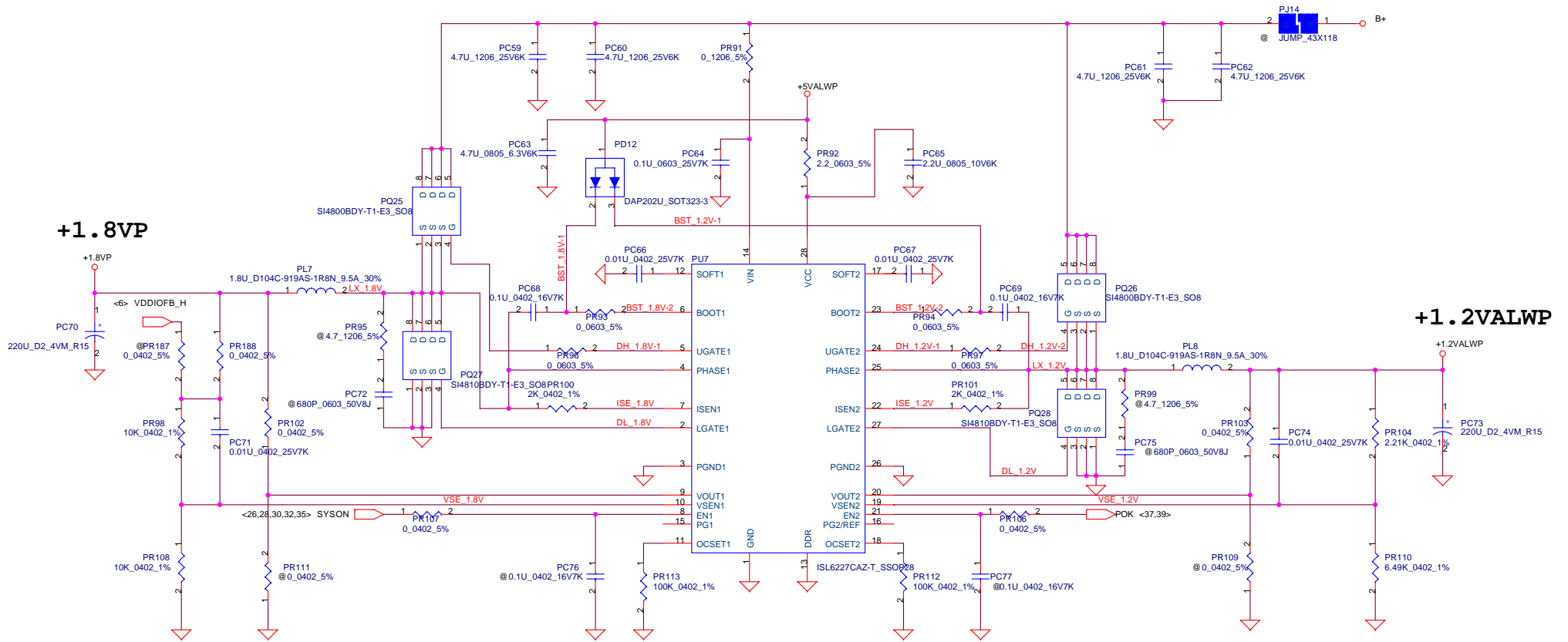
| BATT Type | ALI/MH# | Charge Current | IREF |
|-----------|---------|----------------|--------|
| 3 CELL | 3.3V | 1.5A | 1.524V |
| 6 CELL | 3.3V | 3.0A | 3.048V |
| 9 CELL | 3.3V | 3.0A | 3.048V |



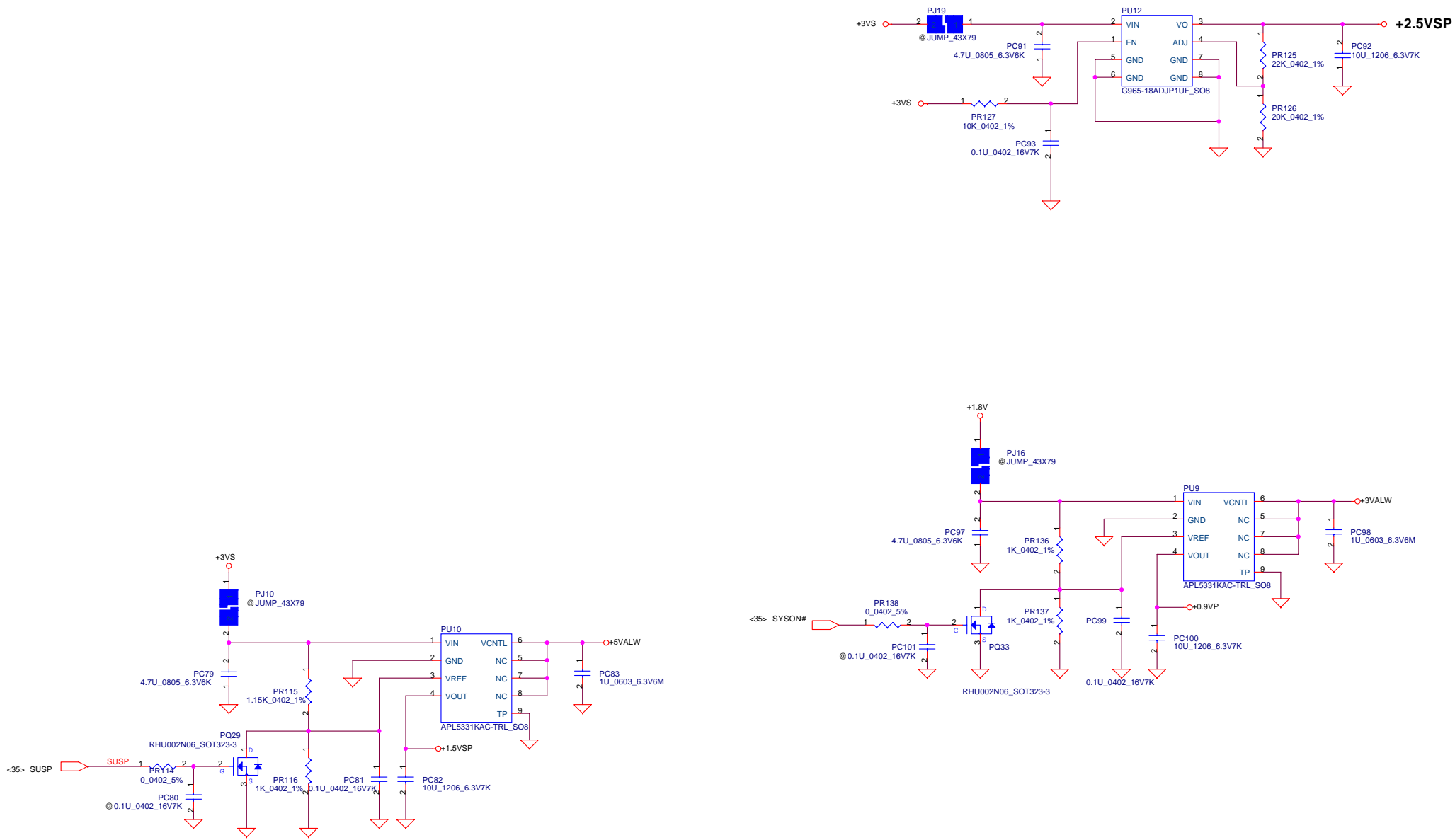
LI-3S :13.5V----BATT-OVP=1.5V
 LI-4S :18V----BATT-OVP=2V
 BATT-OVP=0.111*BATT+



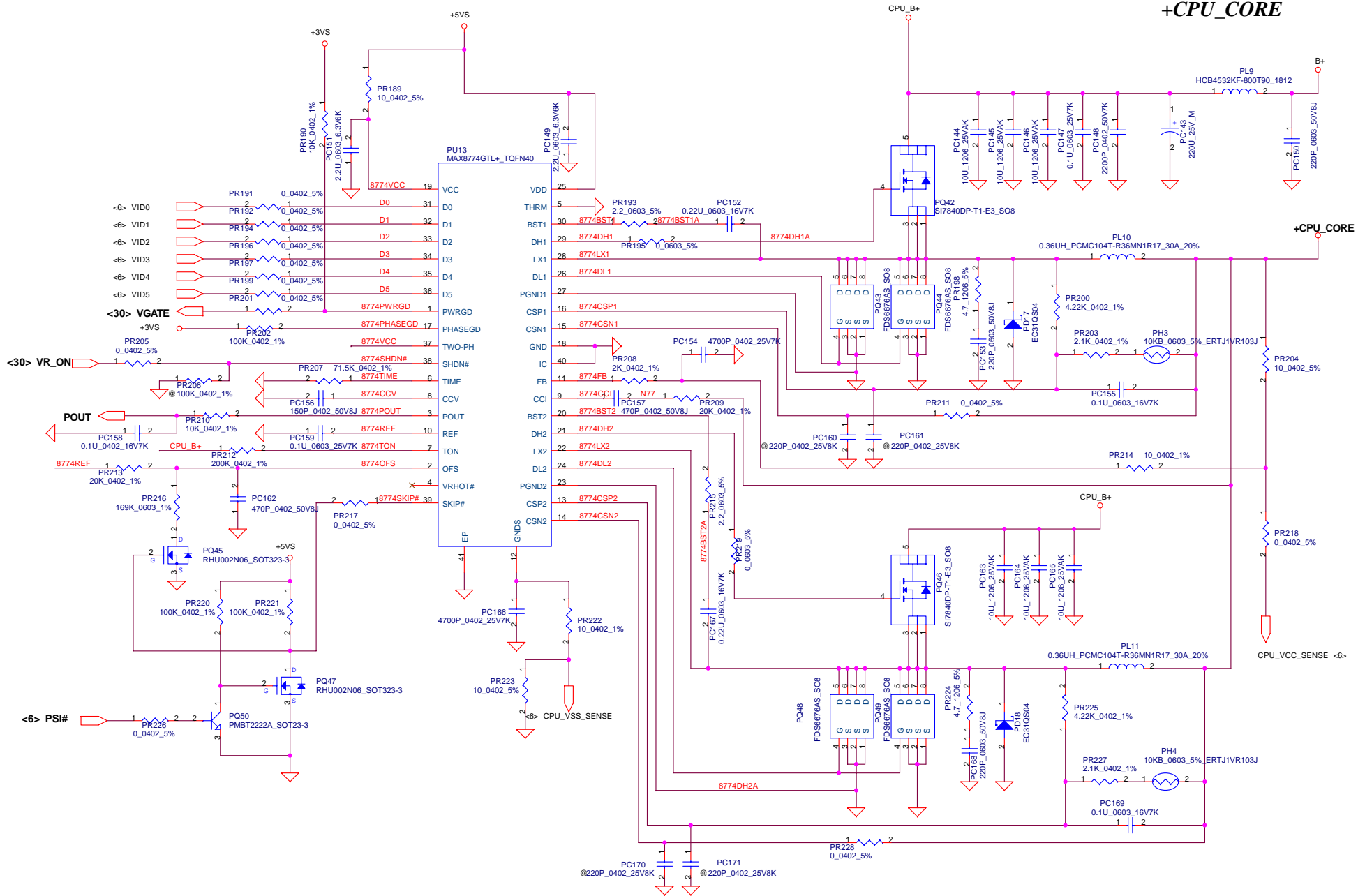
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| | | | | 1.8V / 1.2V | |
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POWER PIR LIST

| | page | Reason for change | Modify list |
|--------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| DVT | 37 | Design change PF2 value | Change PF2 Fuse from 12A to 15A |
| | 38 | Design change PU4 schematic | Add PR117,PR118. |
| | | | Change value PC29,PC32,PR56,PR57,PQ18 |
| | | | Remove PR232,PR233,PC173,PC105 |
| | 42 | improve CPU-core ripple | Change PR214,PR222 from 100 to 10 |
| | Add EMI soultion | Change PC155,PC169 from 0.22u to 0.1u Change PR213 from 31.6K to 20K Change PC150,PC153,PC168 from 680P to 220P Change boost resistors PR193,PR215 from 0 to 2.2 Change low-side mosfet PQ43,PQ44,PQ48,PQ49 at CPU-core. | |
| PVT | 37 | Design change PH1 temperature set value | Change PR36 from 22K to 15.4K |
| Pre-MP | 37 | Design change PH1 temperature set value | Change PR44 from 22K to 15.4K |

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HW4 Product Improvement Record (P.I.R.)

| Phase: to | | Date: | | | Writer: | | |
|-----------|-----------------------------------|-------------------------|---------------------------------|--------------------------------|----------------------------------|------|-------------|
| Page# | Action Plan (add; del; change) | Location or Net_List | Before value (Attached file) | After value (Attached file) | Detail Discretion and Root Cause | Rev. | DL/DM Check |

01. 2007/2/12 P30

Rev 0.3 LA-3631P Implement items:

01. P06 Update THERMTRIP# control circuit, follow AMD request.
02. P07 Change C652 and C557 to SGN00000800
03. P08 Swap RP20 signals for DDR shielding.
04. P11,P13,P24 Set BOM Structure for UMA@, DVD@
05. ALL Change 2N7002 main source to SB770020010 for unit.
06. P27 Add D6, D3, ESD Diod for EMI, Change Encoder, SW6, PN to DEB00000600
07. 15 Unit Q1,Q3,Q52 w/ same part.
08. 24,P34 Change D31 and D28 to SC1BAS16000
09. P14 Add C13,C16,C21 with 22P for EMI.
10. P16 Change R436 and R437 to 120 Ohm to meet ADM request
11. P29 Remove R113, R117, R135 and R141 to leave chock for AMD platform
12. P28 Reserve C730~C736 by EMI request.
13. P21 Swap JP28 LED behavior signals.
14. P28 Swap JP20 RX/TX Lanes sigals for Express Card can't detect issue.

Rev 0.4 LA-3631P Implement items:

01. P24 Cut JP1.7 Pad for soldring issue.
02. P34 Change Q46 to SB934090000 for Fan can't meet Max. speed issue.

Rev 1.0 LA-3631P Implement items:

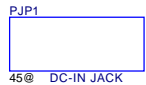
01. P22 Reserve C737, C738 for EMI solution
02. P6 Reserve R490 for PROCHOT funcation
03. P11 Add R488, R489 for LCD flash when boot issue

Rev 1A LA-3631P Implement items:

01. P22 Add R196 and C320 in BOM as EMI requirment.
02. P17 Add U35 and C740, reserve R1178 for LAN Leakage problem
03. P19 Change C647 to 22u for sequence and L59 to DCR is 0.40hm to meet AMD requirement.
04. P20 Change R431 and R430 to 24K; R1176 and R1177 to 19.2K, follow ATI ER.
05. P13 Change R369 from 330hm to 90Ohm Bead.
06. P30 ENE's recommend, change back C541 and C542 from 27P to 15P.
07. P06 Reserve pull up resistor R490 for H_PROCHOT#
08. P24/P29 Swap USB2+/- and USB8+/- for CAMERA problem.
09. P14/P20 Change D10 and D29 part to meet HDMI and CRT power requirment.
10. P20 Update HDMI Hot Plug DET circuit, to add U34, C739.

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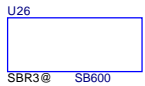
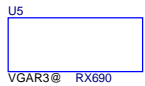
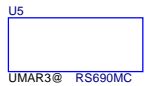
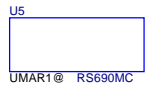
45@ Part



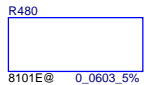
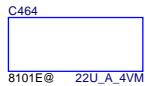
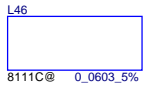
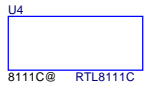
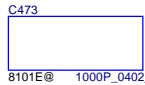
PCB



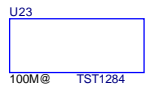
CHIPSET(R1)



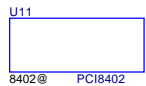
LAN



TRANSFORMER



Card BUS



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