

**Platform : AMD Bbazos (Champlain APU+ hudson)**

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| 44.         | +1.1VA(OZ8116)/+0.75VS/+1.8V  |       |               |
| 44.         | +CPU-VDDR                     |       |               |

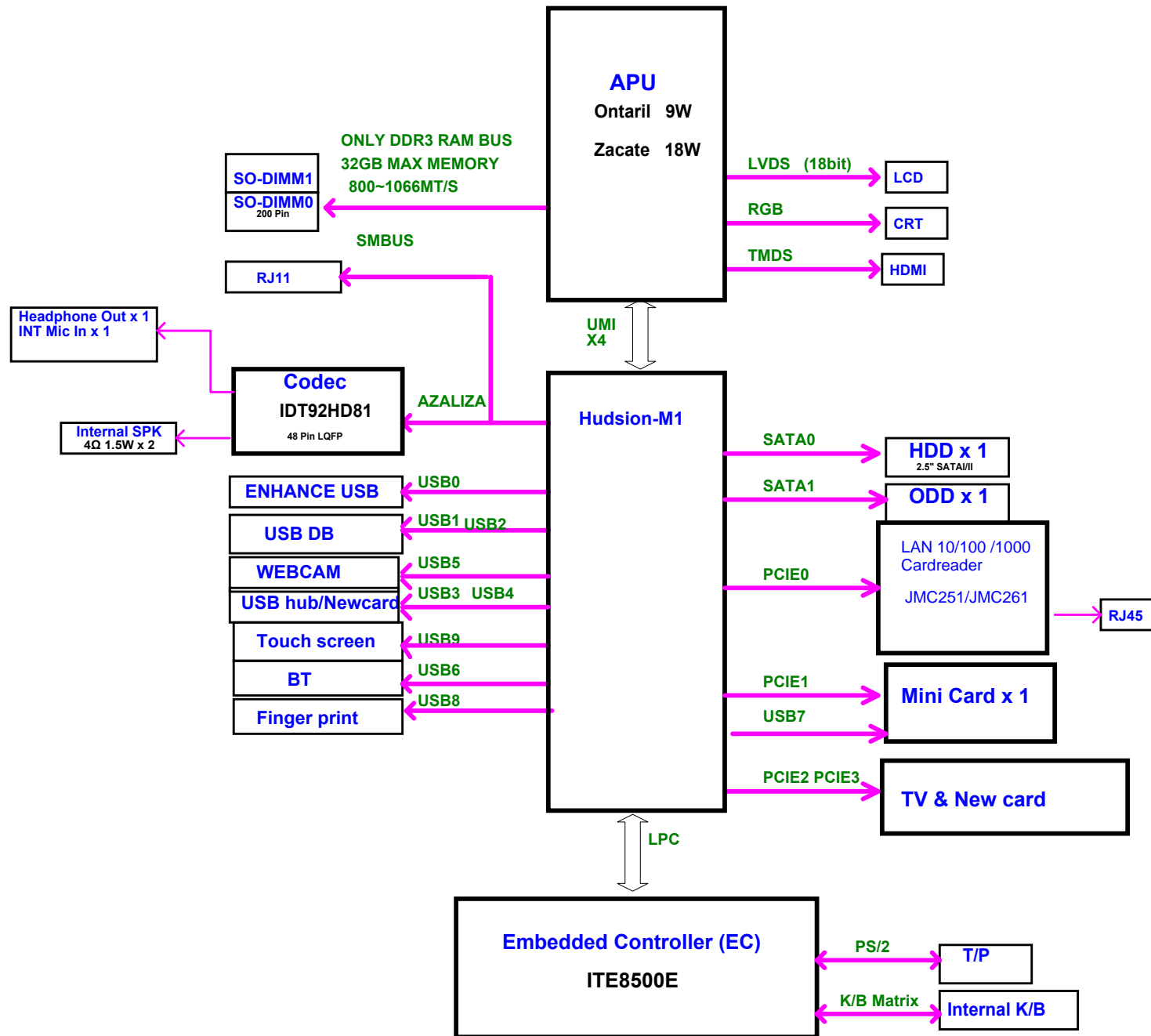
## M/B Schematic Version Change List

[illegible]

## Daughter Board Schematic Version Change List

[illegible]

# SYSTEM BLOCK DIAGRAM

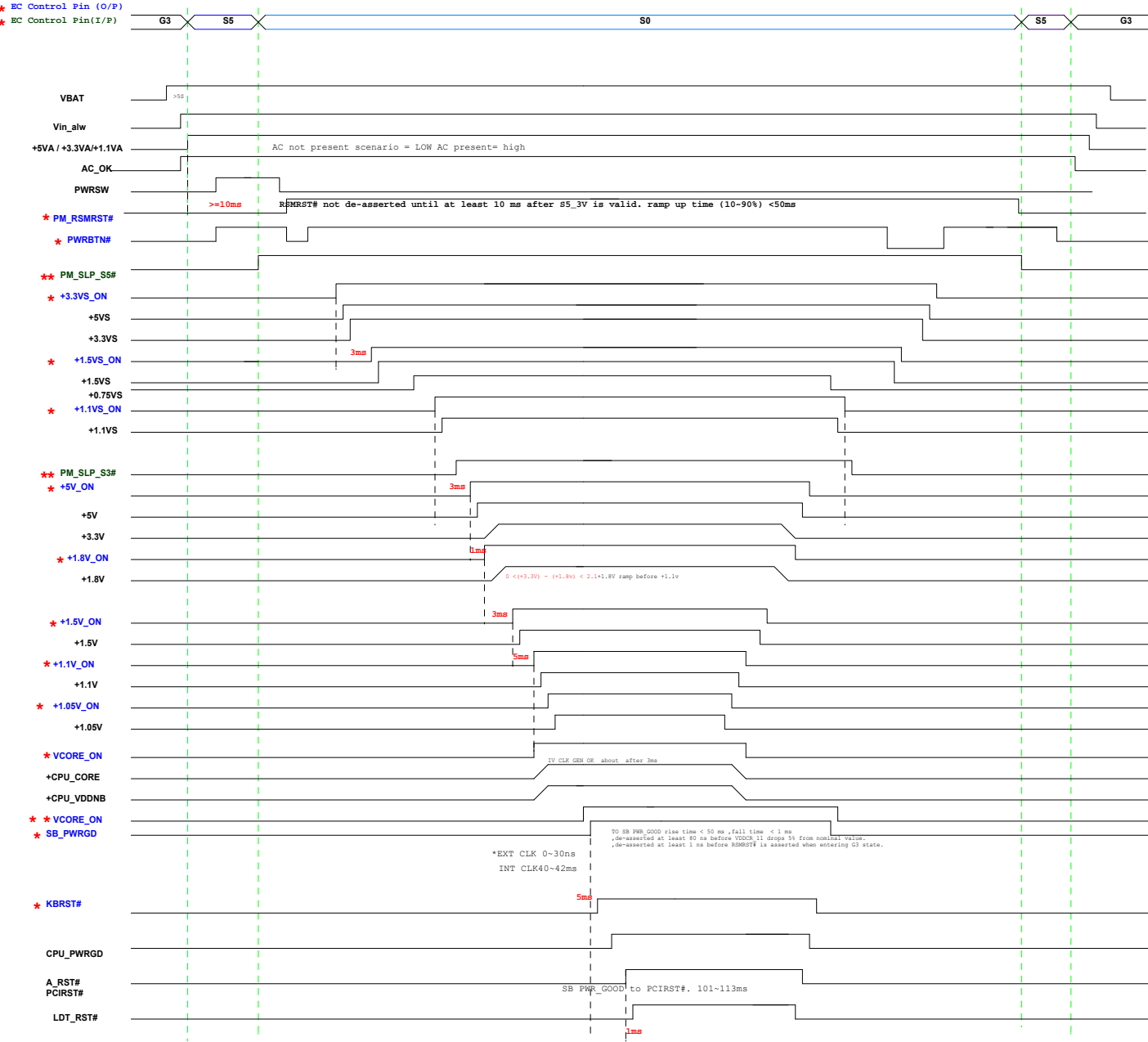


Power on Sequence required:

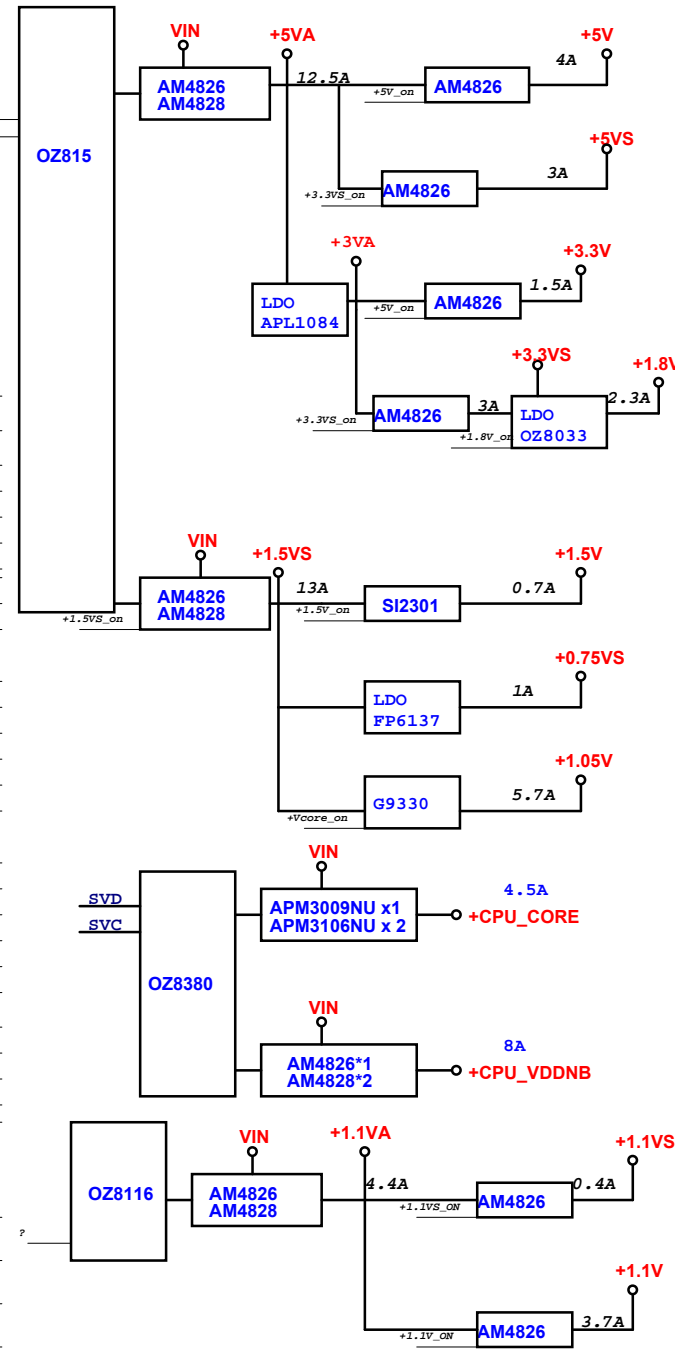
HUDSON-1M:  
1, +3.3VDUAL ramp before +1.1VDUAL  
2, +3.3V ramp before +1.8V  
3, +1.8V ramp before +1.1V  
4, +3.3V ramp before +1.1V  
CPU:1, GROUP A(VDDIO, VDDI8, VDDIO, VDD33)  
ramp before GROUP B(VDDCR, VDDNB)

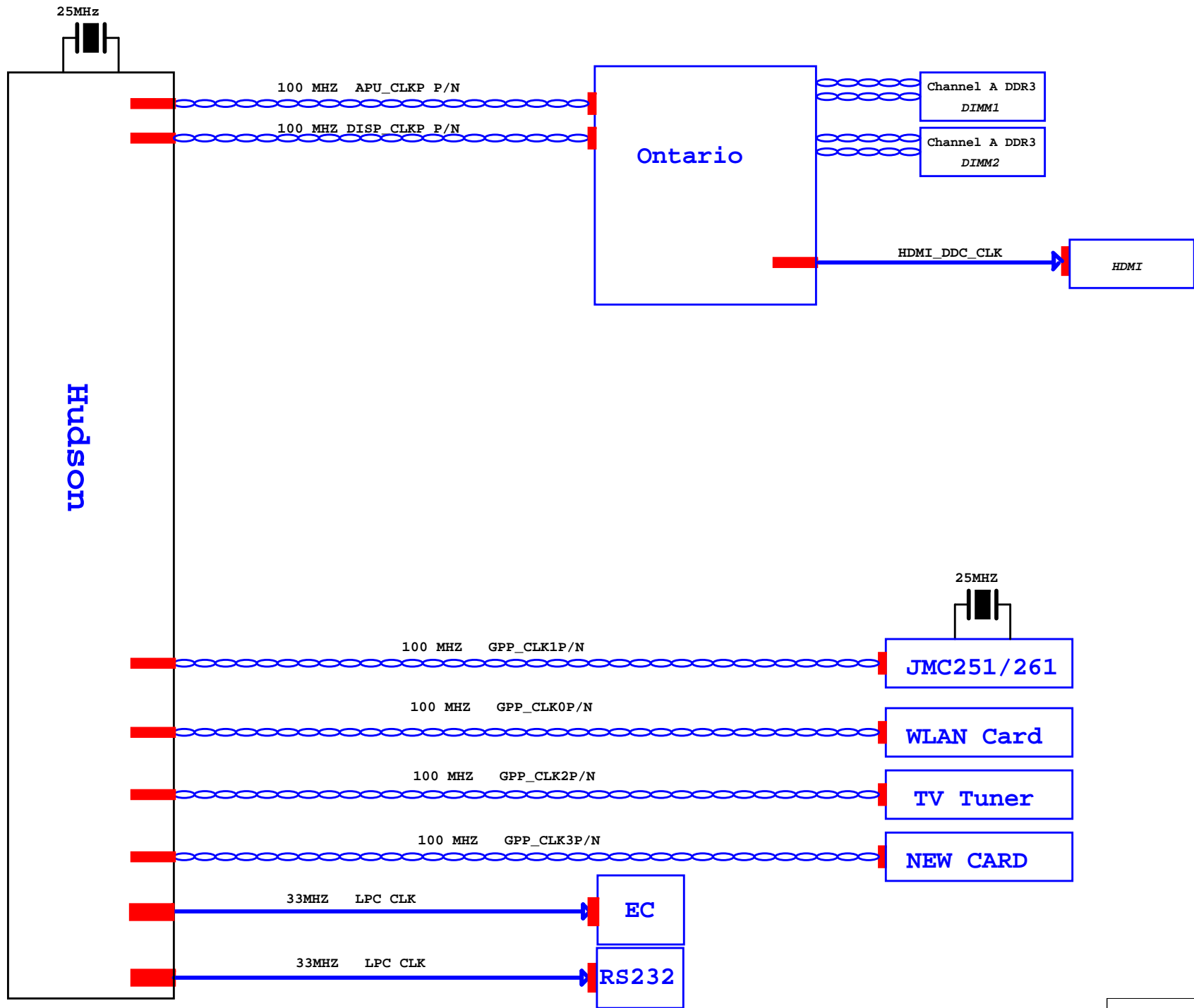
# System Power On Sequence

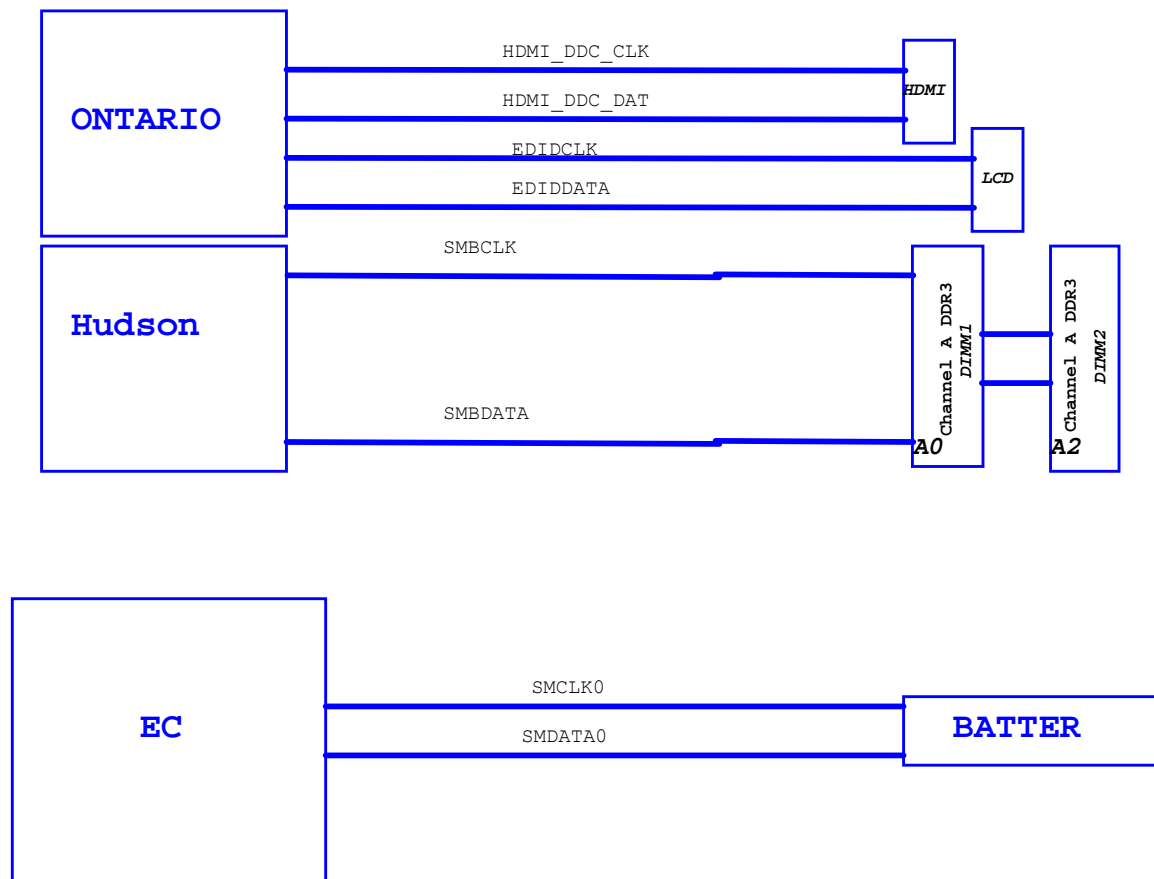
All Power Rails except +3.3VA --> 50  $\mu$ s < Power Rail Ramp time < 40 ms.  
+3.3VA --> 100  $\mu$ s < Power Rail Ramp time < 40 ms.

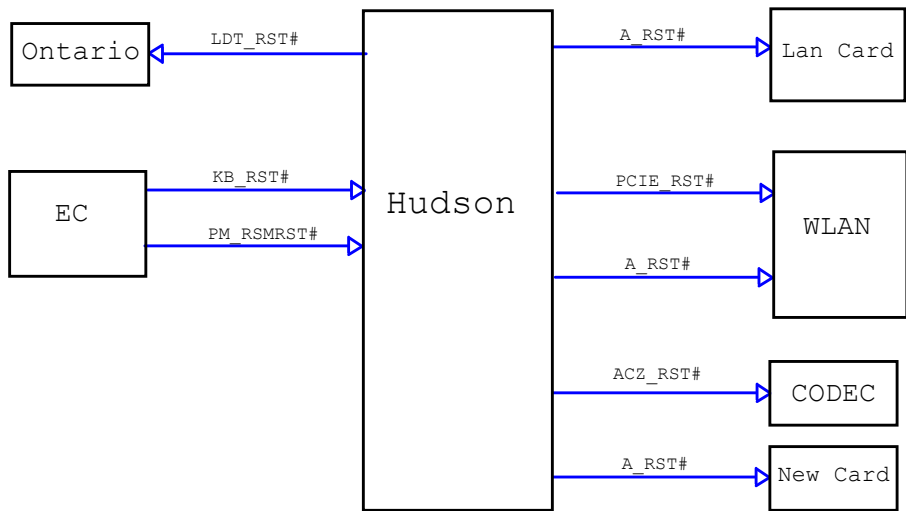


## POWER BLOCK DIAGRAM





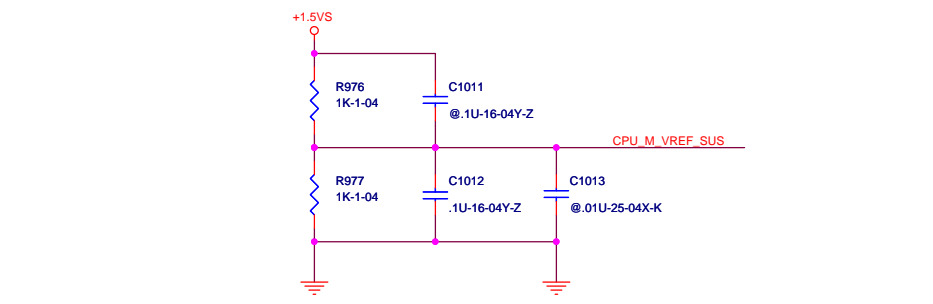
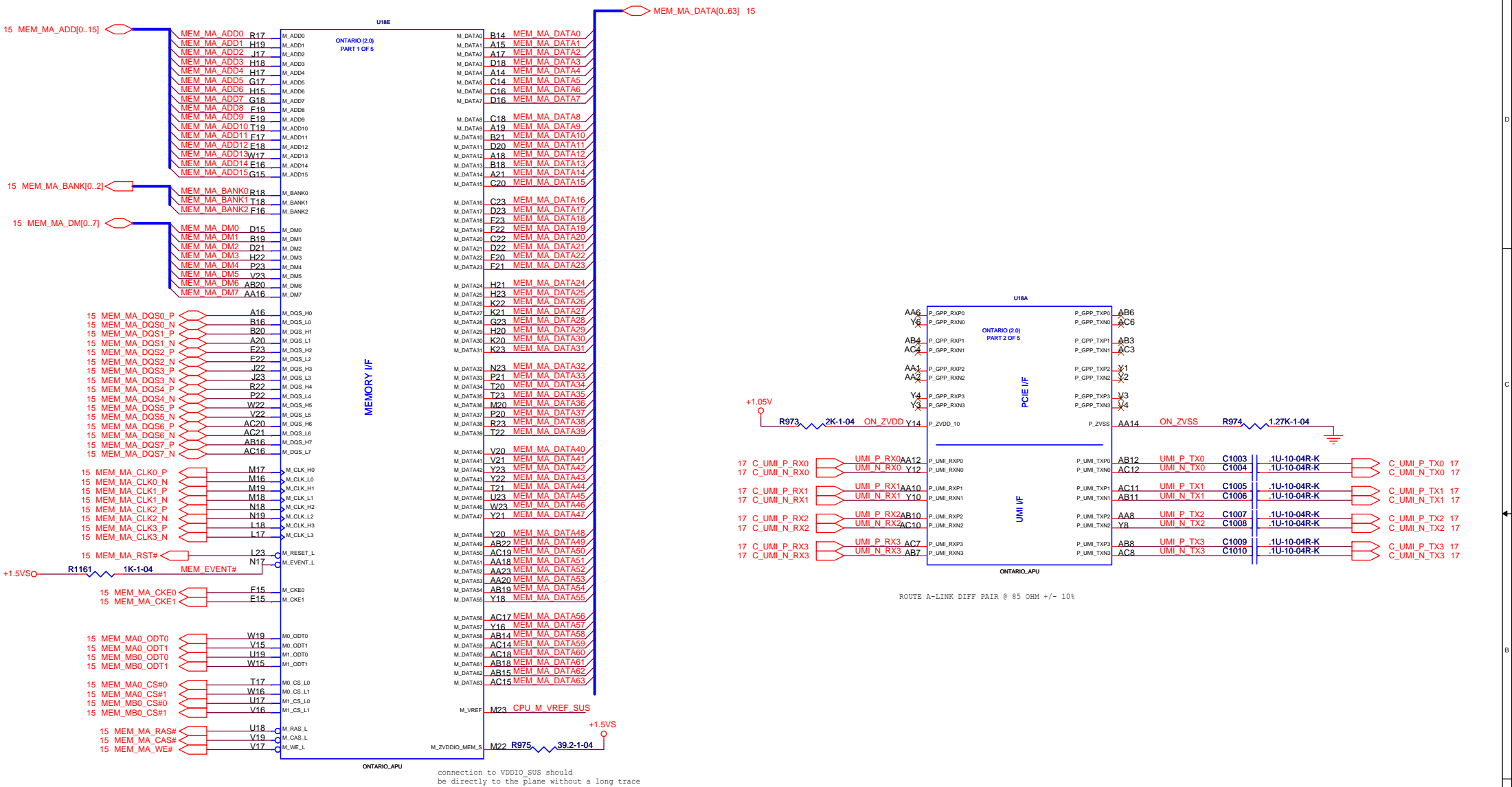




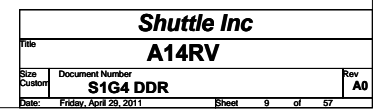
MB\_13

use internal clk gen

|             |                         |               |
|-------------|-------------------------|---------------|
| Shuttle Inc |                         |               |
| Title       |                         |               |
| A14RV       |                         |               |
| Size        | Document Number         | Rev           |
| Custom      | CLOCK GEN (ICS9LRS365B) | A0            |
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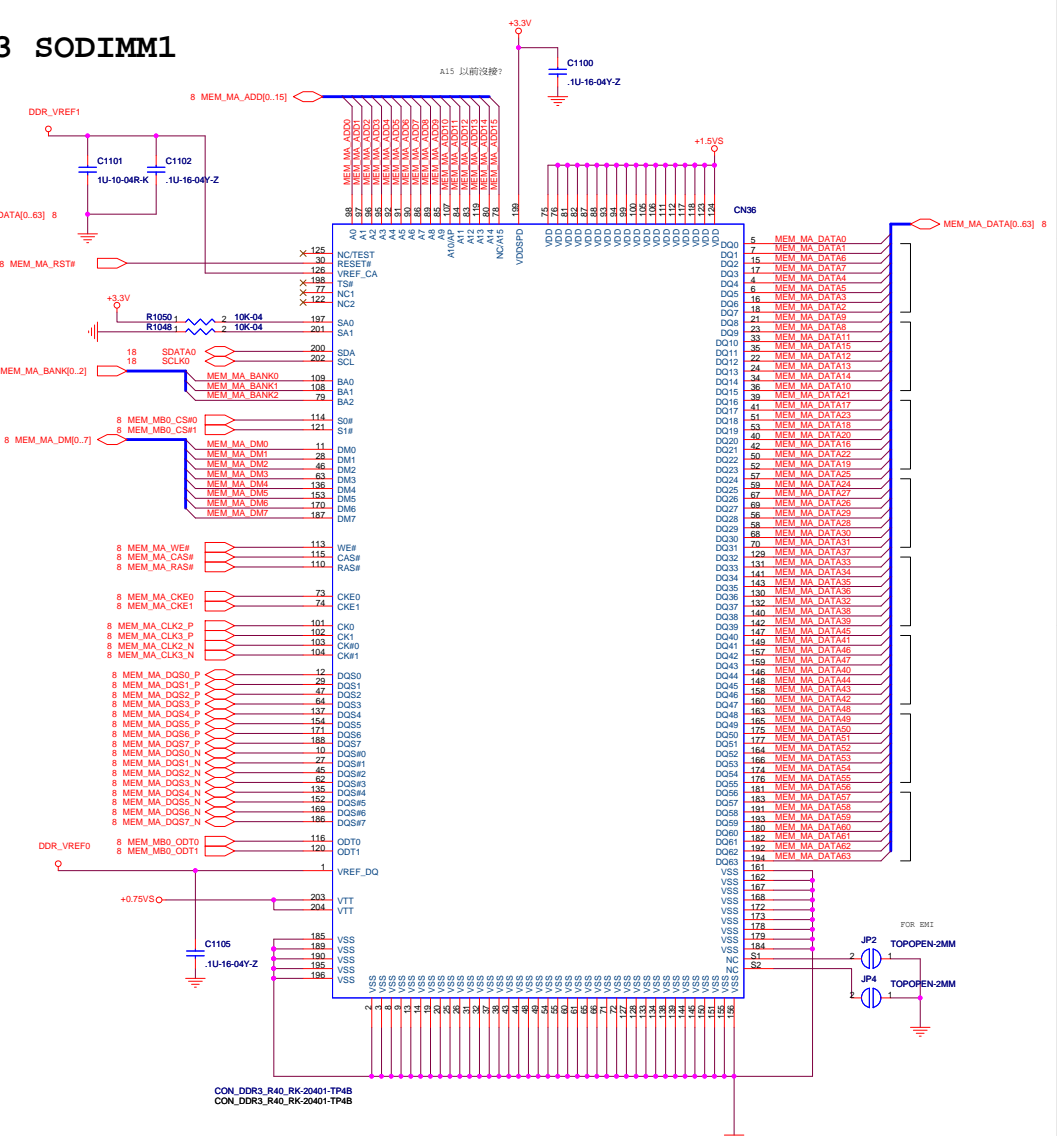
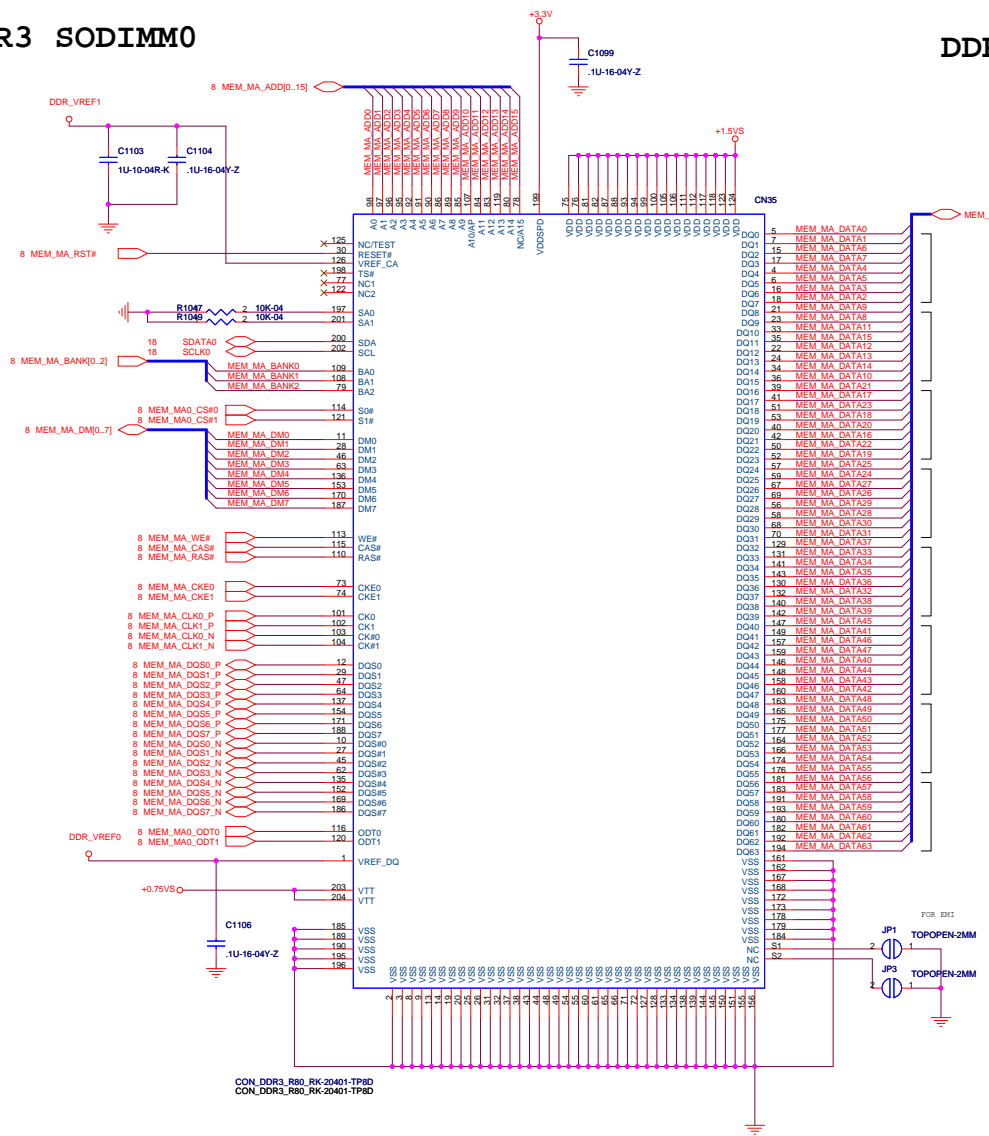






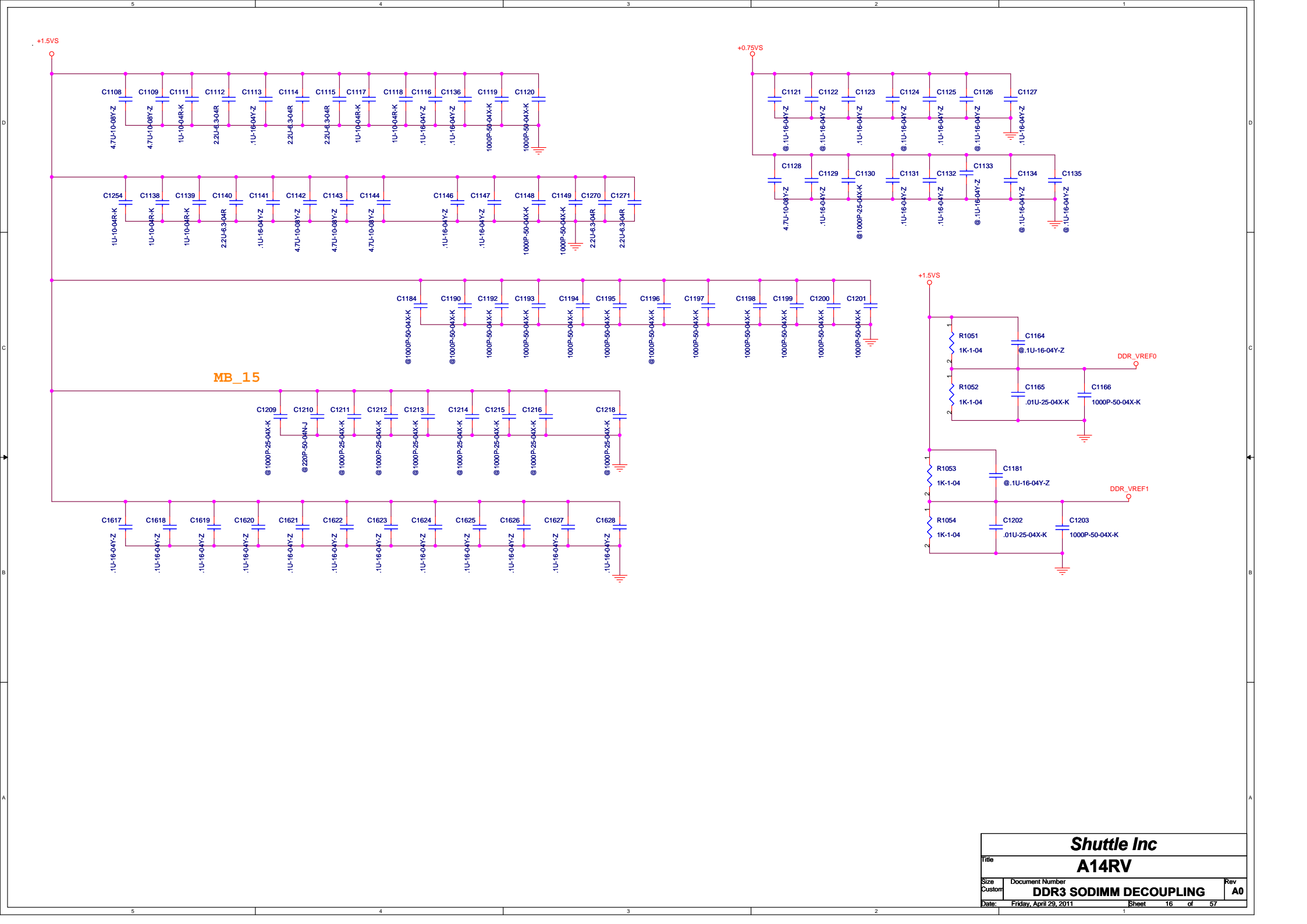
DDR3 SODIMM0

DDR3 SODIMM1

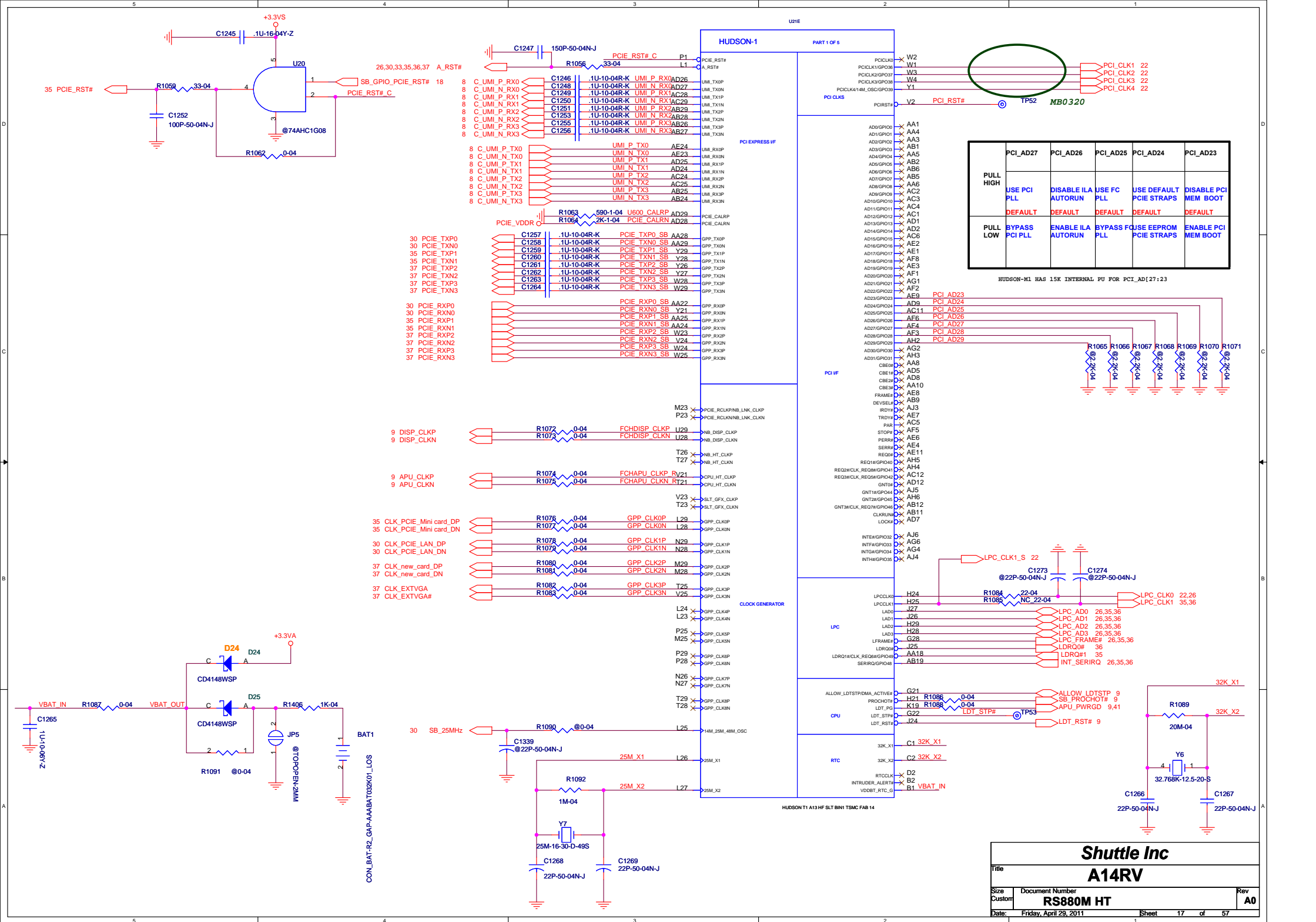


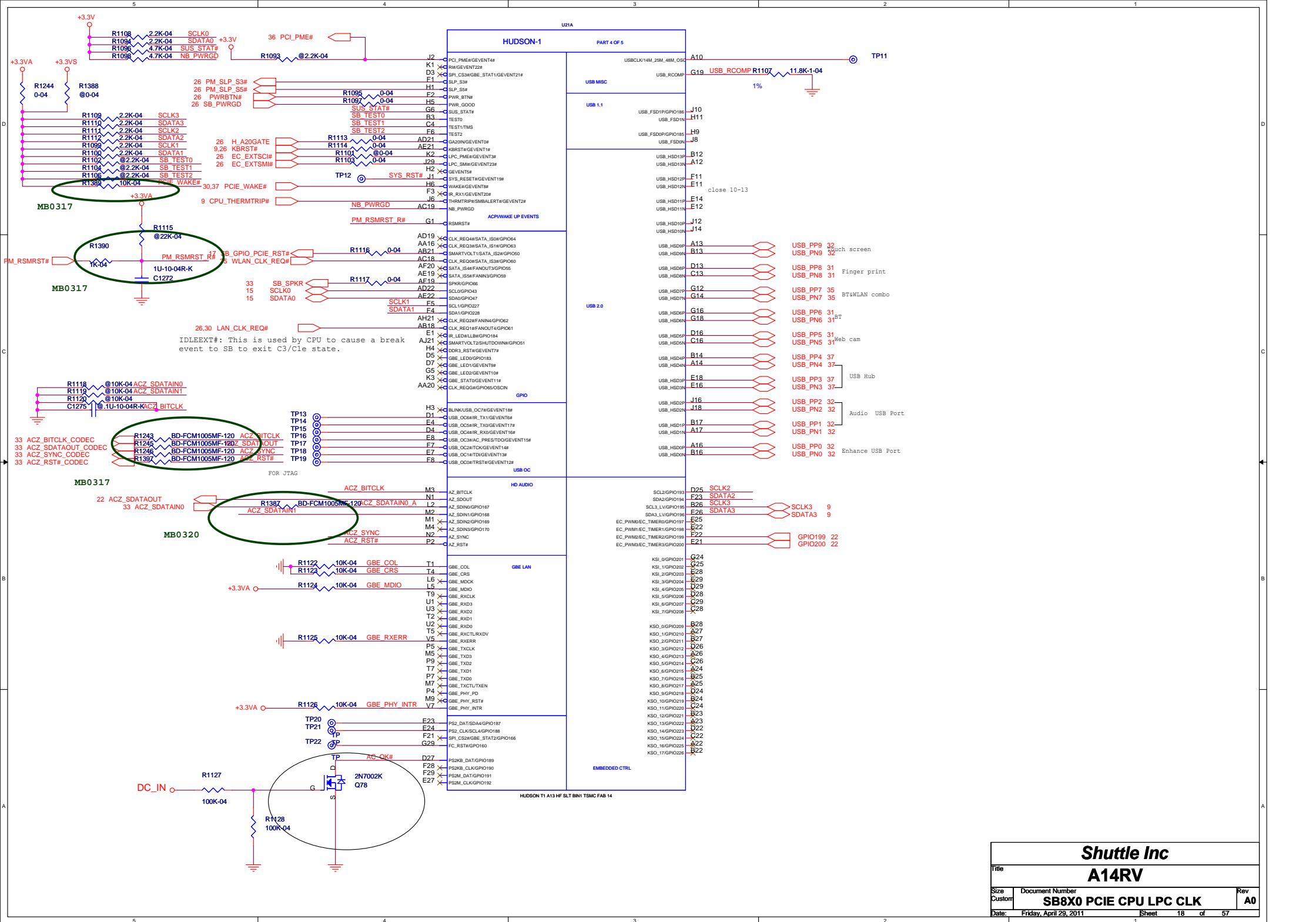
|         |             |     |       |
|---------|-------------|-----|-------|
| SODIMM  | SMB address | SA1 | SA0   |
| SODIMM0 | A0          | GND | GND   |
| SODIMM1 | A2          | GND | +3.3V |

populate SODIMM0 first







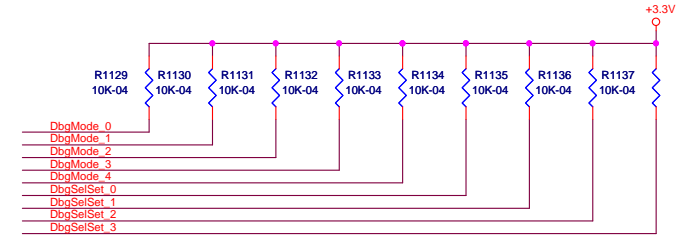
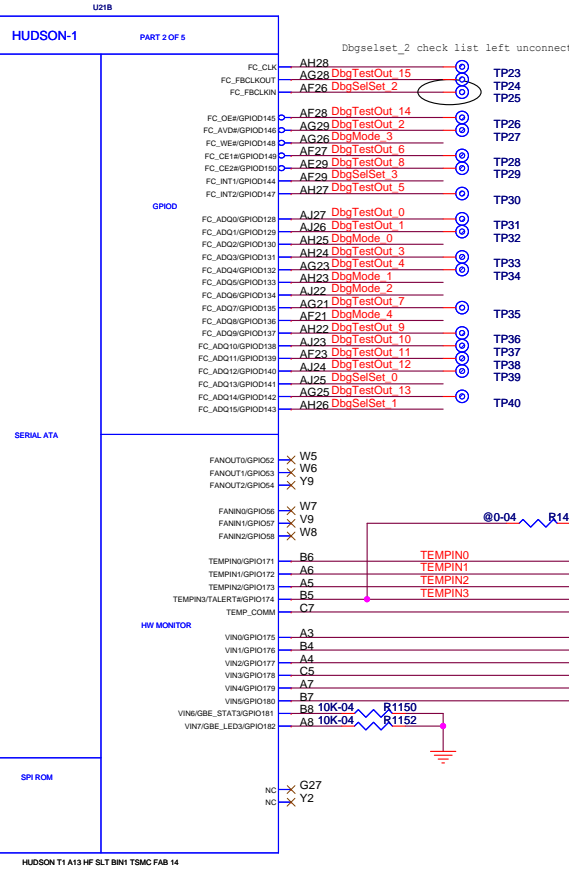
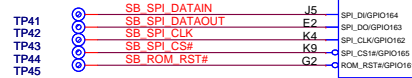
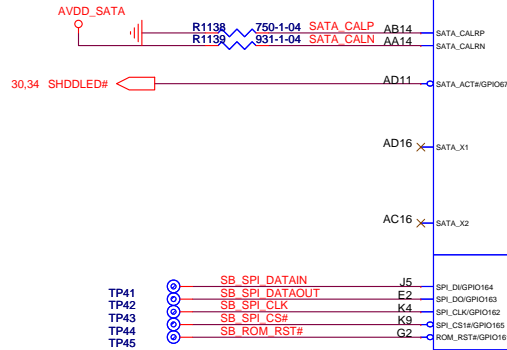




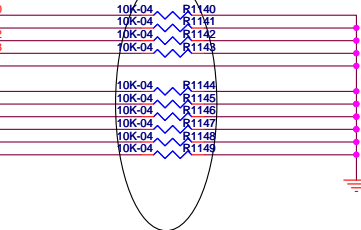
SATA trace should use only 1via on the trace. customers can use 2vias with GND via within 150mils of signal via as long as they can ensure that their platform meets SATA logo requirements. Return loss is expected to get affected with 2 vias. AMD platforms are validated with one via only

29 SATA\_TXP0\_C  
29 SATA\_TXN0\_C  
29 SATA\_RXN0\_C  
29 SATA\_RXP0\_C  
29 SATA\_TXP1\_C  
29 SATA\_TXN1\_C  
29 SATA\_RXN1\_C  
29 SATA\_RXP1\_C

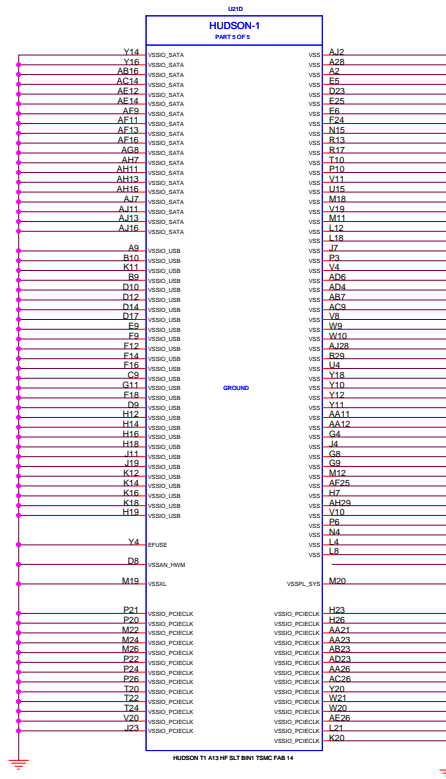
SATA PORTS DISTRIBUTION:  
0, - 2.5 INCH DISK DRIVER  
1, SATA ODD  
2, - 2.5 INCH DISK DRIVER  
3, eSATA  
4 & 5, NOT USED

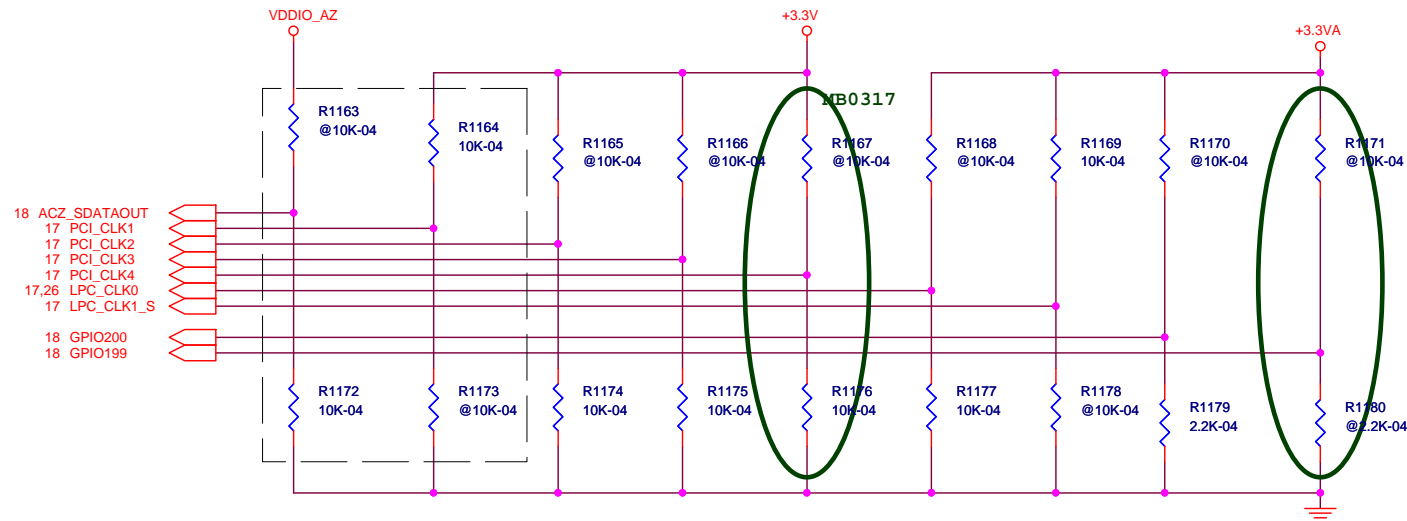


@0-04 R1400 APU\_ALERT# 9









# REQUIRED STRAPS

|           | AZ_SDOUT                    | PCI_CLK1                   | PCI_CLK2                           | PCI_CLK3                      | PCI_CLK4                     | LPC_CLK0               | LPC_CLK1                  | GPIO200                                  | GPIO199 |
|-----------|-----------------------------|----------------------------|------------------------------------|-------------------------------|------------------------------|------------------------|---------------------------|--|---------|
| PULL HIGH | LOW POWER MODE              | ALLOW PCIE Gen2<br>DEFAULT | Watchdog Timer Enabled             | USE DEBUG STRAP               | non_Fusion CLOCK MODE        | EC ENABLED             | CLKGEN ENABLED<br>DEFAULT | H,H = Reserved<br>H,L = SPI ROM          |         |
| PULL LOW  | PERFORMANCE MODE<br>DEFAULT | FORCE PCIE Gen1            | Watchdog Timer Disabled<br>DEFAULT | IGNORE DEBUG STRAP<br>DEFAULT | FUSION CLOCK MODE<br>DEFAULT | EC DISABLED<br>DEFAULT | CLKGEN DISABLED           | L,H = LPC ROM (Default)<br>L,L = FWH ROM |         |

for int clk only

check list write  
 LL FWH  
 LX LPC  
 XL SPI  
 XX RSVD  
 (do'nt need pull HI)  
 FWH are connect vis SIO

|             |                        |                |
|-------------|------------------------|----------------|
| Shuttle Inc |                        |                |
| Title       |                        |                |
| A14RV       |                        |                |
| Size Custom | Document Number        | Rev            |
|             | SB8X0 STRAPS           | A0             |
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|                |                          |       |           |
|----------------|--------------------------|-------|-----------|
|                |                          |       |           |
| Title<br>A14RV |                          |       |           |
| Size<br>A      | Document Number<br><Doc> |       | Rev<br>A0 |
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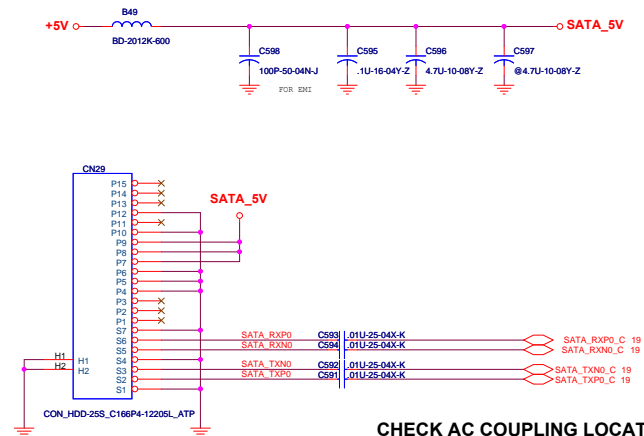


|         |                        |       |          |
|---------|------------------------|-------|----------|
| SHUTTLE |                        |       |          |
| Title   |                        |       |          |
| A14RV   |                        |       |          |
| Size    | Document Number        |       | Rev      |
|         | SCHEMATIC1             |       | A0       |
| Date:   | Friday, April 29, 2011 | Sheet | 26 of 57 |



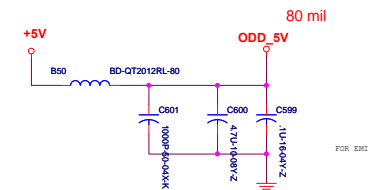
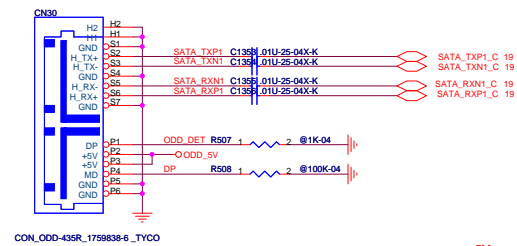


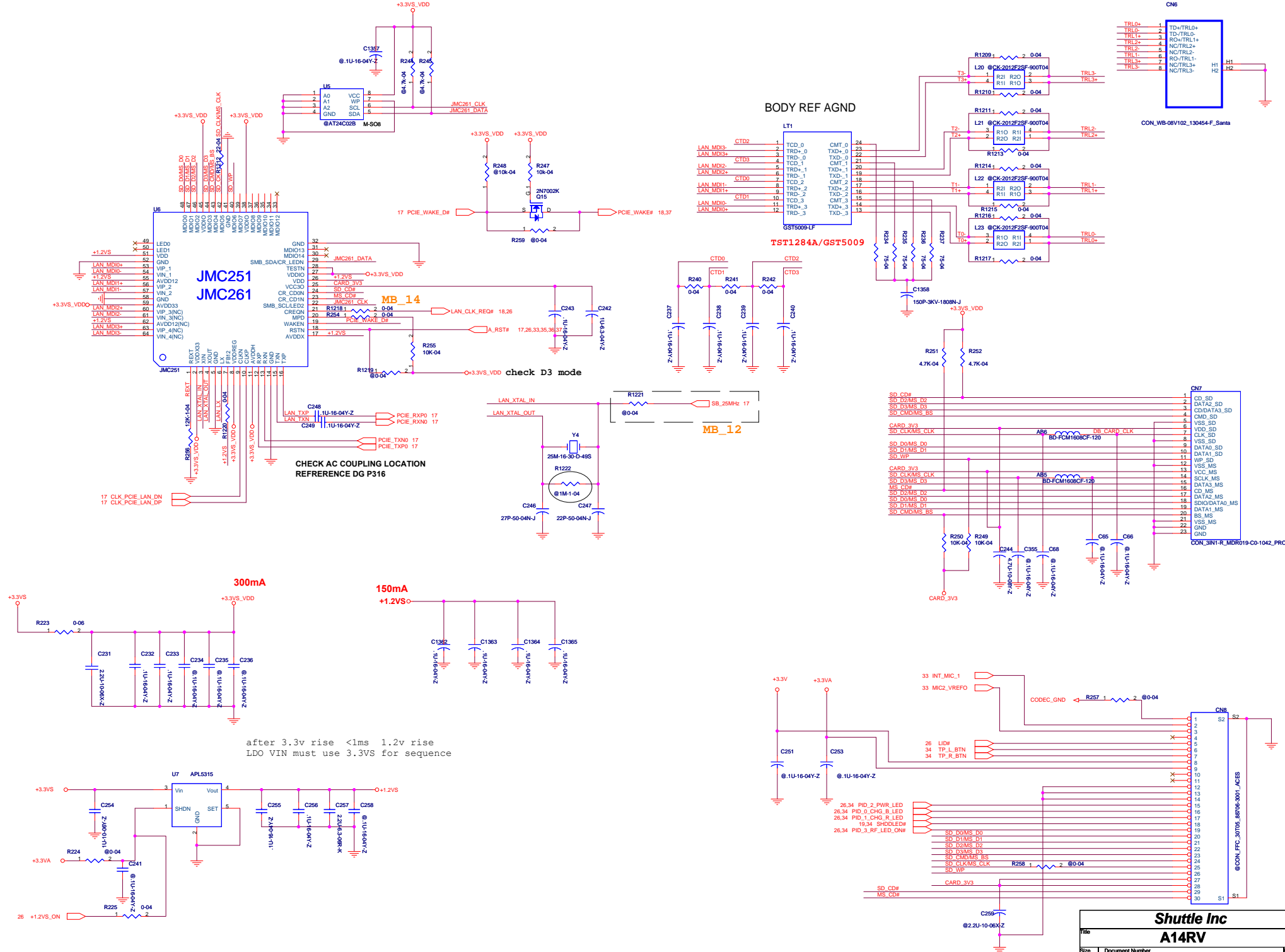
## SATA-HDD 1A



**CHECK AC COUPLING LOCATION  
REFERENCE DG P316**

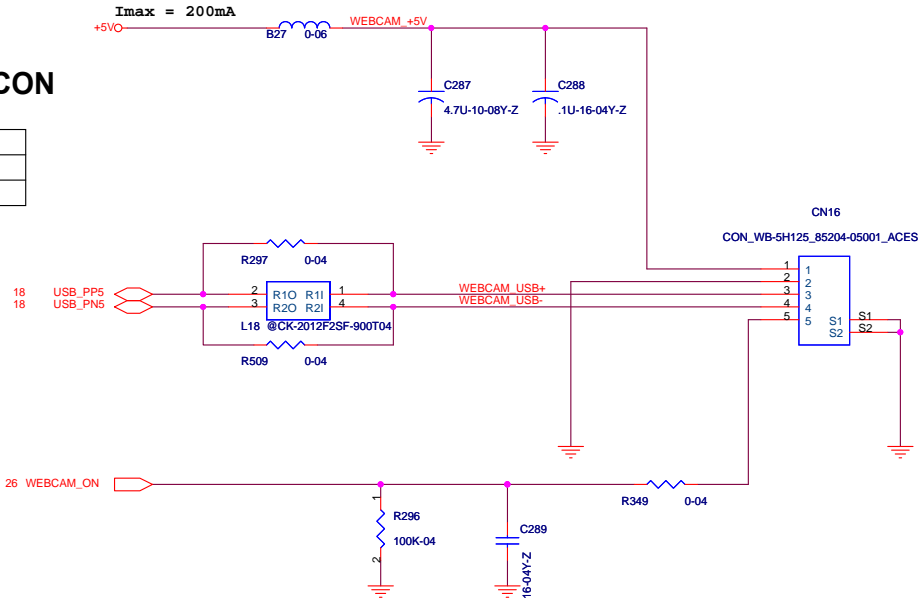
## CD-ROM



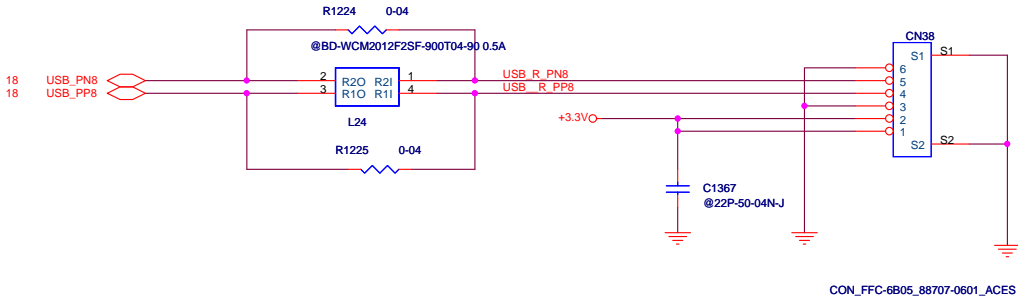


WEBCAM CON

| WEBCAM_ON |     |
|-----------|-----|
| 1         | ON  |
| 0         | OFF |



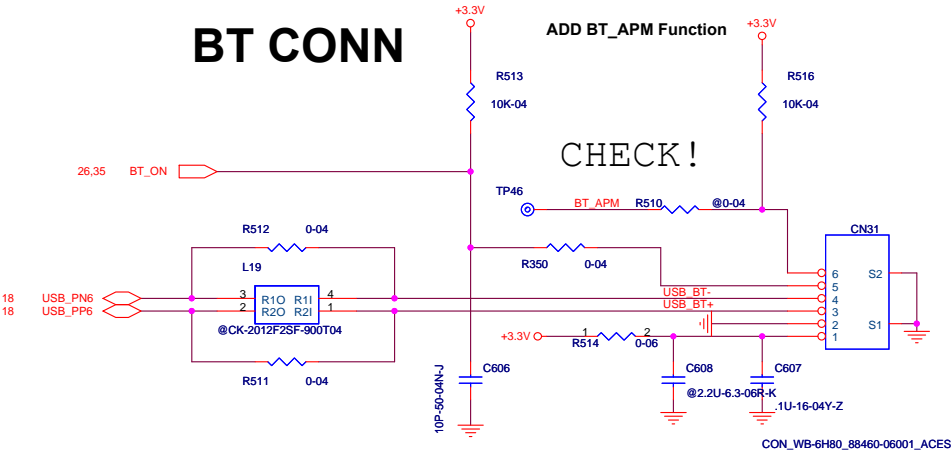
Finger print



BT CONN

ADD BT\_APM Function

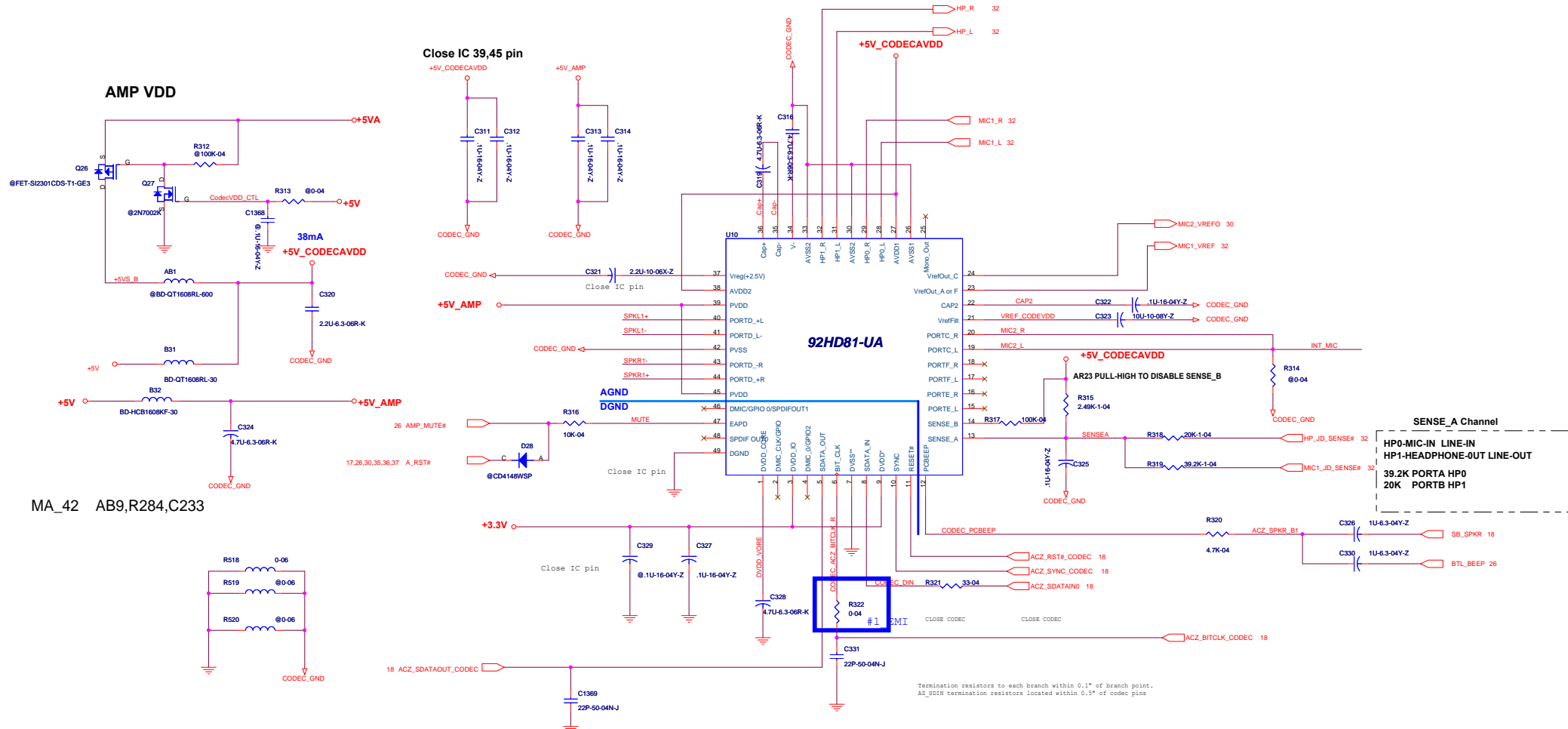
CHECK!



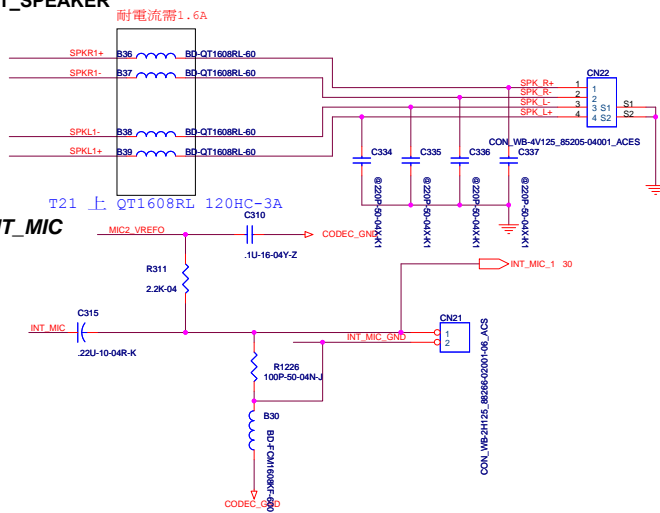
|             |                        |                |
|-------------|------------------------|----------------|
| Title       |                        |                |
| A14RV       |                        |                |
| Size        | Document Number        | Rev            |
| Custom<Doc> |                        | A0             |
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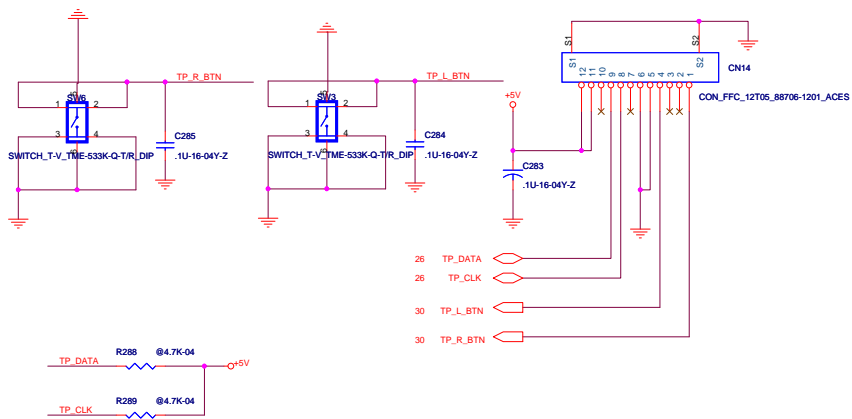


**CODEC 92HD81**

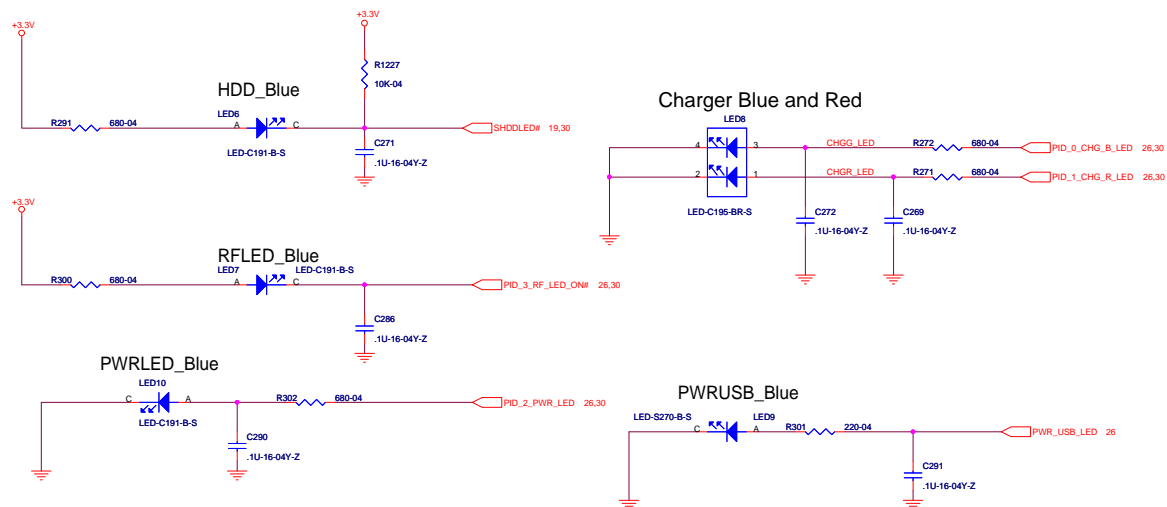
## INT\_SPEAKER



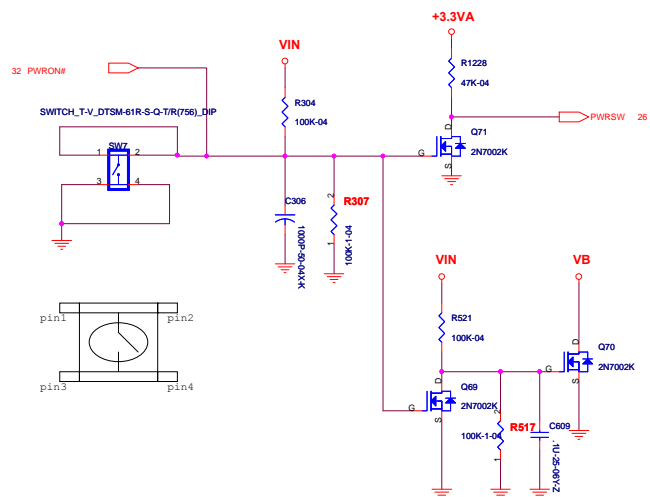
## Touch Pad



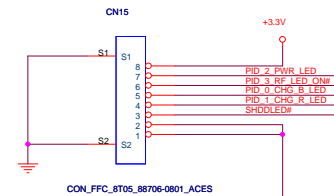
## LED



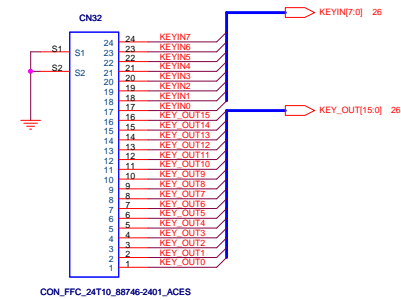
## PWR SW



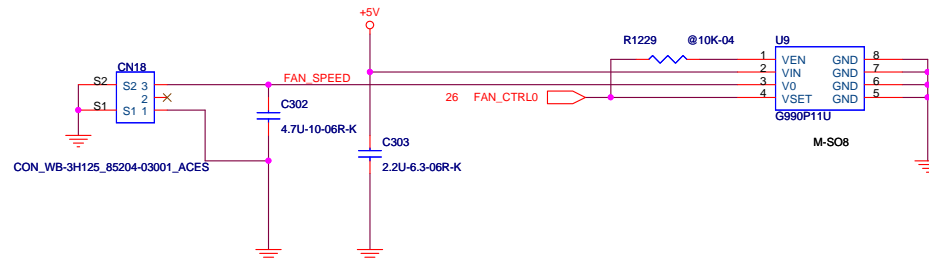
## LED BD



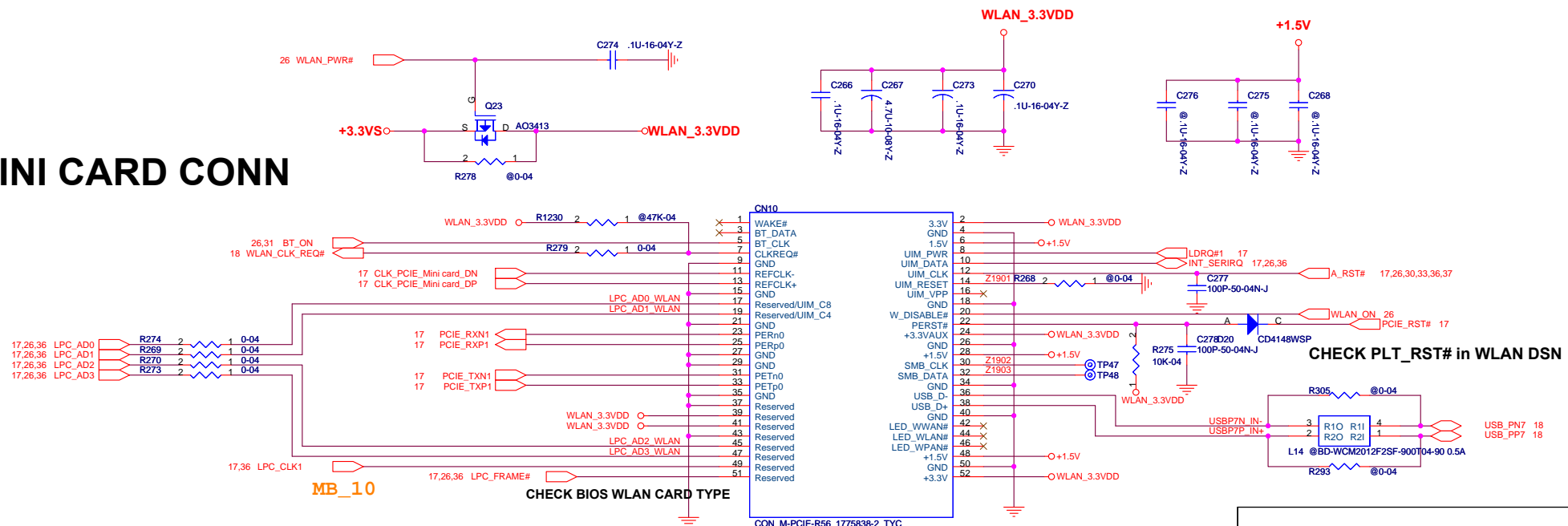
## KEYBOARD Conn



# FAN CONTROLLER

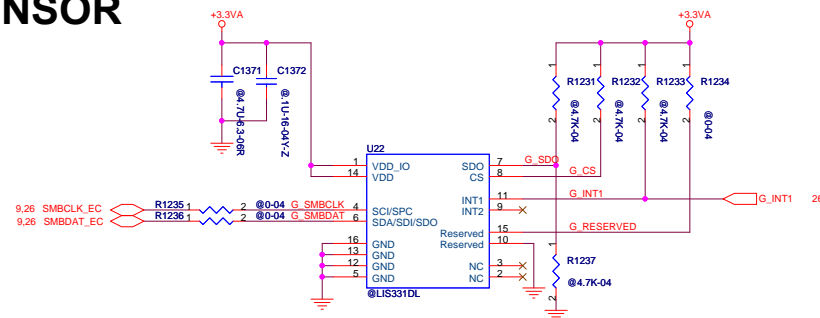


# MINI CARD CONN

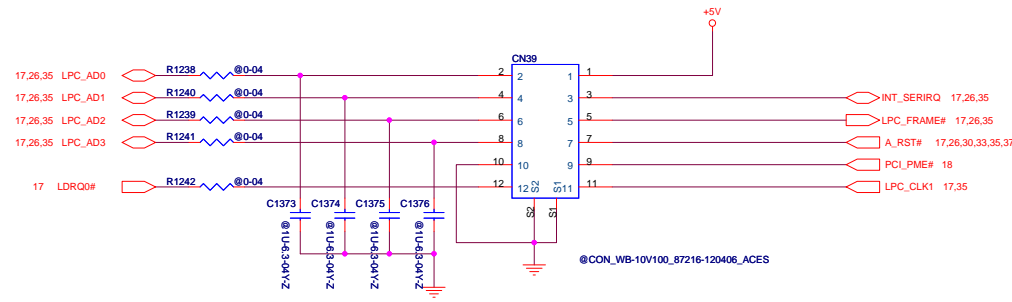


|             |                        |       |          |
|-------------|------------------------|-------|----------|
| Title       |                        |       | A14RV    |
| Size        | Document Number        | Rev   |          |
| Custom<Doc> |                        | A0    |          |
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G-SENSOR



RS232



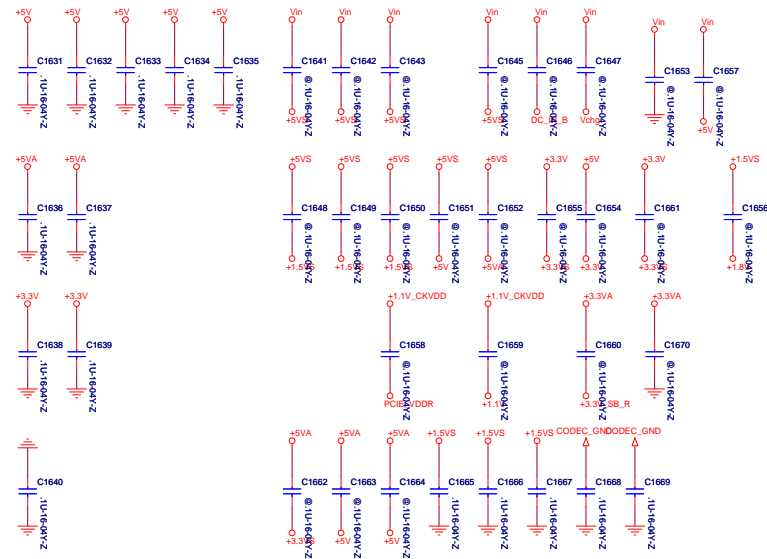
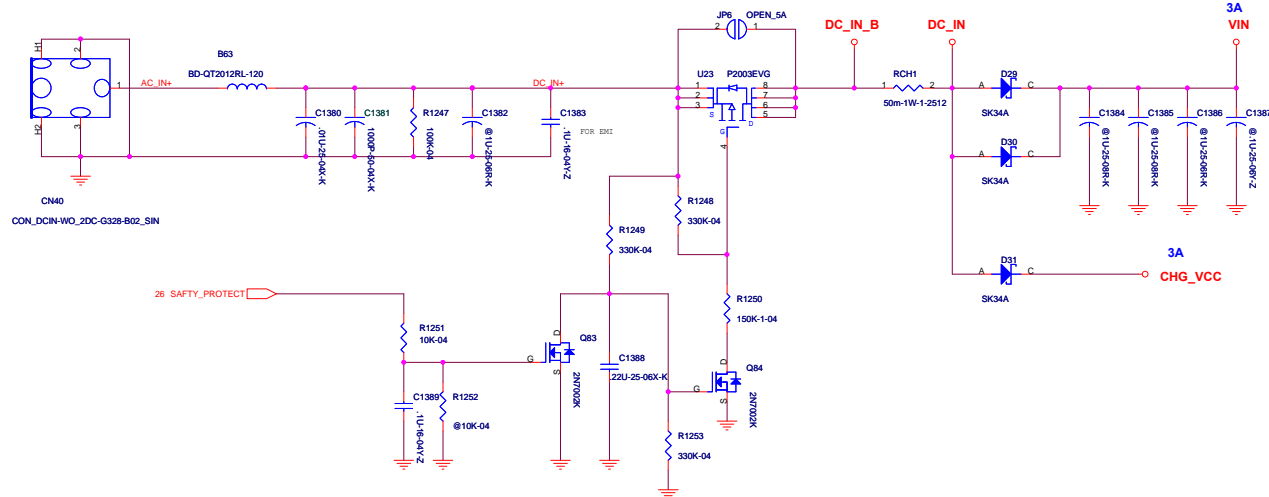
|        |                        |       |          |
|--------|------------------------|-------|----------|
| Title  |                        |       |          |
| A14RV  |                        |       |          |
| Size   | Document Number        |       | Rev      |
| Custom | <Doc>                  |       | A0       |
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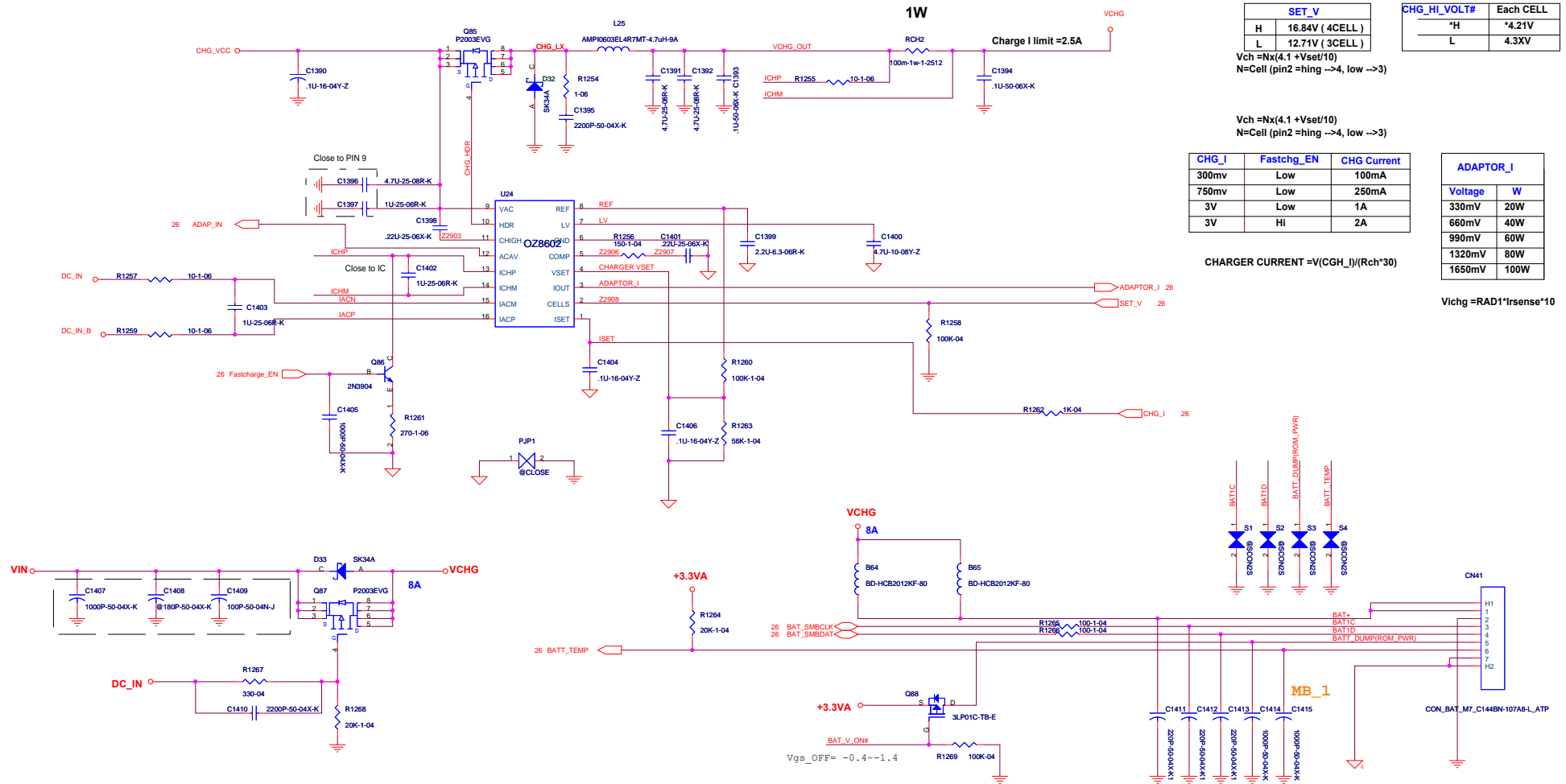


# DC IN

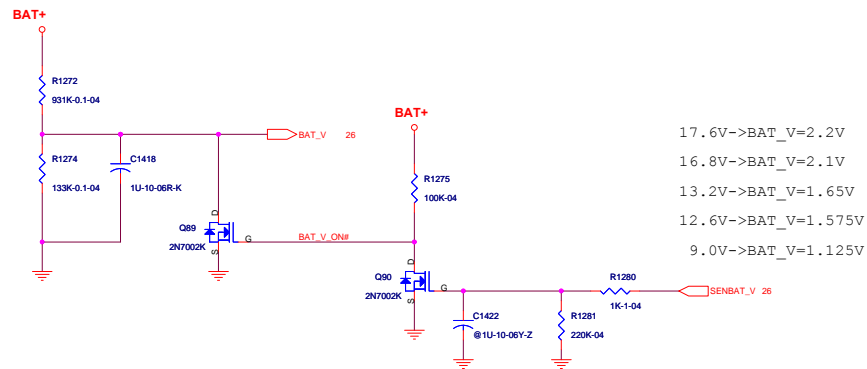
| PROJECT      | A14HM02 |         |         |         |
|--------------|---------|---------|---------|---------|
| Adaptor      | 65W     | 90W     | 120W    | 40W     |
| Rsense       | 33m Ohm | 25m Ohm | 18m Ohm | 50m Ohm |
| Stop Charger | 60W     | 80W     | 110W    | 40W     |



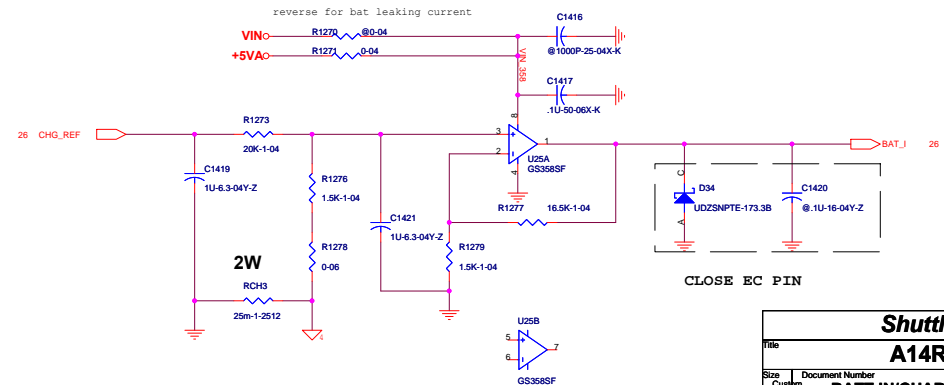
## CHARGER



### Battery Voltage Detect



### Charge / Discharge Detect





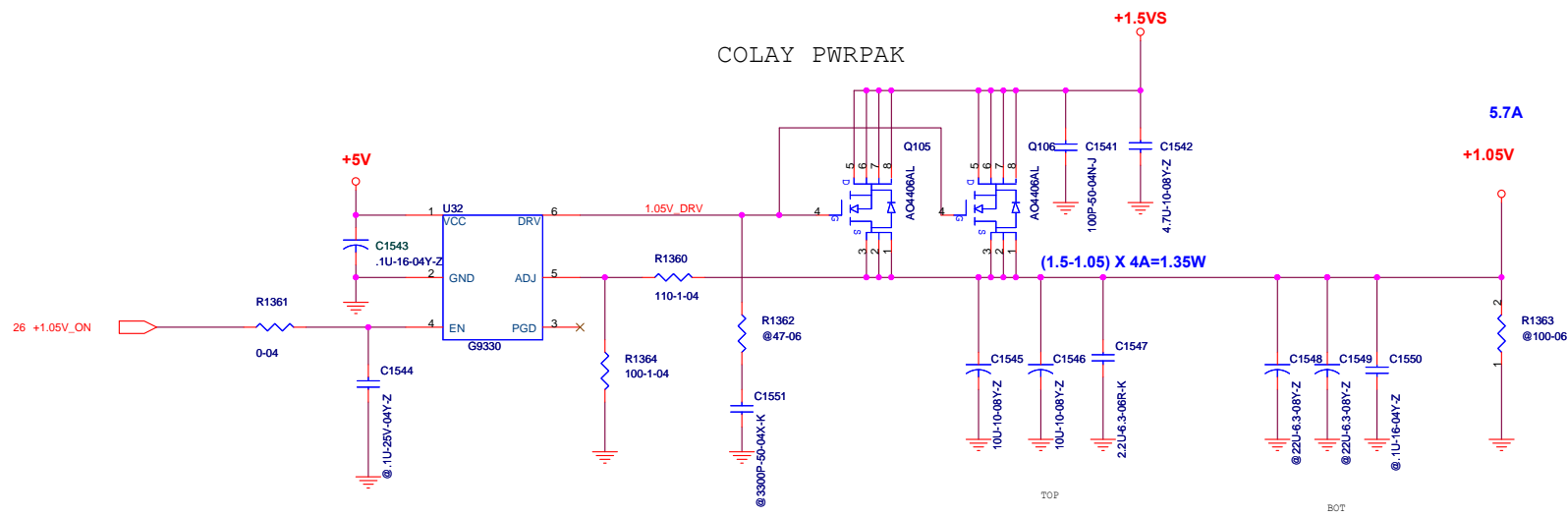


|                              |                 |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |   |  |   |  |  |  |  |       |  |  |  |  |  |  |       |  |  |  |  |  |  |      |                 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |   |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|-----------------|--|--|--|---|--|--|--|--|---|--|--|--|--|---|--|--|---|--|---|--|--|--|--|-------|--|--|--|--|--|--|-------|--|--|--|--|--|--|------|-----------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-----|--|--|--|--|--|---|-------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----|--|--|--|--|--|------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----------------|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 5                            |                 |  |  |  | 4 |  |  |  |  | 3 |  |  |  |  | 2 |  |  |   |  | 1 |  |  |  |  |       |  |  |  |  |  |  |       |  |  |  |  |  |  |      |                 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |   |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |
| D                            |                 |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |   |  |   |  |  |  |  |       |  |  |  |  |  |  |       |  |  |  |  |  |  |      |                 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |   |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |
| C                            |                 |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |   |  |   |  |  |  |  |       |  |  |  |  |  |  |       |  |  |  |  |  |  |      |                 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |   |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |
| B                            |                 |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |   |  |   |  |  |  |  |       |  |  |  |  |  |  |       |  |  |  |  |  |  |      |                 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |   |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                              |                 |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  | <table><tr><td colspan="7">Title</td></tr><tr><td colspan="7">A14RV</td></tr><tr><td>Size</td><td colspan="17">Document Number</td><td>Rev</td><td colspan="5"></td></tr><tr><td>A</td><td colspan="17" rowspan="2">&lt;Doc&gt;</td><td>A0</td><td colspan="5" rowspan="2"></td></tr><tr><td colspan="18">Date: Friday, April 29, 2011</td><td colspan="7">Sheet 42 of 57</td></tr></table> |  |   |  |  |  |  | Title |  |  |  |  |  |  | A14RV |  |  |  |  |  |  | Size | Document Number |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Rev |  |  |  |  |  | A | <Doc> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | A0 |  |  |  |  |  | Date: Friday, April 29, 2011 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Sheet 42 of 57 |  |  |  |  |  |  |  |  |  |  |  |  |  |
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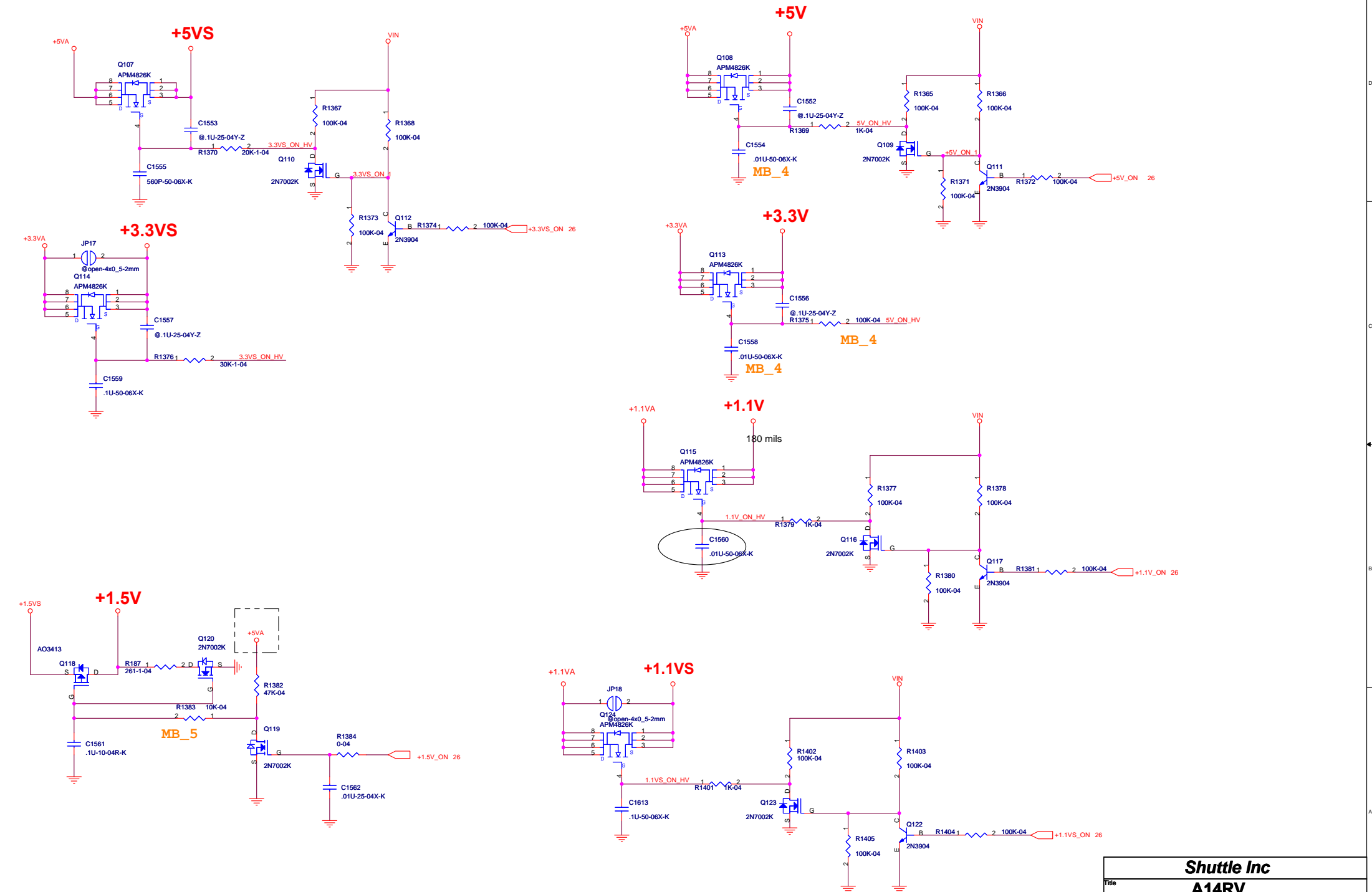


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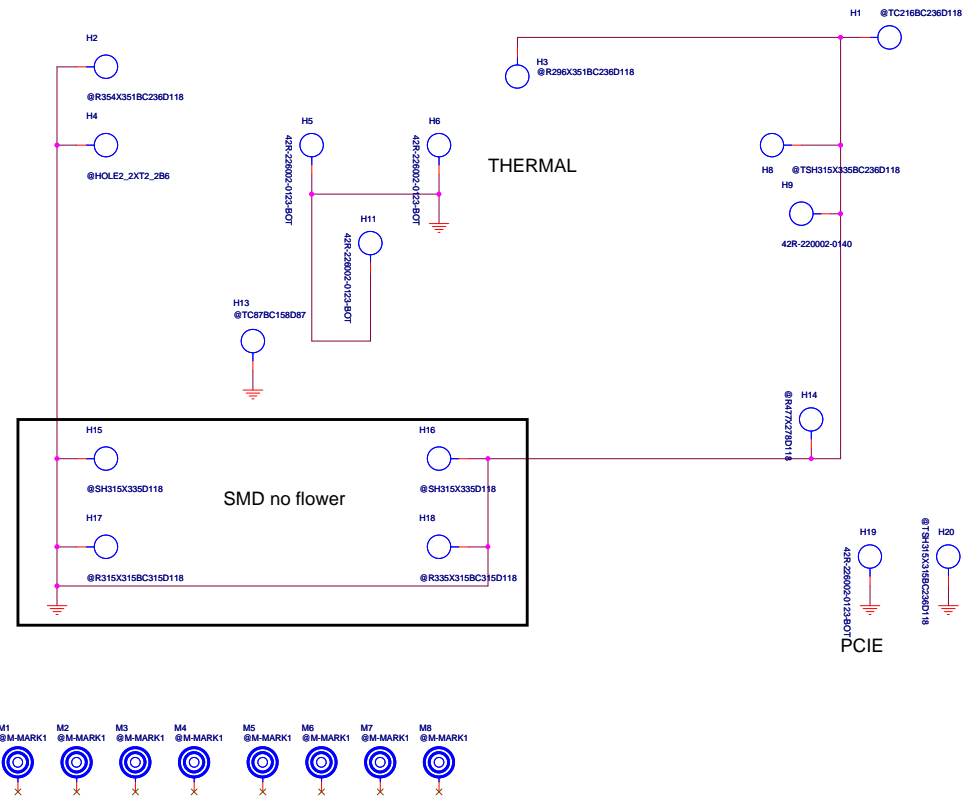


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