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| 27           | 1.8VA/1.35/VTT              |
| 28           | CHARGER(OZ8690)             |
| 29           | TP/LED                      |
| 30           | USB HUB/USB CONN            |
| 31           | HIGH-SPEED CAP              |

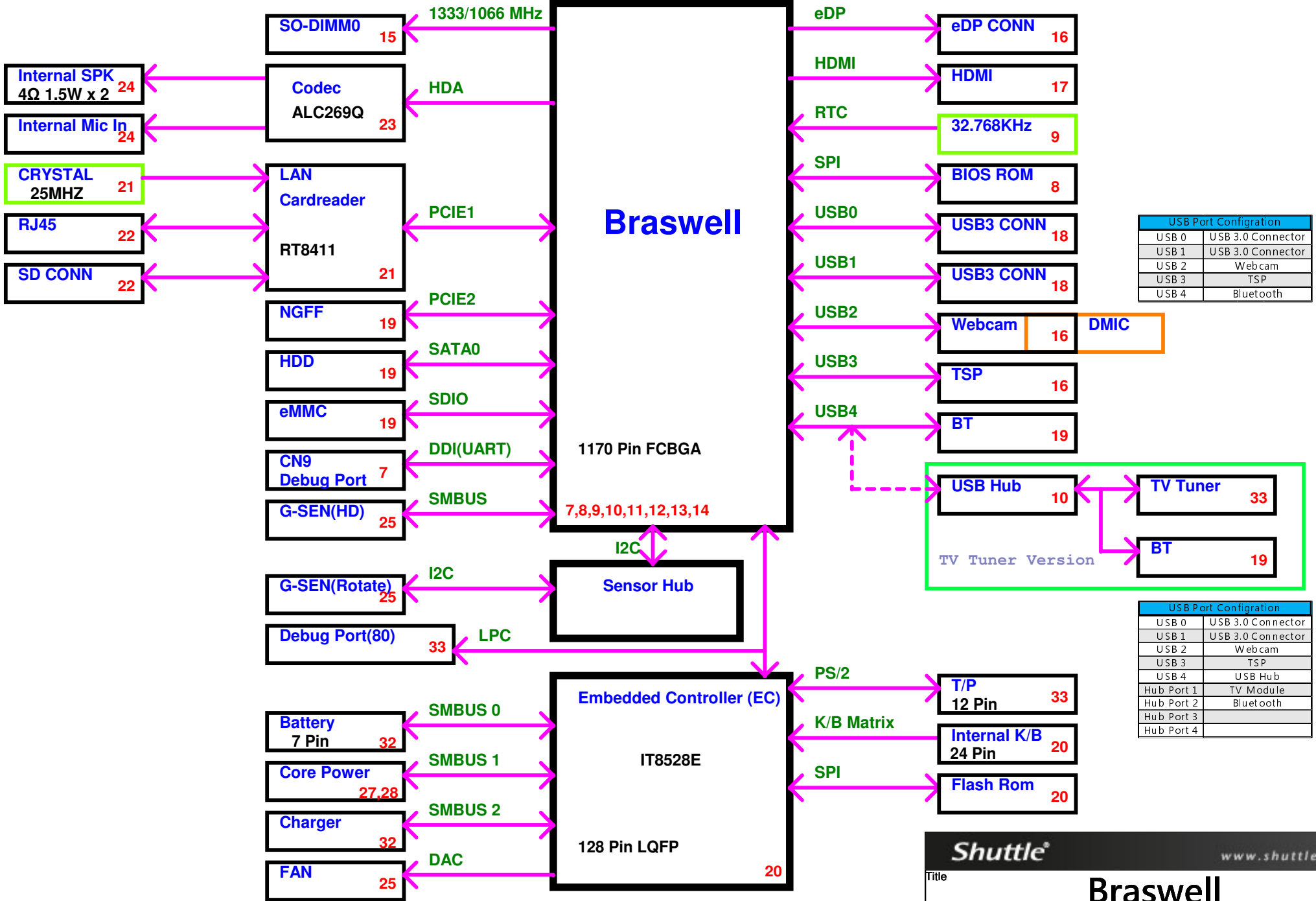
M/B Schematic Version Change List

| Release Date | Version | PCB P/N | PCB Description | PCBA P/N | Note |
|--------------|---------|---------|-----------------|----------|------|
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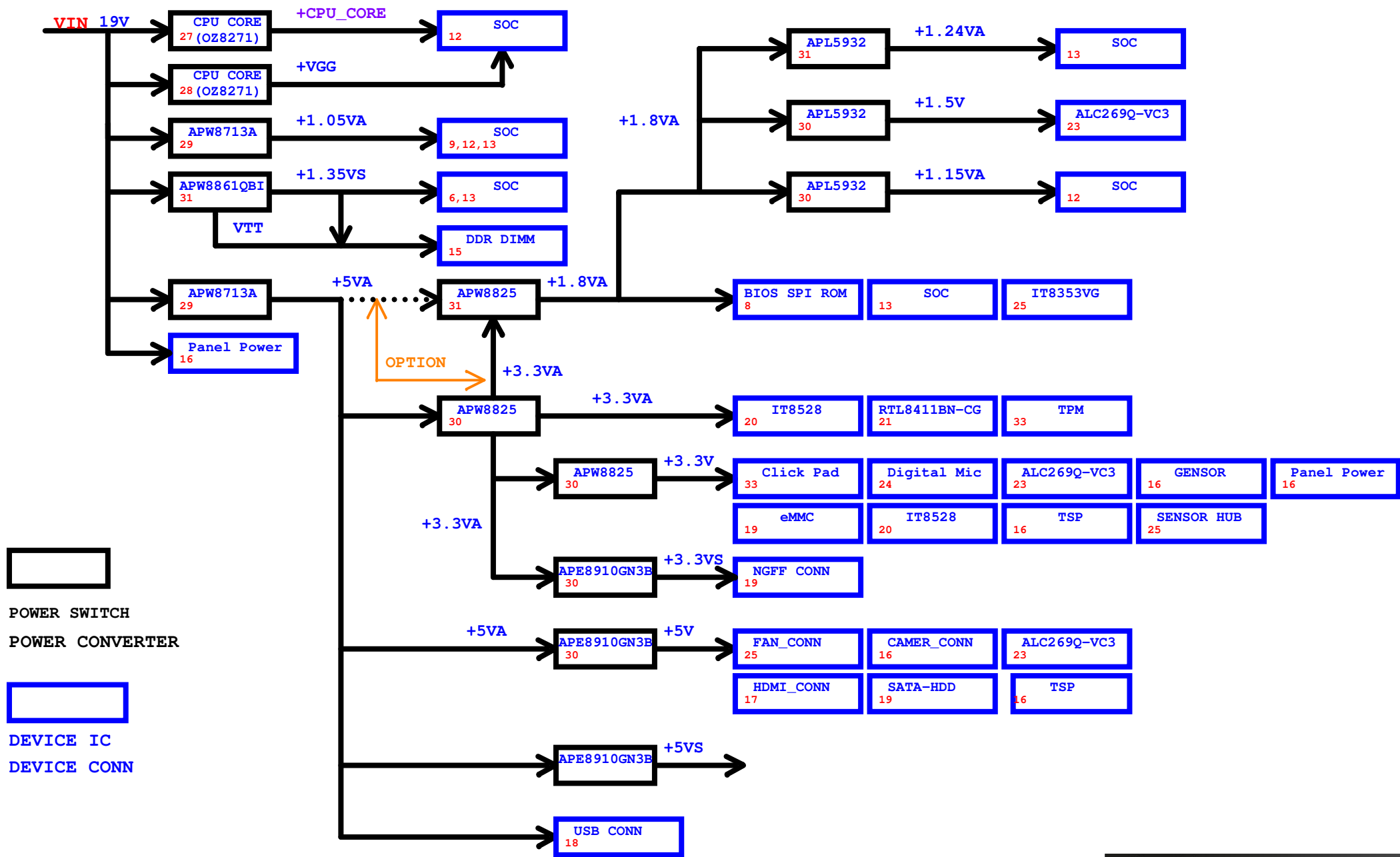
Daughter Board Schematic Version Change List

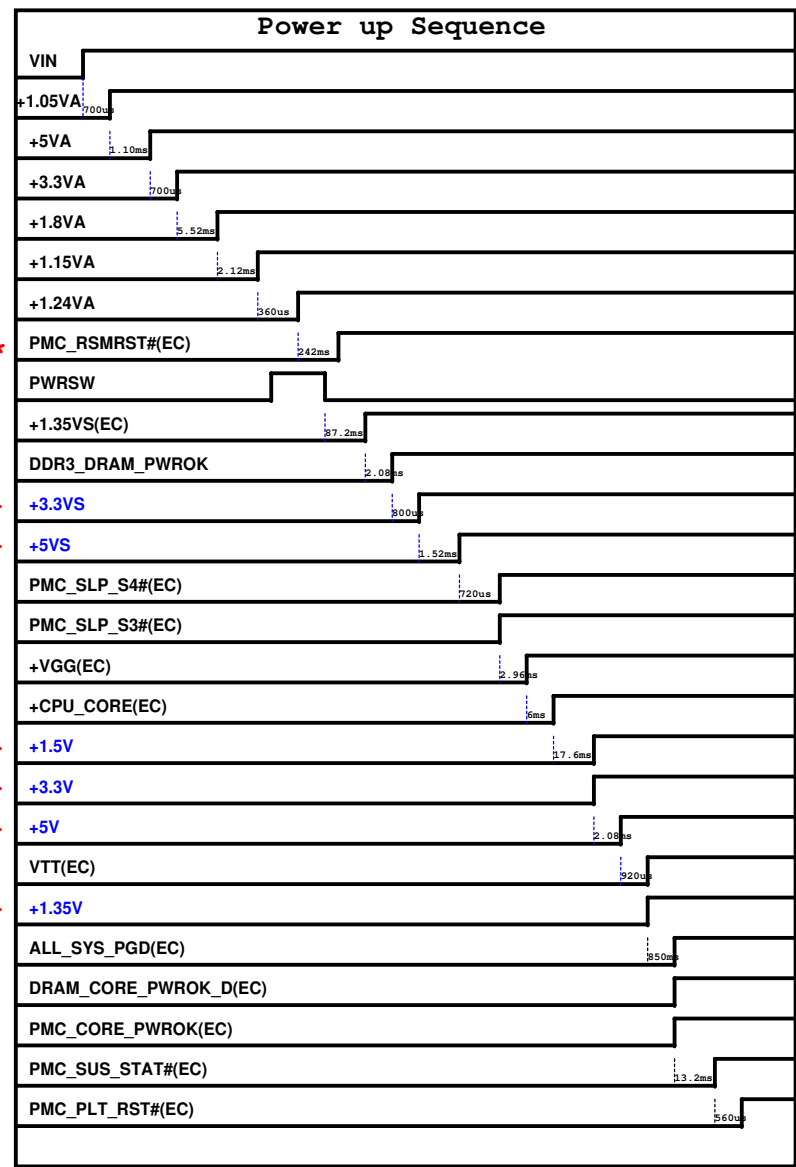
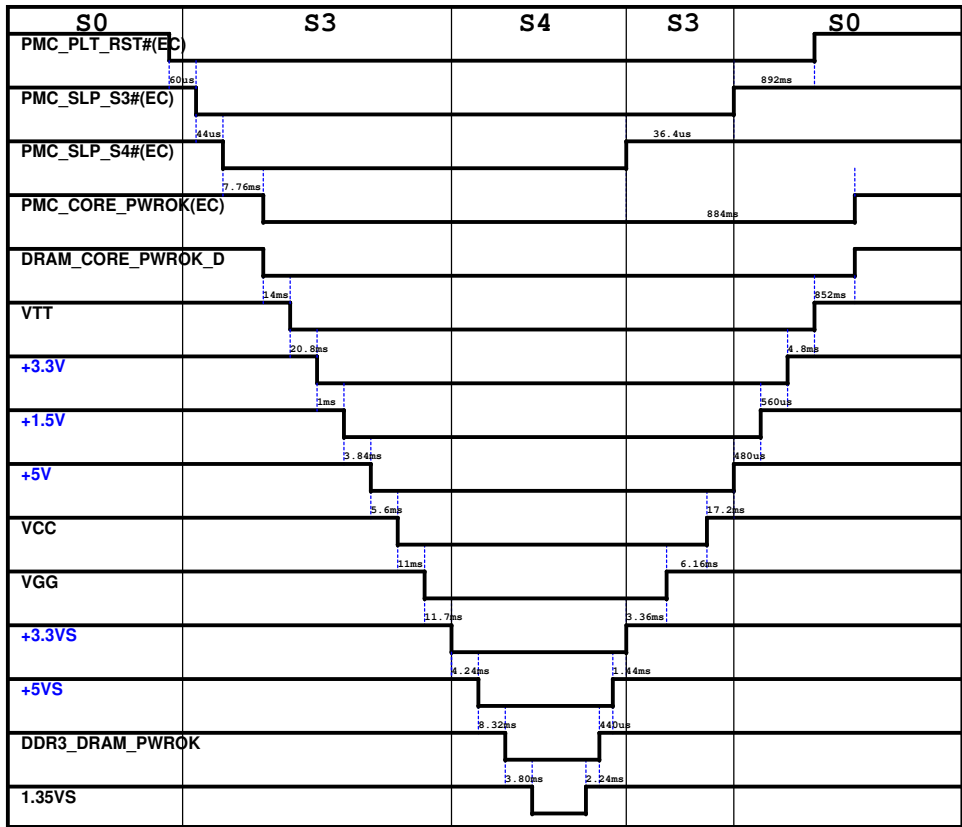
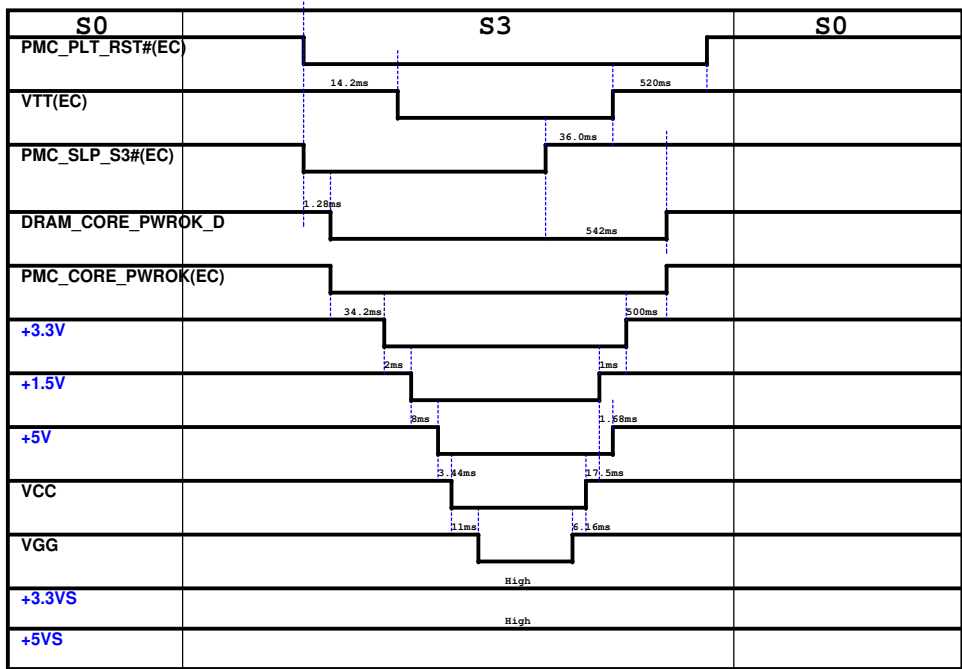
| Release Date | Version | PCB P/N | PCB Description | PCBA P/N | Note |
|--------------|---------|---------|-----------------|----------|------|
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SYSTEM BLOCK DIAGRAM



POWER BLOCK DIAGRAM





- \* EC Control Pin (O/P)
- \*\* EC Control Pin (I/P)
- \*\*\* Add test item

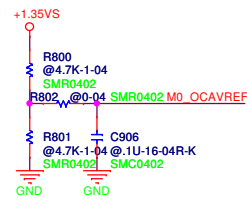
EC GPIO Table

| Port   | PIN | Pin Name | Net Name                                 | I/O                  | PU/PD |
|--------|-----|----------|--|----------------------|-------|
| Port.A | A0  | 24       | PWM0/GPA0(Up)                            |                      |       |
|        | A1  | 25       | PWM1/GPA1(Up)                            | BATT_VA_OFF#         | O PD  |
|        | A2  | 28       | PWM2/GPA2(Up)                            | BT_L_BEEP            | O NC  |
|        | A3  | 29       | PWM3/GPA3(Up)                            | OZ8690_CEN           | O NC  |
|        | A4  | 30       | PWM4/GPA4(Up)                            | +1.8V_ON             | O NC  |
|        | A5  | 31       | PWM5/GPA5(Up)                            | SENBAT_V             | O PD  |
|        | A6  | 32       | PWM6/SSCK/GPA6(Up)                       | PM_C_RSM_RST#        | O PD  |
| Port.B | B0  | 108      | RXD/SIN0/GPB0(Up)                        | PM_SLP_S4#           | I PU  |
|        | B1  | 109      | TXD/SOUT0/GPB1(Up)                       | PM_SLP_S3#           | I PU  |
|        | B2  | 123      | CTX0/TMA0/GPB2(Dn)                       | CPU_BL_ON_RTD_DET    | I PU  |
|        | B3  | 110      | SMCLK0/GPB3(X)                           | BAT_SMBCLK           | O NC  |
|        | B4  | 111      | SMDAT0/GPB4(X)                           | BAT_SMBDAT           | IO PU |
|        | B5  | 126      | GA20/GPB5(X)                             | RTC_RST              | O PD  |
|        | B6  | 4        | KBRST#/GPB6(X)                           | +3.3V                | I PU  |
| Port.C | B7  | 112      | RING#/PWRFAIL#/CK32KOUT/LPCRST#/GPB7(Dn) | SAFTY_PROTECT        | O PD  |
|        | C0  | 119      | CRX0/GPC0(Dn)                            | LAN_PWR_ON           | O NC  |
|        | C1  | 115      | SMCLK1/GPC1(X)                           | SMB_CLK_EC           | O PU  |
|        | C2  | 116      | SMDAT1/GPC2(X)                           | SMB_DATA_EC          | IO PU |
|        | C3  | 56       | KSO16/SMOSI/GPC3(Dn)                     |                      |       |
|        | C4  | 120      | TMR10/WUI2/GPC4(Dn)                      |                      |       |
|        | C5  | 57       | KSO17/SMISO/GPC5(Dn)                     | 1.5V_3.3V_5V_ON      | O NC  |
| Port.D | C6  | 124      | TMR11/WUI3/GPC6(Dn)                      | PANEL_3.3V_ON        | O NC  |
|        | C7  | 16       | PWUREQ#/BBO/SMCLK2ALT/GPC7(Up)           | +1.35VS_ON           | O NC  |
|        | D0  | 18       | RI1#/WUI0/GPD0(Up)                       | ADAP_IN              | I PD  |
|        | D1  | 21       | RI2#/WUI1/GPD1(Up)                       | PWRBTN#              | O NC  |
|        | D2  | 22       | LPCRST#/WUI4/GPD2(Up)                    | PLT_RST#             | I PU  |
|        | D3  | 23       | ECSCI#/GPD3(Up)                          | SM_C_WAKE_SCI#       | O NC  |
|        | D4  | 15       | ECSMI#/GPD4(Up)                          | EC_EXTSMI#           | O PU  |
| Port.E | D5  | 33       | GINT/CTS0#/GPD5(Up)                      | CPU_LCDVDD_EN_EC_DET | I PU  |
|        | D6  | 47       | TACH0A/GPD6(Dn)                          | FAN_RPM              | I NC  |
|        | D7  | 48       | TACH1A/TMA1/GPD7(Dn)                     | PWR_USB#             | O PU  |
|        | E0  | 19       | L80HLAT/BAO/WUI24/GPE0(Dn)               | LID#                 | I PU  |
|        | E1  | 82       | EGAD/WUI25/GPE1(Dn)                      | +1.05VA_ON           | O NC  |
|        | E2  | 83       | EGCS#/WUI26/GPE2(Dn)                     | ALL_SYS_PGD          | O NC  |
|        | E3  | 84       | EGCLK/WUI27/GPE3(Dn)                     | VCORE_ON             | O NC  |
| Port.F | E4  | 125      | PWRSW/GPE4(Up)                           | PWRSW                | I PU  |
|        | E5  | 35       | RTS1#/WUI5/GPE5(Dn)                      | LVDS_VIN             | O NC  |
|        | E6  | 17       | LPCPD#/WUI6/GPE6(Dn)                     | WLAN_ON              | O PD  |

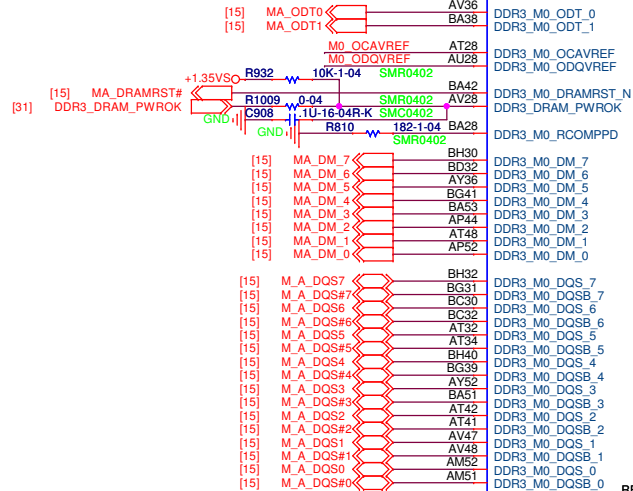
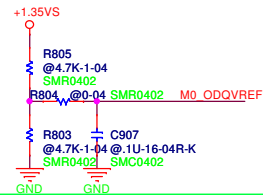
| Port   | PIN | Pin Name | Net Name                             | I/O             | PU/PD |
|--------|-----|----------|--------------------------------------|-----------------|-------|
| Port.F | F0  | 85       | PS2CLK0/TMB0/GPF0(Up)                |                 |       |
|        | F1  | 86       | PS2DAT0/TMB1/GPF1(Up)                | TXE_DISABLE     | O NC  |
|        | F2  | 87       | PS2CLK1/DTR0#/GPF2(Up)               | BT_ON           | O PU  |
|        | F3  | 88       | PS2DAT1/RTS0#/GPF3(Up)               |                 |       |
|        | F4  | 89       | PS2CLK2/WUI20/GPF4(Up)               | TP_CLK          | O NC  |
|        | F5  | 90       | PS2DAT2/WUI21/GPF5(Up)               | TP_DATA         | IO NC |
|        | F6  | 117      | PEQ/SMCLK2/WUI22/GPF6(Up)            | CHG_SMCLK       | O NC  |
| Port.G | F7  | 118      | SMDAT2/WUI23/GPF7(Up)                | CHG_SMDATA      | IO NC |
|        | G0  | 106      | SSCE1#/GPG0(X)                       |                 |       |
|        | G1  | 107      | DTR1#/SBUSY/GPG1/ID7(Dn)             | +3.3VS_5VS_ON   | O NC  |
|        | G2  | 100      | SSCE0#/GPG2(X)                       |                 |       |
| Port.H | G6  | 104      | DSR0#/GPG6(X)                        | WEBCAM_ON       | O NC  |
|        | H0  | 93       | CLKRUN#/WUI16/GPH0/ID0(Dn)           | PLATFORM_ID1    | I PD  |
|        | H1  | 94       | CRX1/WUI17/SIN1/SMCLK3/GPH1/ID1(Dn)  | PID_1_CHG_R_LED | O NC  |
|        | H2  | 95       | CTX1/WUI18/SOUT1/GPH2/SMDAT3/ID2(Dn) | PID_2_PWR_LED   | O NC  |
|        | H3  | 96       | HSCE#/WUI19/GPH3/ID3(Dn)             | VGG_ON          | O NC  |
|        | H4  | 97       | HSCK/GPH4/ID4(Dn)                    | PLATFORM_ID2    | I PD  |
|        | H5  | 98       | HMISO/GPH5/ID5(Dn)                   | PLATFORM_ID3    | I PD  |
| Port.I | H6  | 99       | HMO5I/GPH6/ID6(Dn)                   | eMMC_RST        | O PU  |
|        | I0  | 66       | ADC0/GPI0(X)                         | PLATFORM_ID4    | I PD  |
|        | I1  | 67       | ADC1/GPI1(X)                         | Angle_ID1       | I PU  |
|        | I2  | 68       | ADC2/GPI2(X)                         | PCE_WAKE#       | I PU  |
|        | I3  | 69       | ADC3/GPI3(X)                         | Angle_ID2       | I NC  |
|        | I4  | 70       | ADC4/WUI28/GPI4(X)                   | BAT_I           | I NC  |
|        | I5  | 71       | ADC5/DCD1#/WUI29/GPI5(X)             | BATT_TEMP       | I PU  |
| Port.J | I6  | 72       | ADC6/DSR1#/WUI30/GPI6(X)             | ADAPTOR_I       | I NC  |
|        | I7  | 73       | ADC7/CTS1#/WUI31/GPI7(X)             | BAT_V           | I PU  |
|        | J0  | 76       | TACH2/GPJ0(X)                        | EC_BL_ON        | O NC  |
|        | J1  | 77       | GPJ1(X)                              | EC_PROCHOT      | O PD  |
|        | J2  | 78       | DAC2/TACH0B/GPJ2(X)                  | FAN_CTRL0       | O NC  |
|        | J3  | 79       | DAC3/TACH1B/GPJ3(X)                  | VTT_ON          | O NC  |
|        | J4  | 80       | DAC4/DCD0#/GPJ4(X)                   | CHG_REF         | O NC  |
| Port.M | J5  | 81       | DAC5/RIG0#/GPJ5(X)                   |                 | O NC  |
|        | M.0 | 10       | LAD0/GPM0(X)                         | LPC_AD0_EC      | IO NC |
|        | M.1 | 9        | LAD1/GPM1(X)                         | LPC_AD1_EC      | IO NC |
|        | M.2 | 8        | LAD2/GPM2(X)                         | LPC_AD2_EC      | IO NC |
|        | M.3 | 7        | LAD3/GPM3(X)                         | LPC_AD3_EC      | IO NC |
|        | M.4 | 13       | LPCLK/GPM4(X)                        | CLK_EC_LPC      | I NC  |
|        | M.5 | 6        | LFRA ME#/GPM5(X)                     | LPC_FRAME#      | I NC  |

## DDR0

Not use for DDR3L design

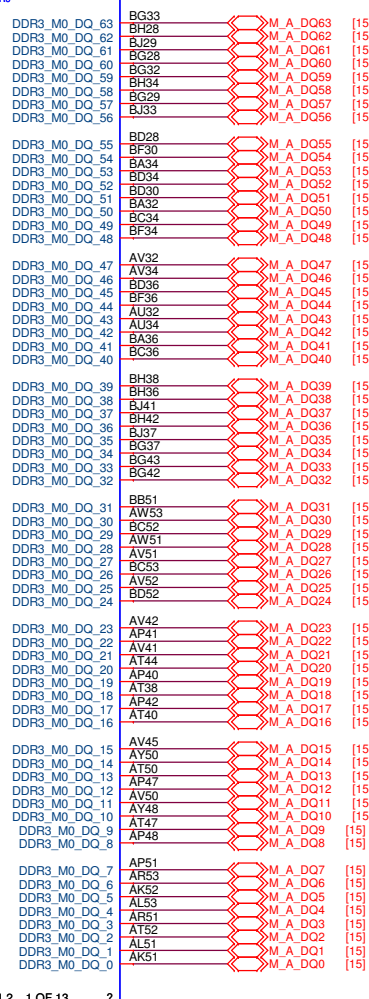


- 1.PLACE 0.1UF CAP CLOSE TO CPU
- 2.PLACE TWO 4.7K RESISTORS CLOSE TO CPU PINS ON M\_VREF



U1A BSW\_MCP\_EDS

DDR0



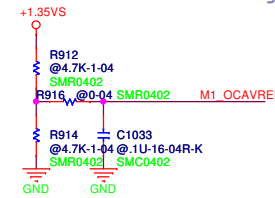
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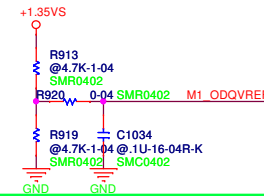
REV = 1.2 1 OF 13 ?

## DDR1

Not use for DDR3L design

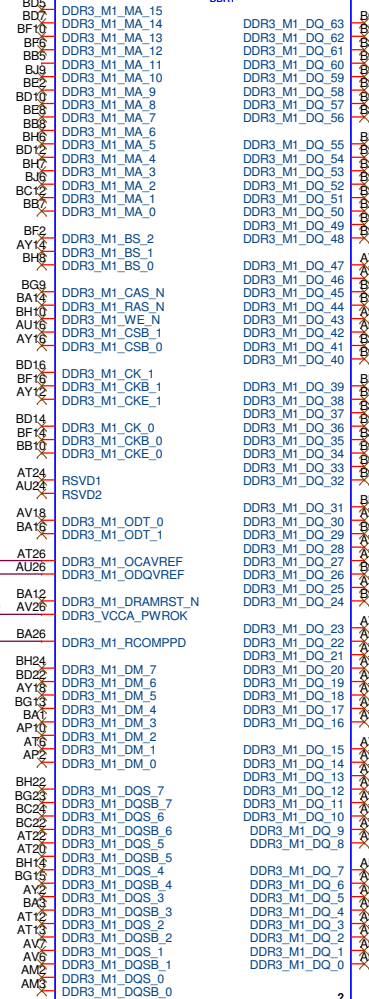


- 1.PLACE 0.1UF CAP CLOSE TO CPU
- 2.PLACE TWO 4.7K RESISTORS CLOSE TO CPU PINS ON M\_VREF



U1B BSW\_MCP\_EDS

DDR1



BSW\_MCP\_EDS

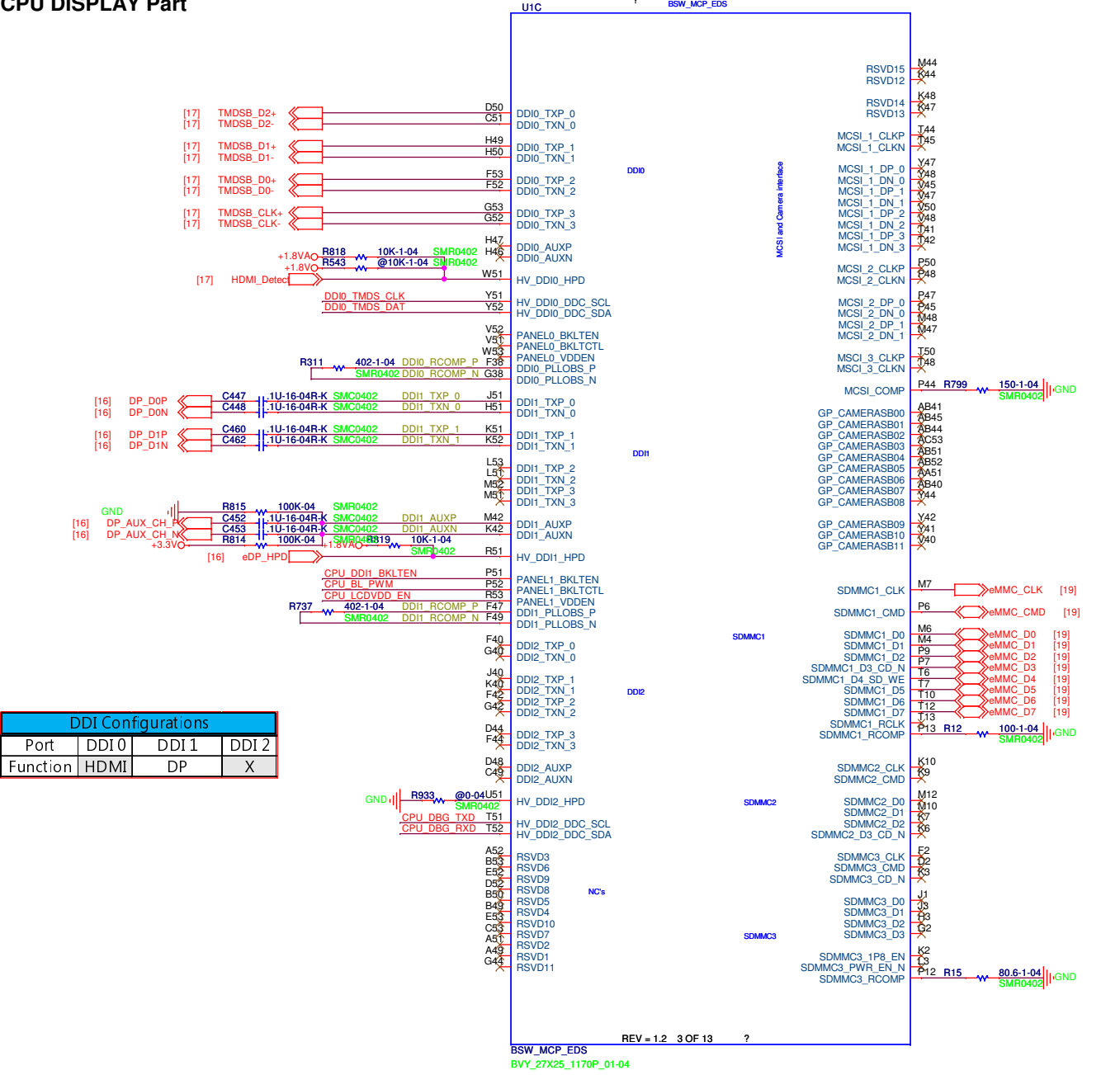
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REV = 1.2 2 OF 13 ?

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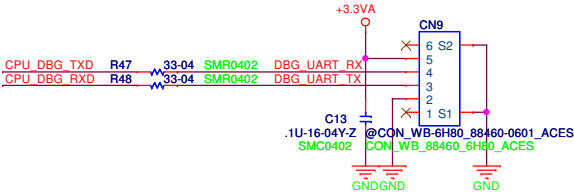
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CPU DISPLAY Part

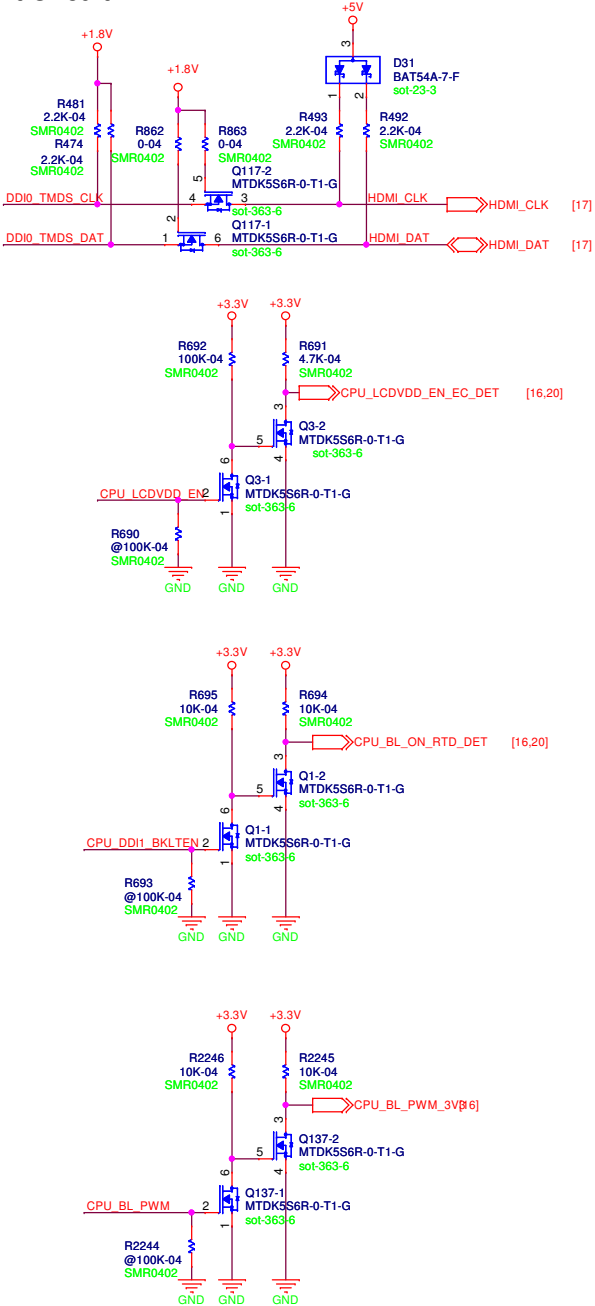


| DDI Configurations |      |      |      |
|--------------------|------|------|------|
| Port               | DDI0 | DDI1 | DDI2 |
| Function           | HDMI | DP   | X    |

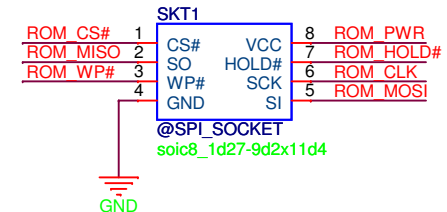
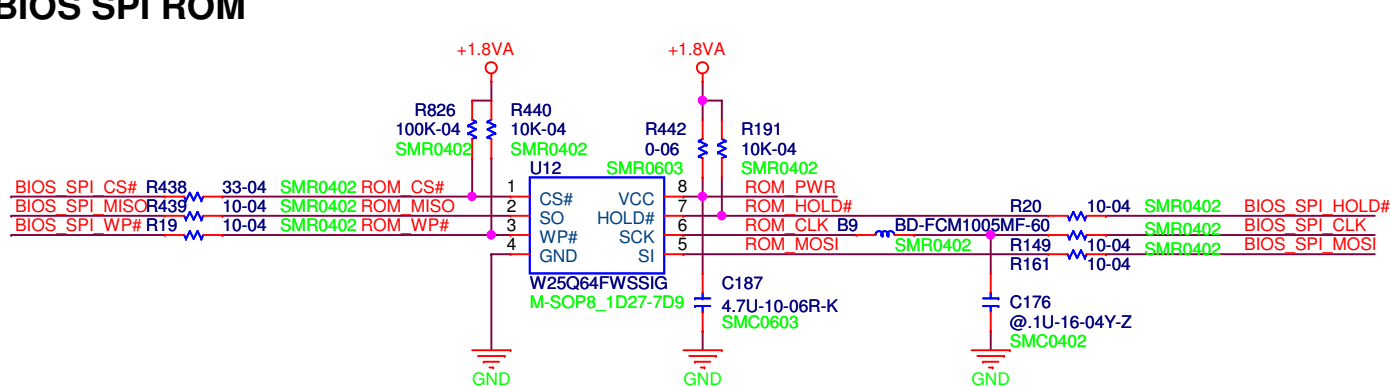
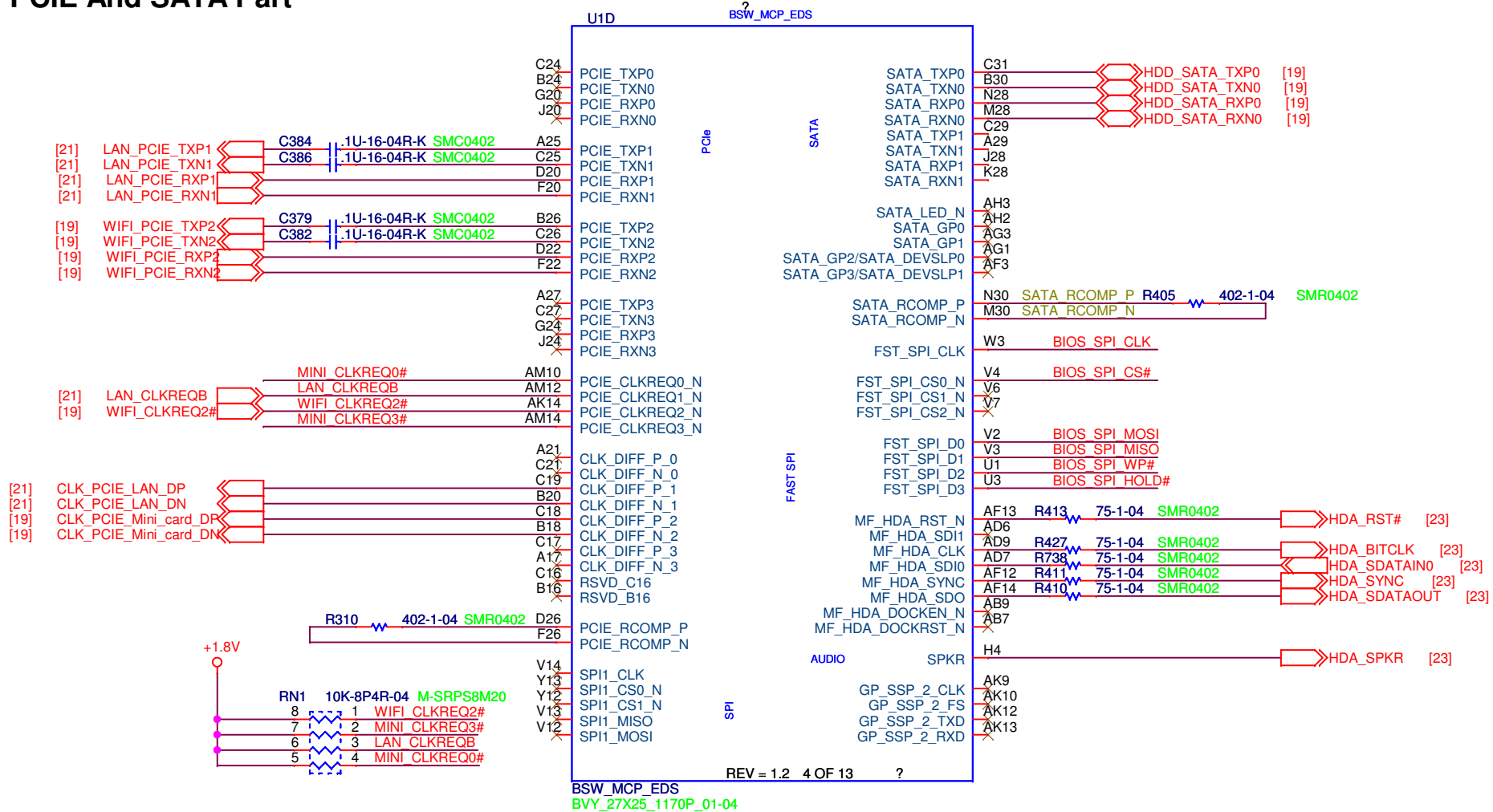
Debug Port



Level Shift Circuit

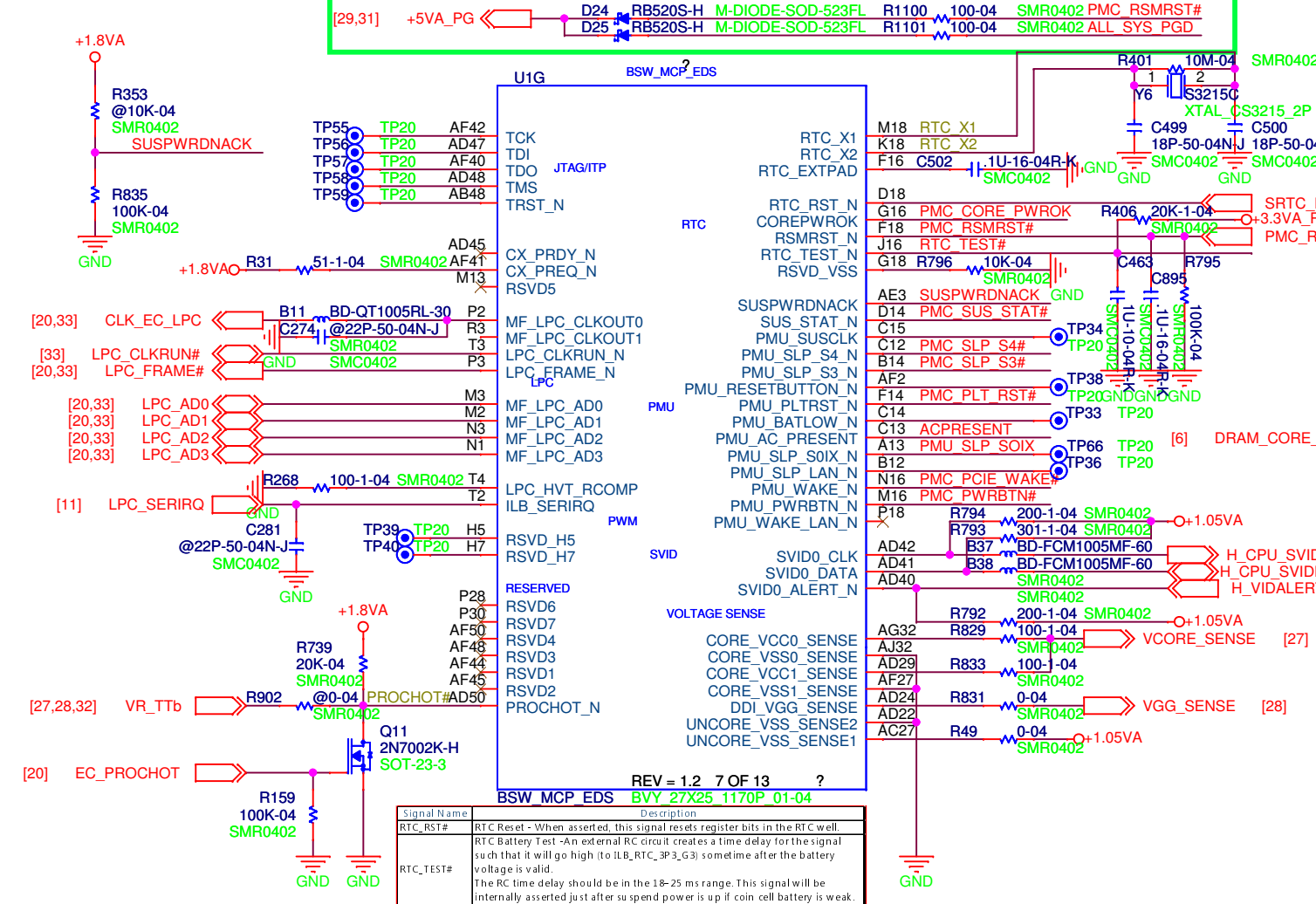


## BIOS SPI ROM

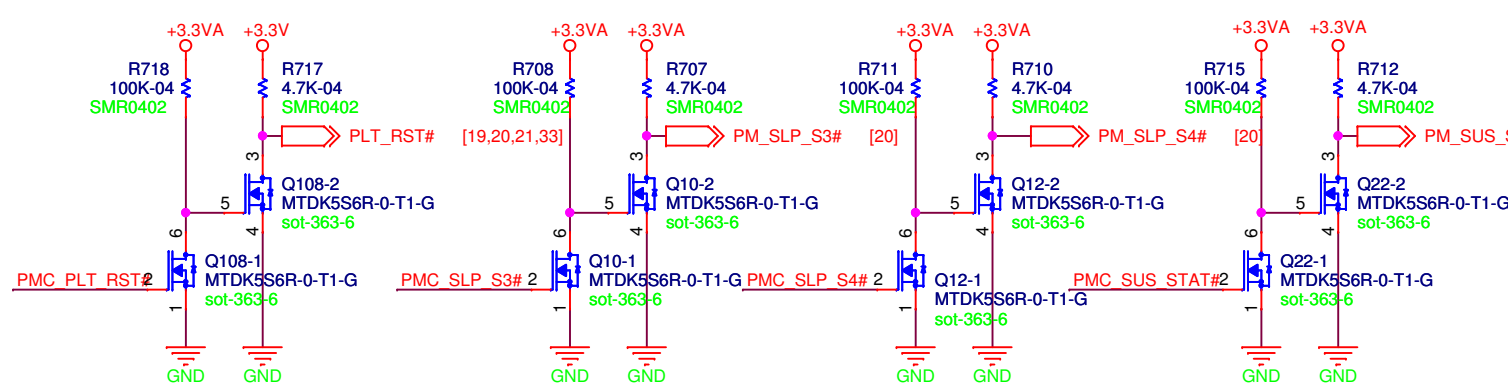




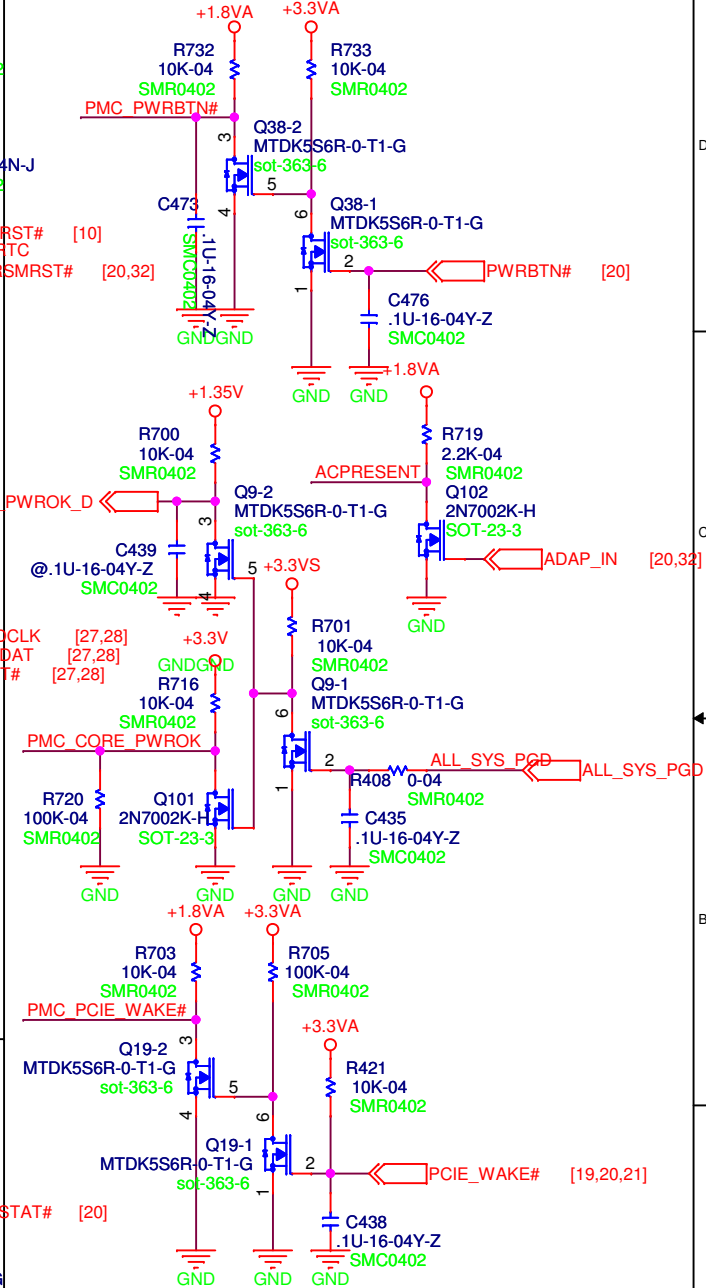
## CPU PMU Part



### Level Shift to EC 3.3V



## Level Shift to CPU 1.8V



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Title

Document Number

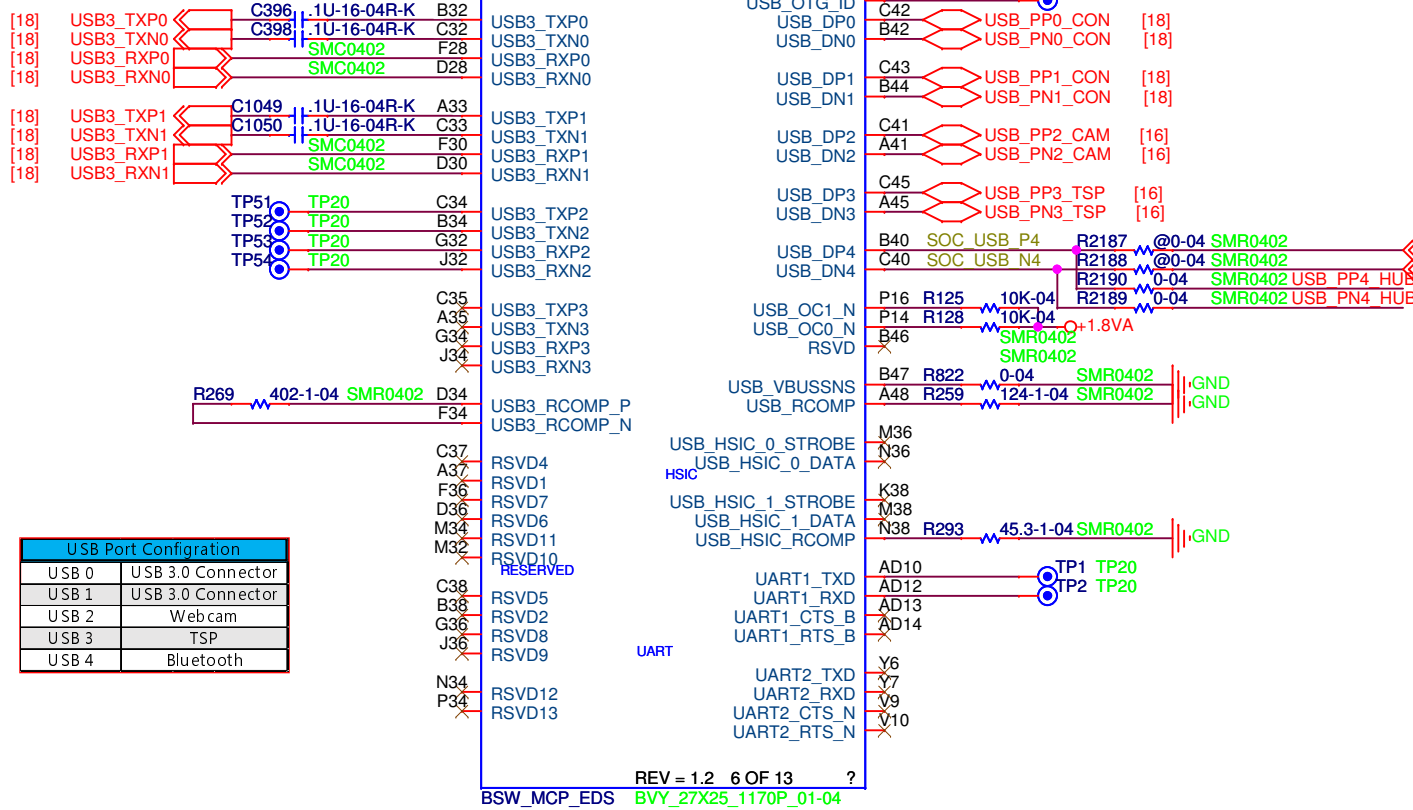
# Braswell

## CPU-PMU

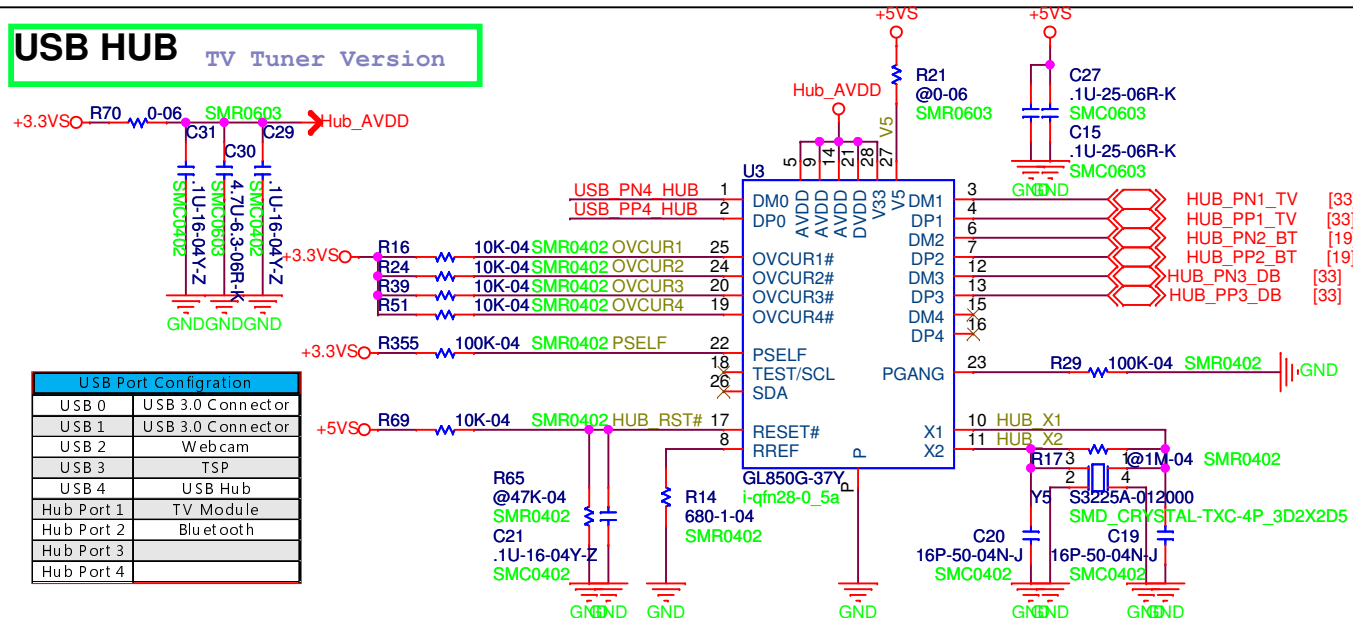
|     |     |
|-----|-----|
| Rev | 1.1 |
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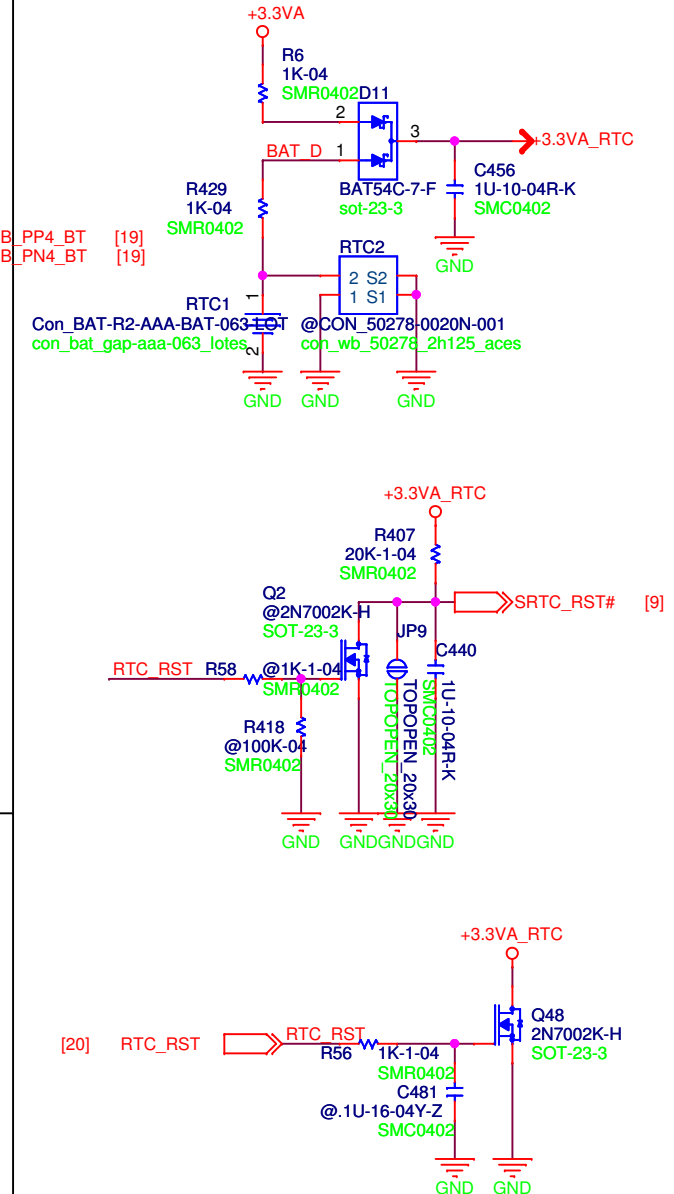
## CPU USB Part



## USB HUB TV Tuner Version



## RTC Reset Function

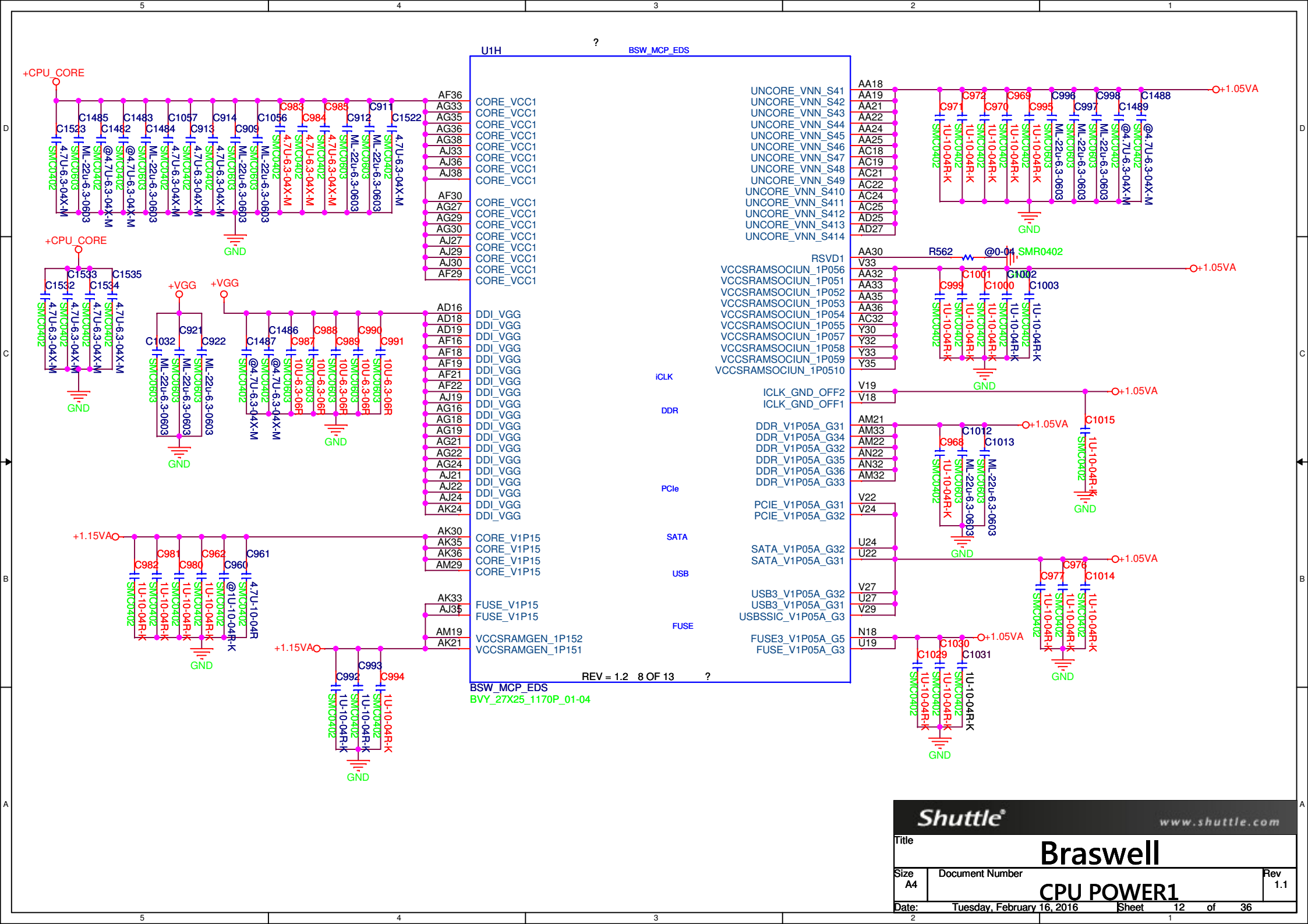


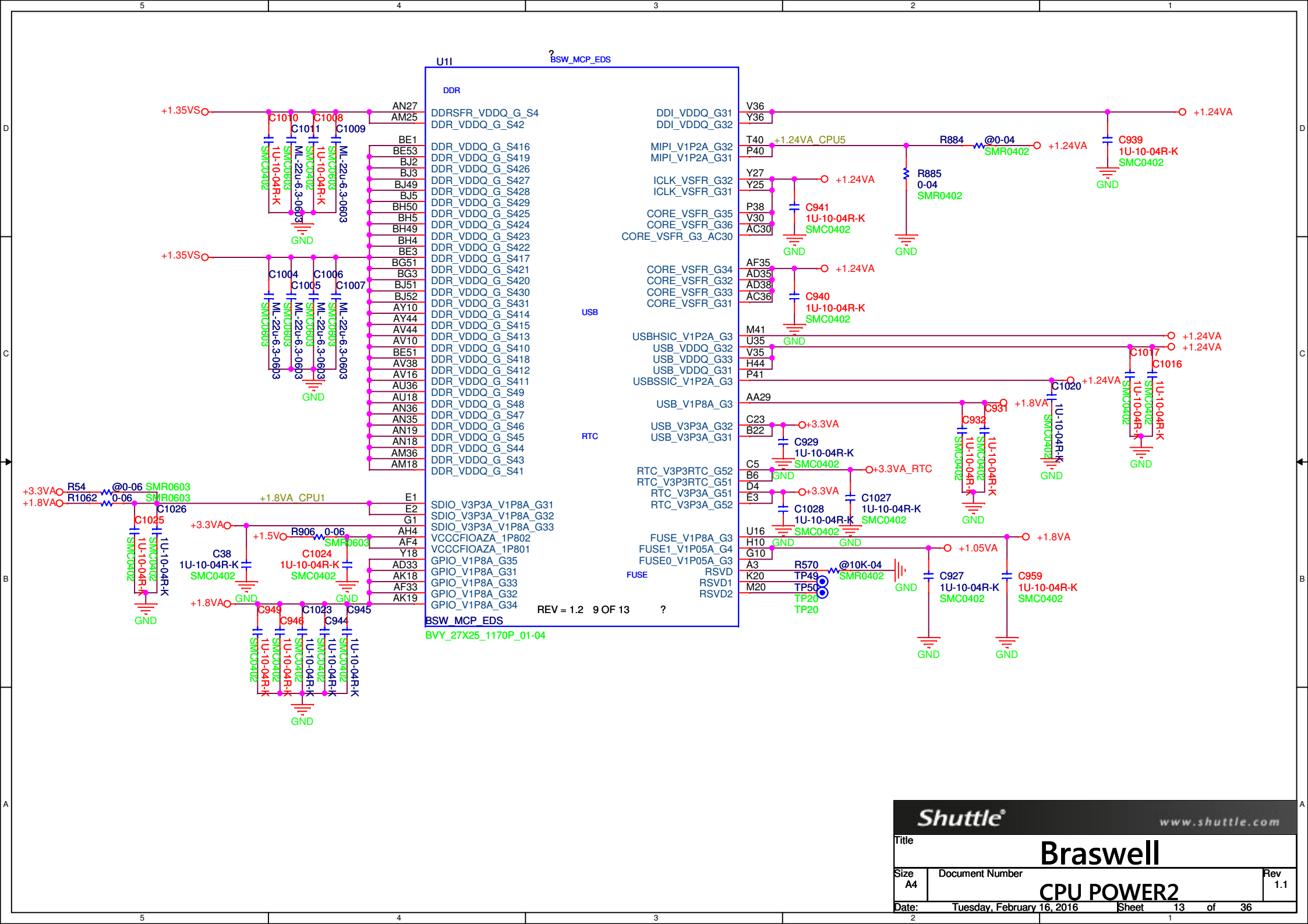
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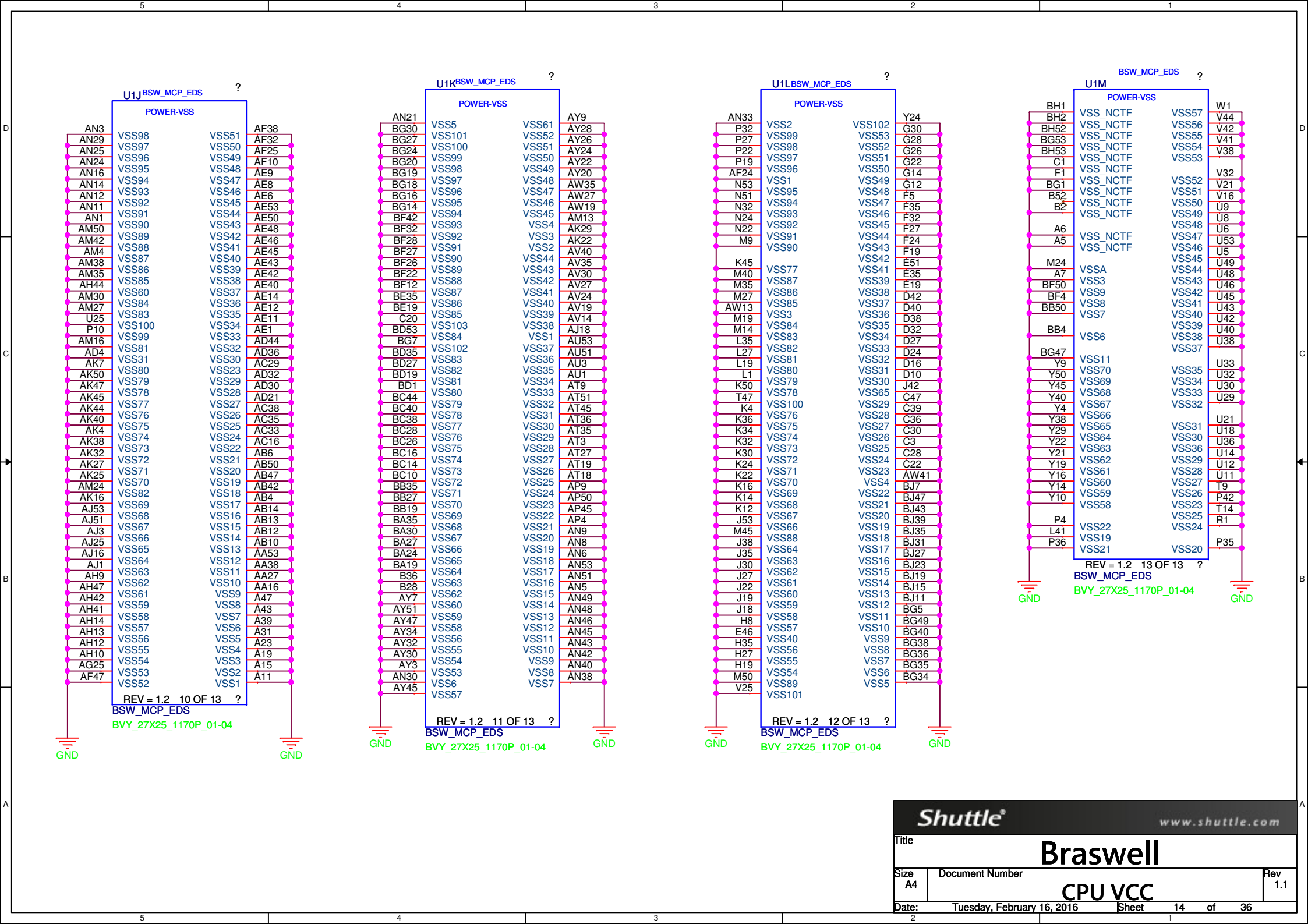
Braswell

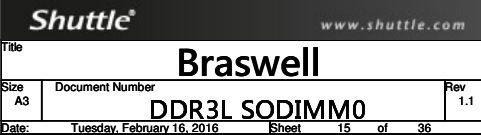




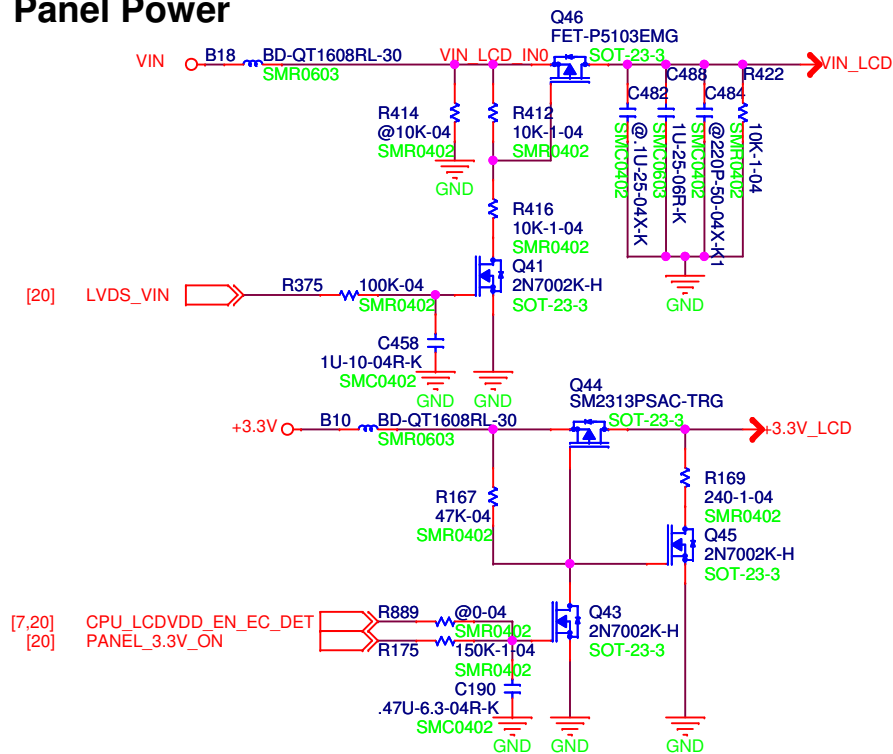




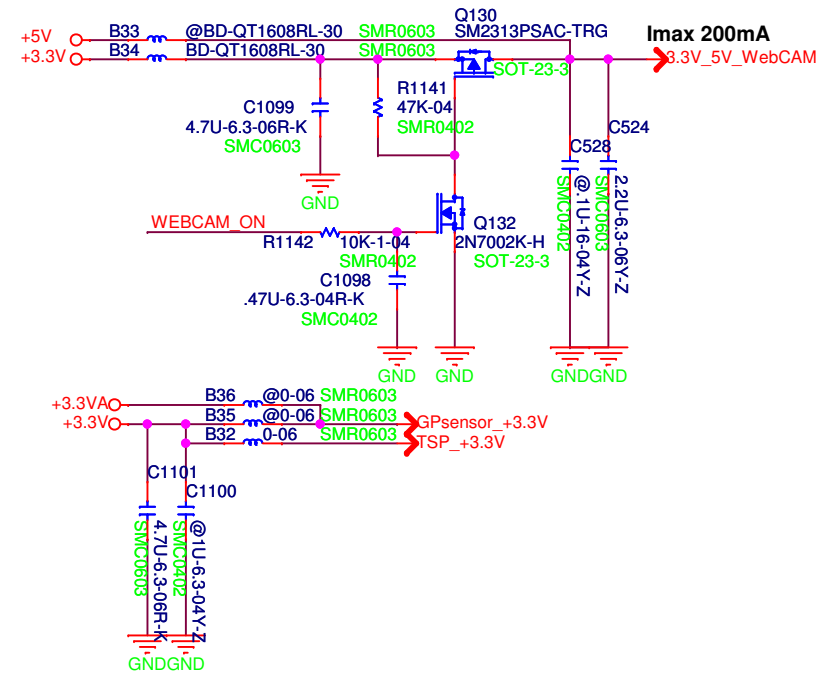




## Panel Power



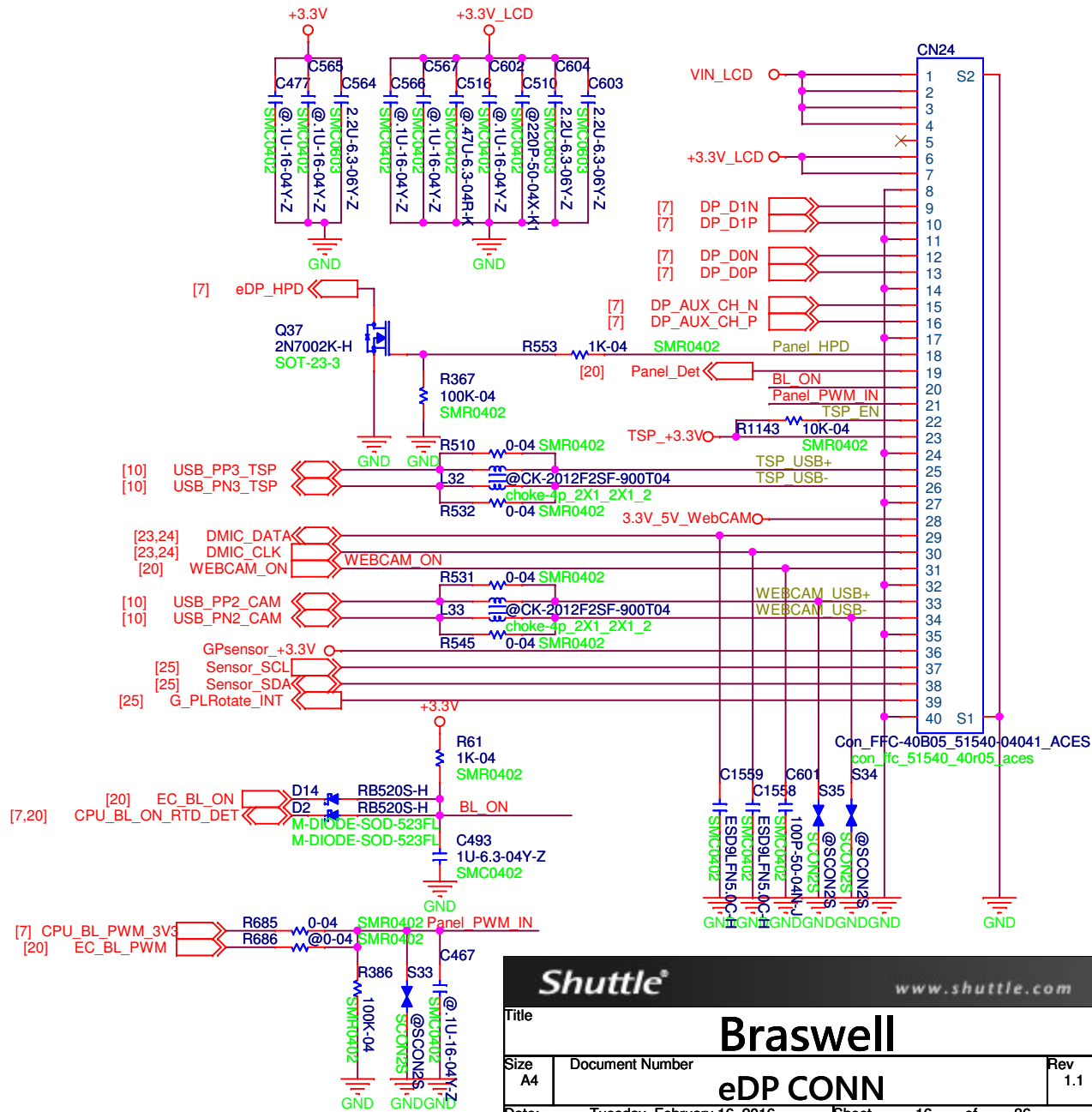
## TSP/CAM/G-SENSOR Power



## DP CONN CO-LAYOUT OPTION

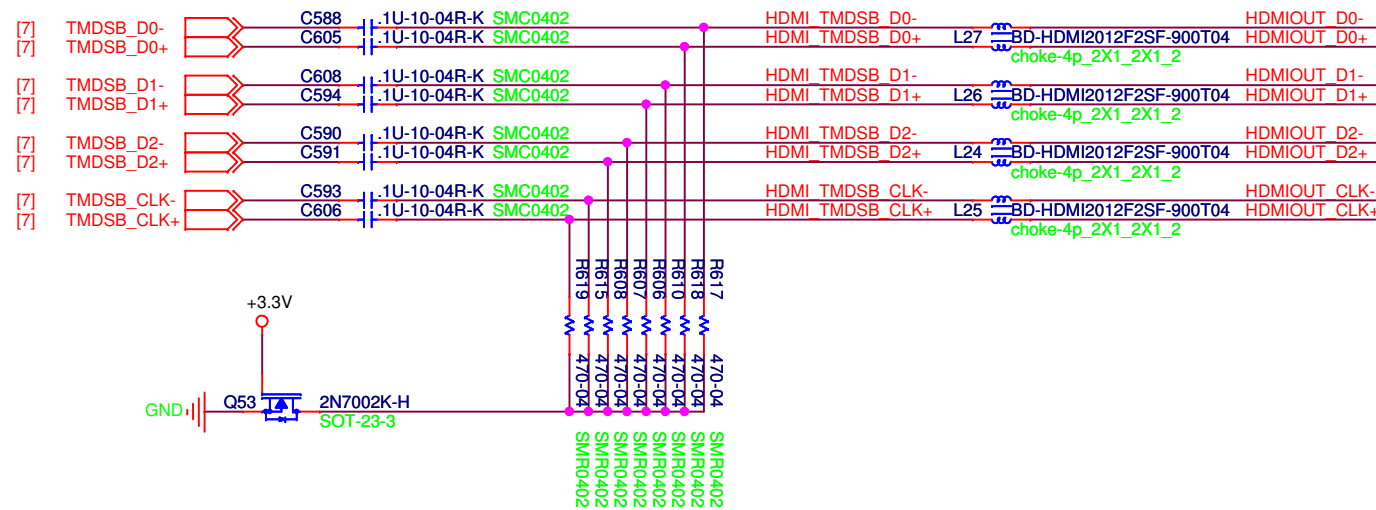
CAM+DMIC : MOUNT B34、C1099、R1141、Q130、Q132、R1142、C1098、C528、C524  
CAM+DMIC : UNMOUNT B33

CAM ONLY : MOUNT B33  
CAM ONLY : UNMOUNT B34、C1099、R1141、Q130、Q132、R1142、C1098、C528、C524

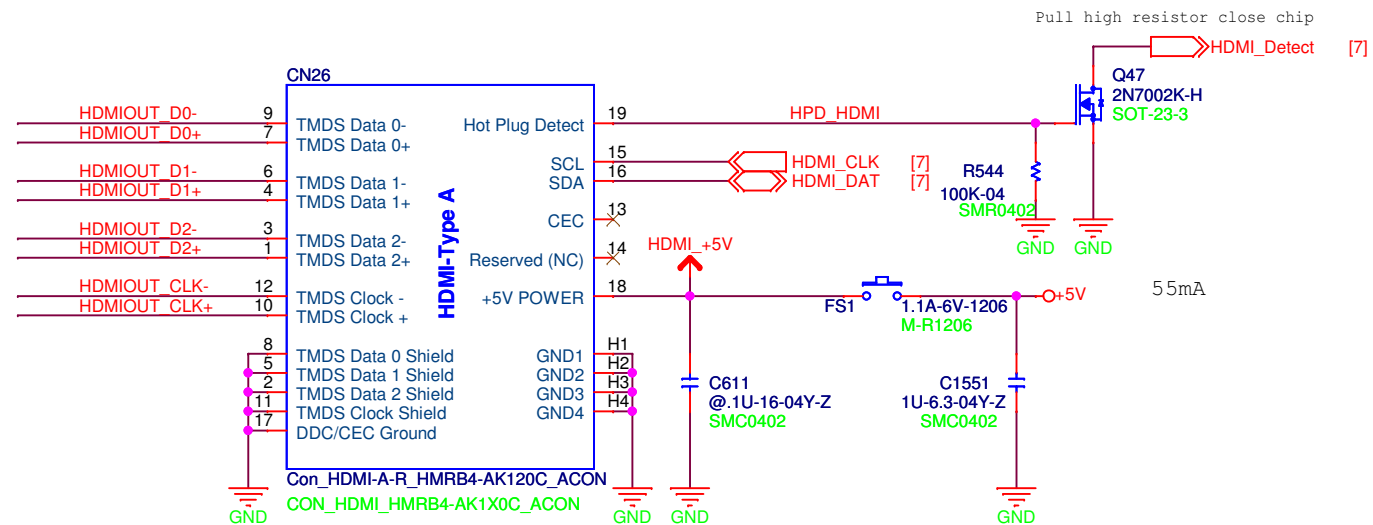




## HDMI ESD Protection

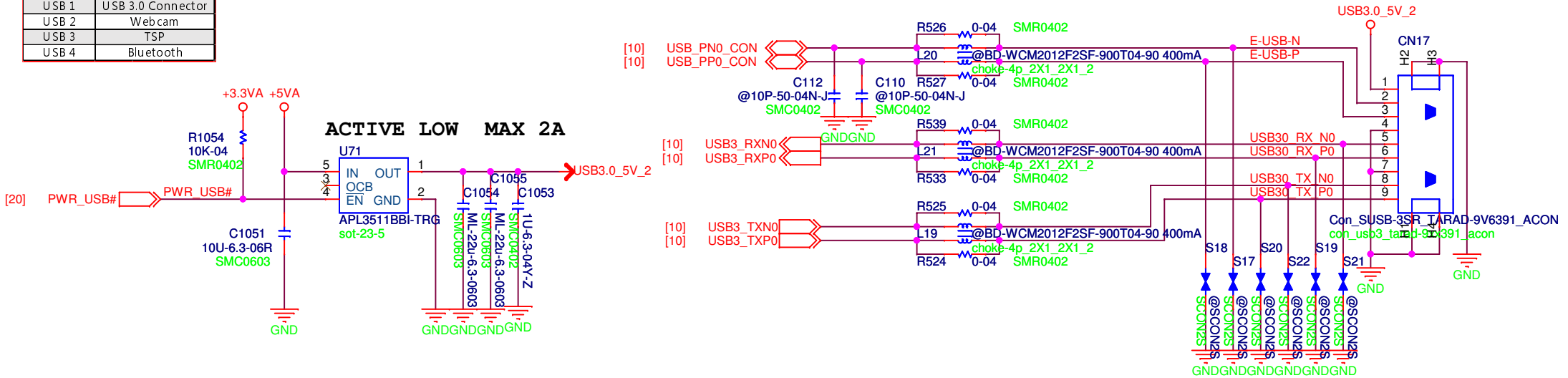


## HDMI CONN

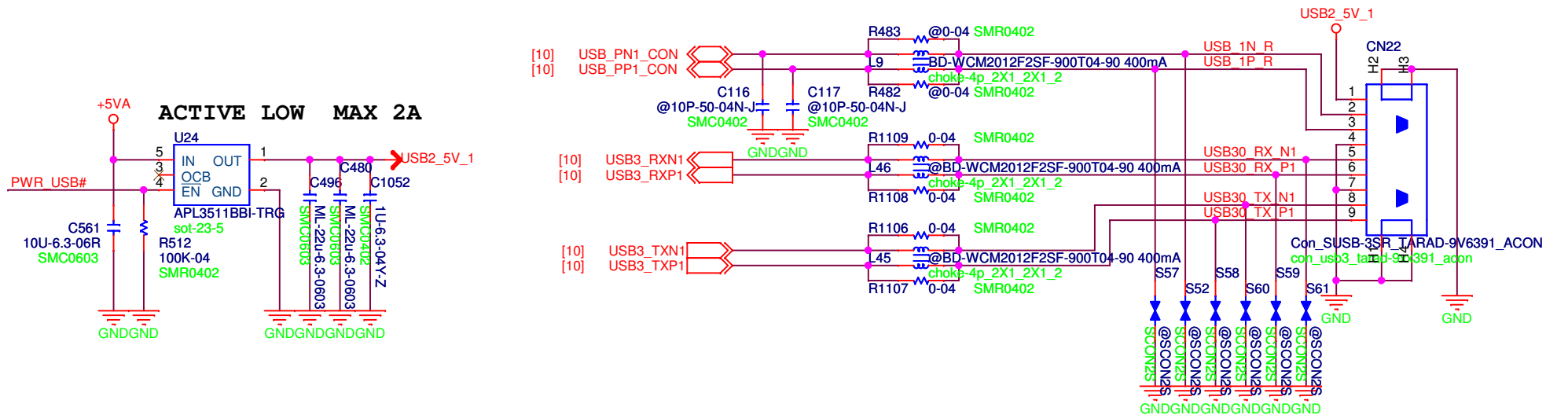


### USB3.0 (Left Side)

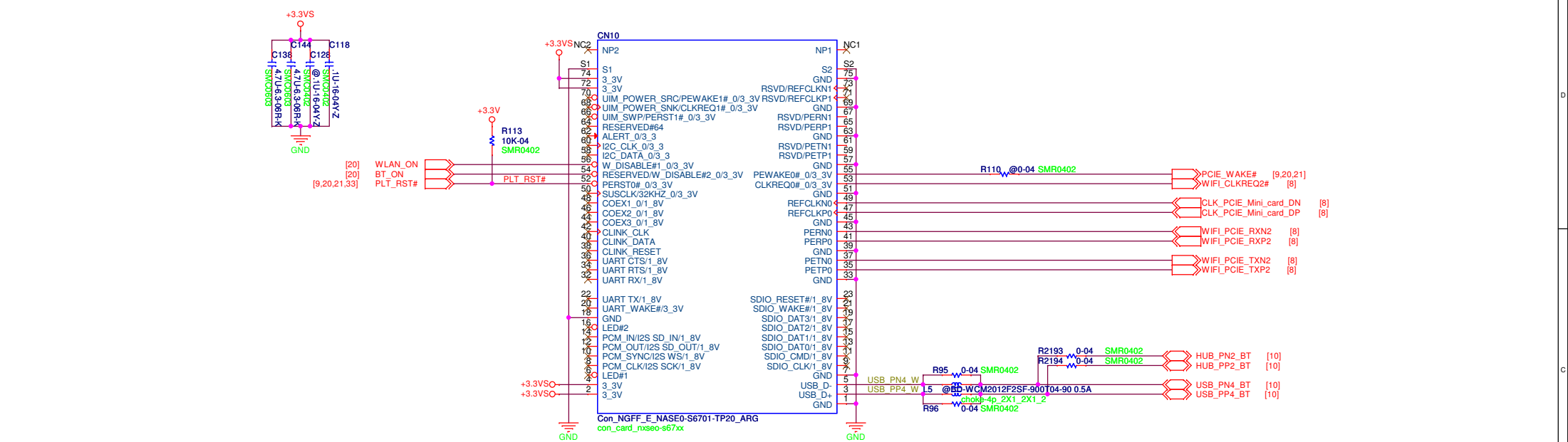
| USB Port Configuration |                   |
|------------------------|-------------------|
| USB 0                  | USB 3.0 Connector |
| USB 1                  | USB 3.0 Connector |
| USB 2                  | Web cam           |
| USB 3                  | TSP               |
| USB 4                  | Bluetooth         |



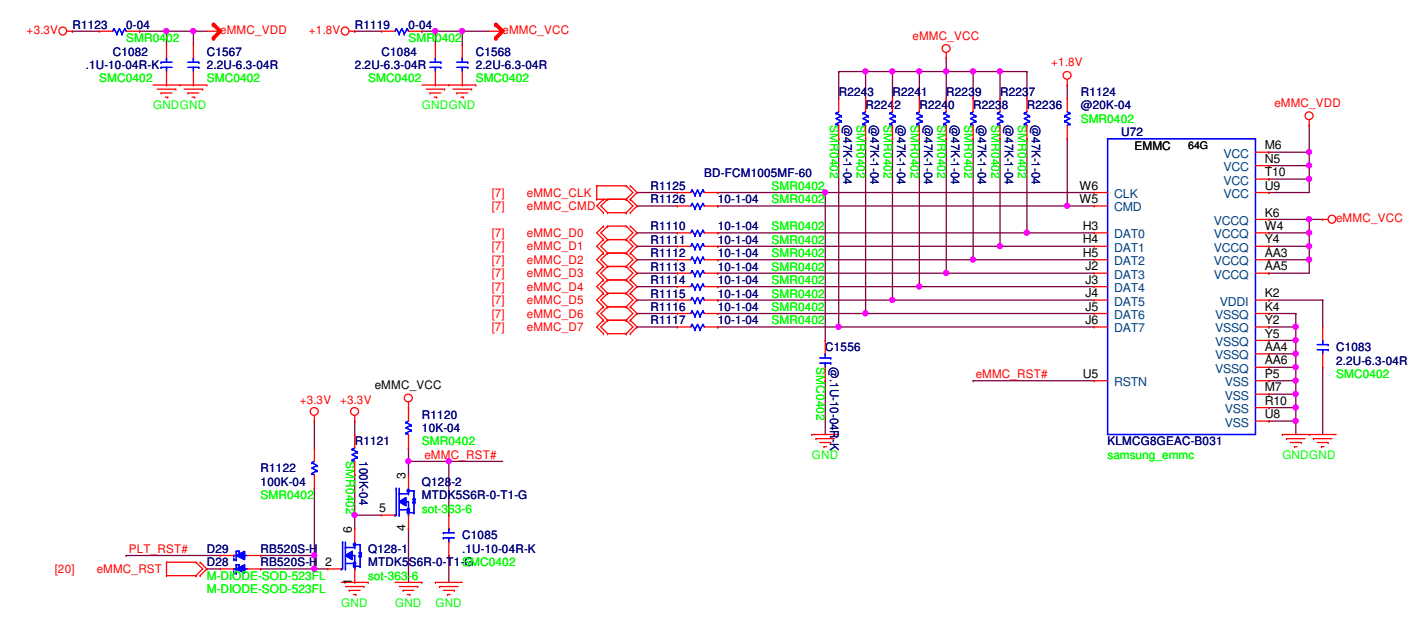
### USB3.0 (Left Side)



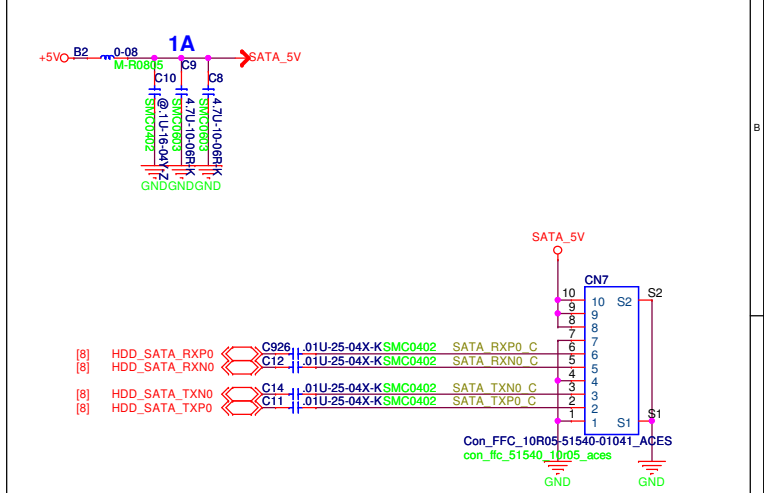
NGFF CONN

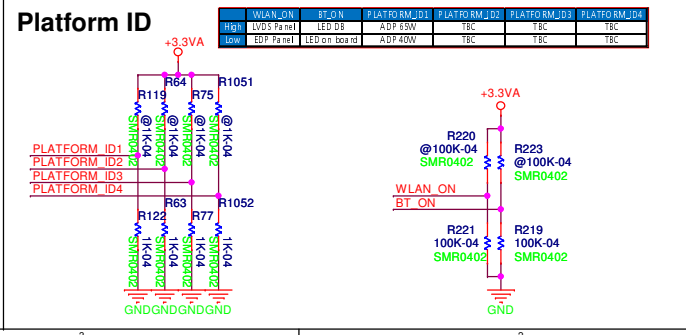
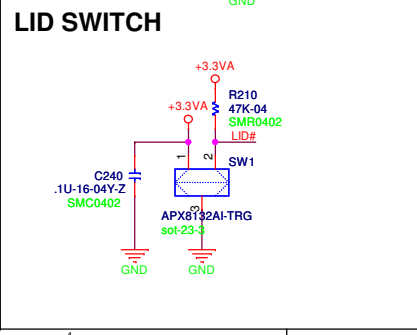
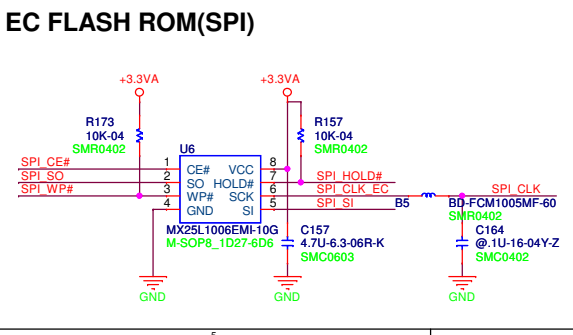
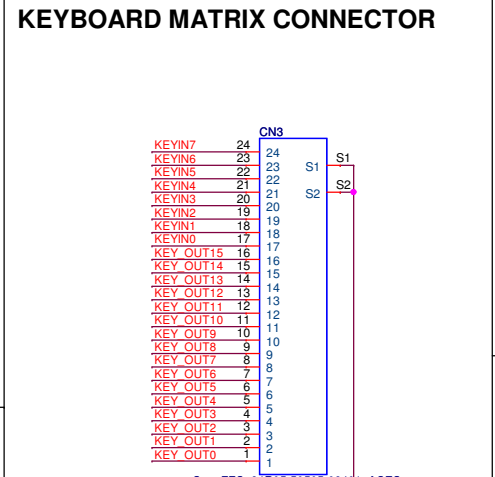
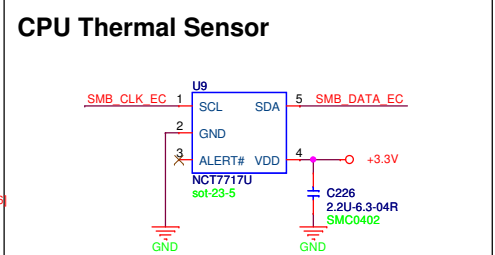
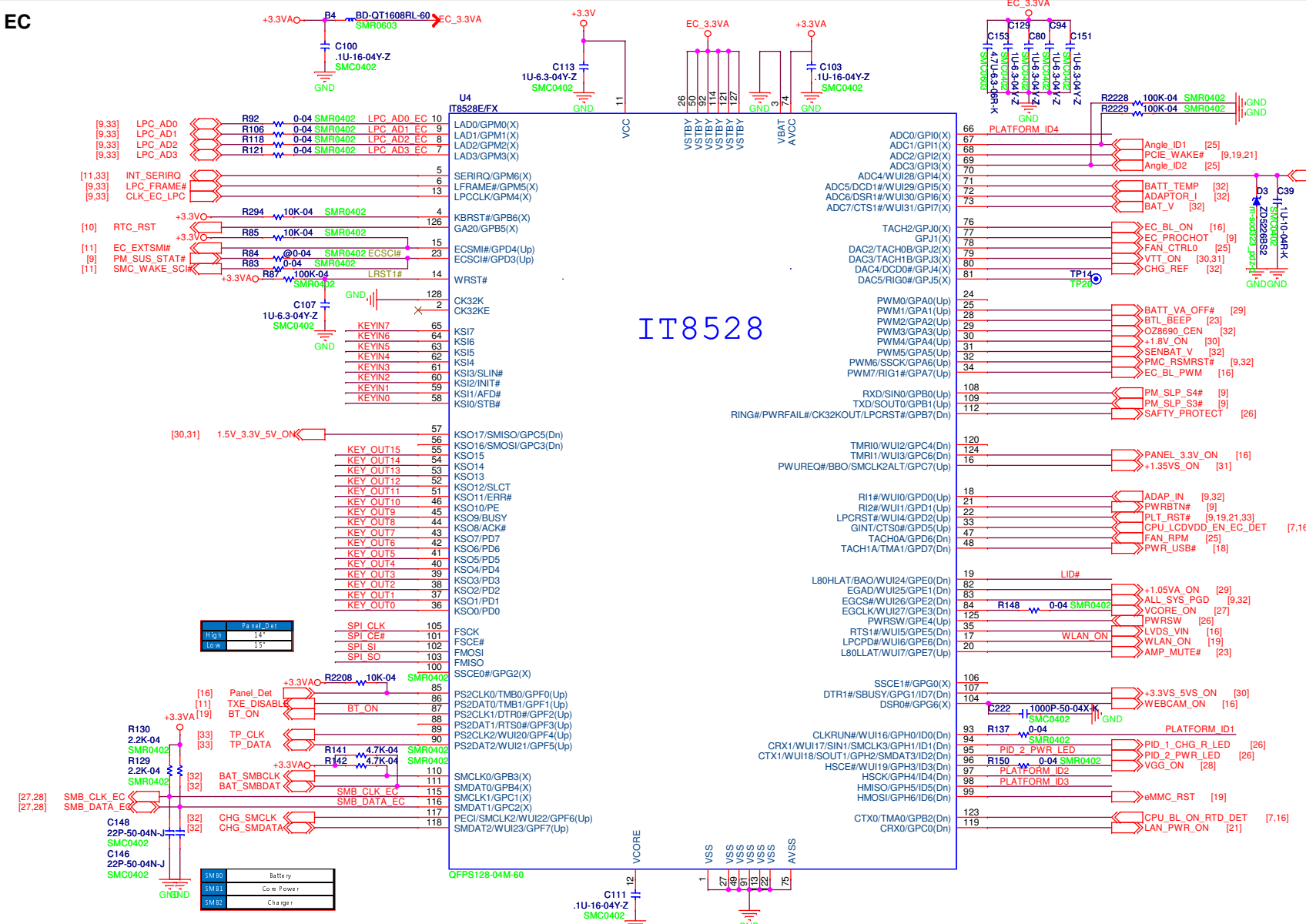


eMMC

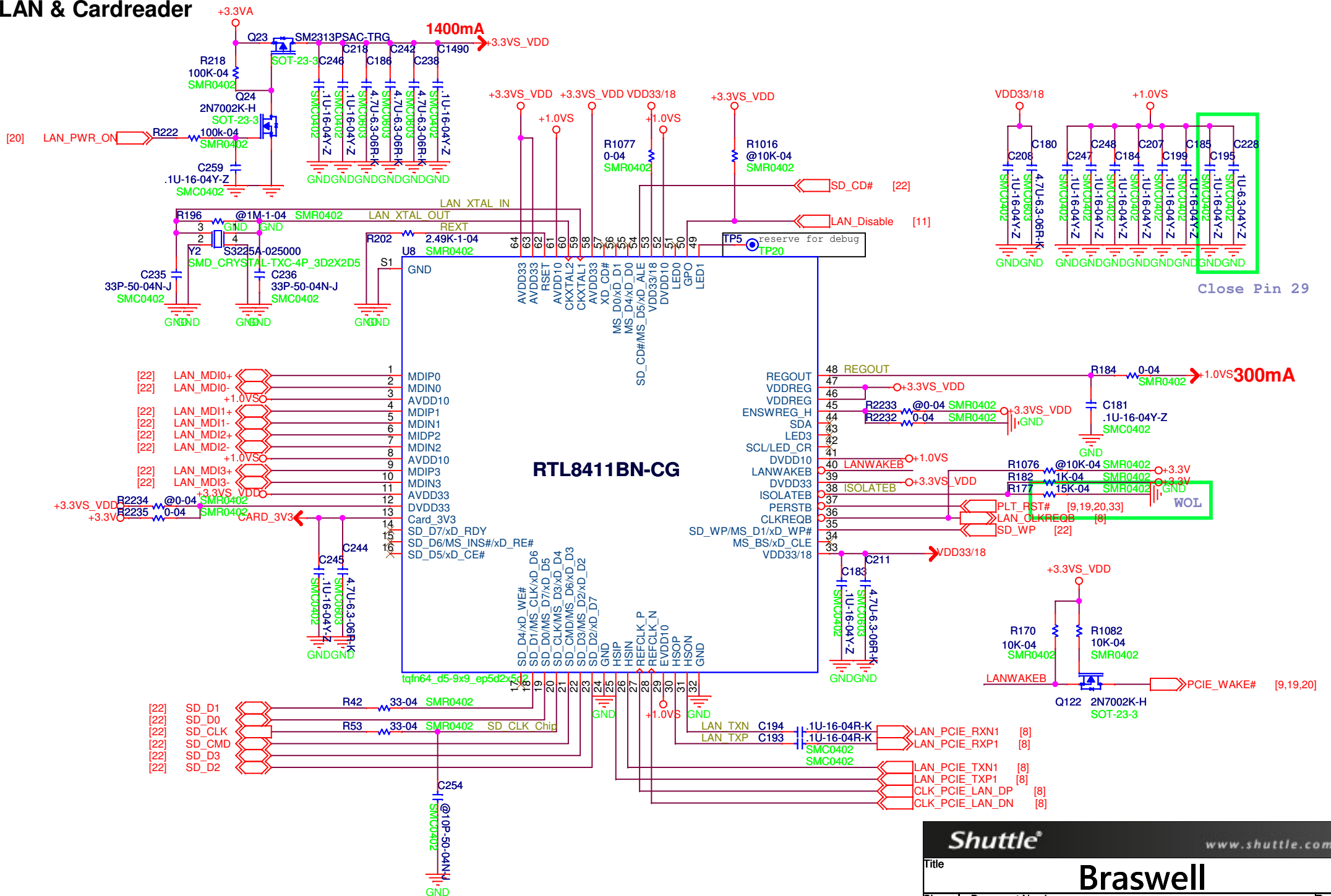


SATA-HDD

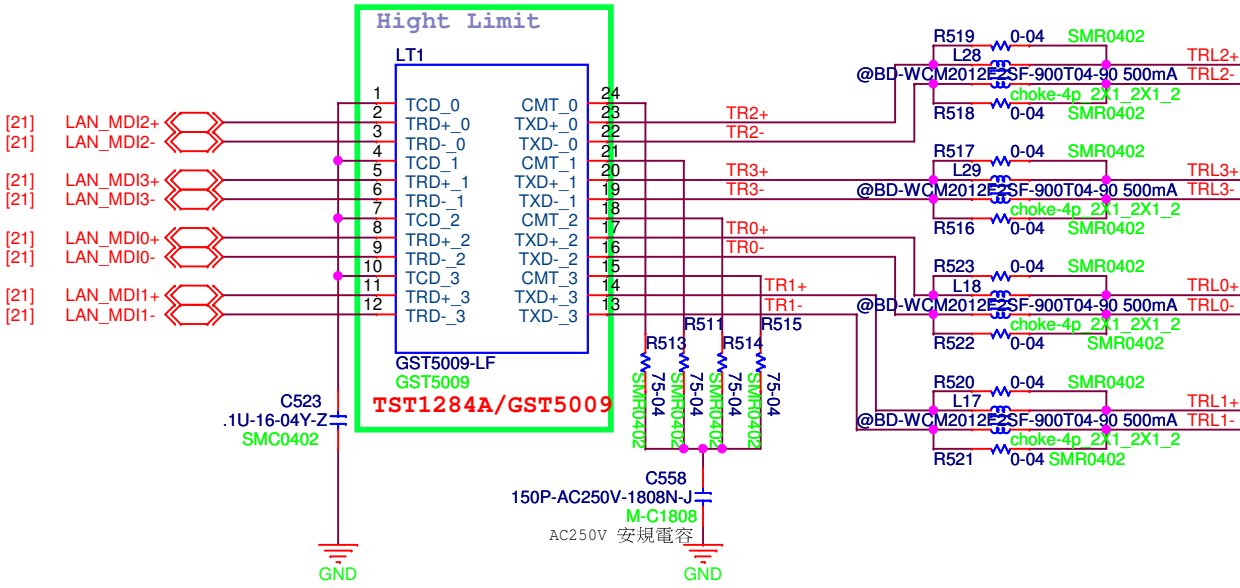




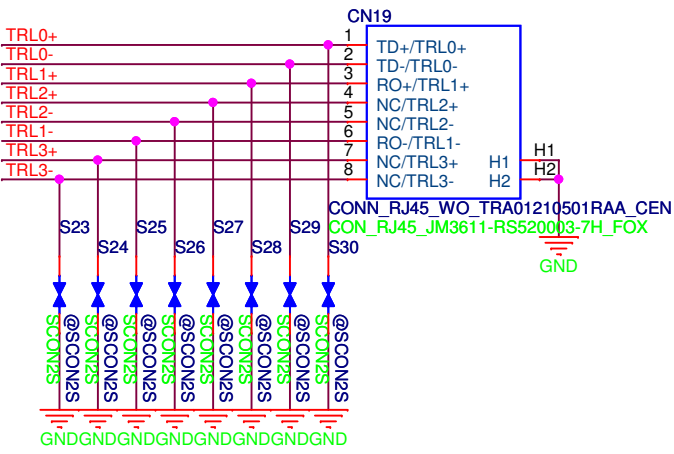
## LAN & Cardreader



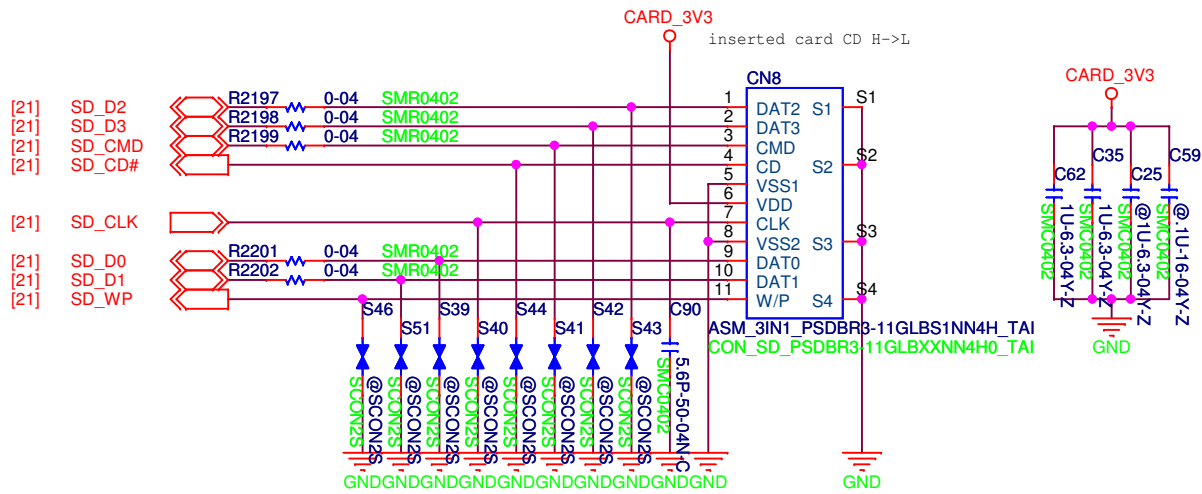
Transformer




RJ45 CONN



Cardreader Connector



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Title

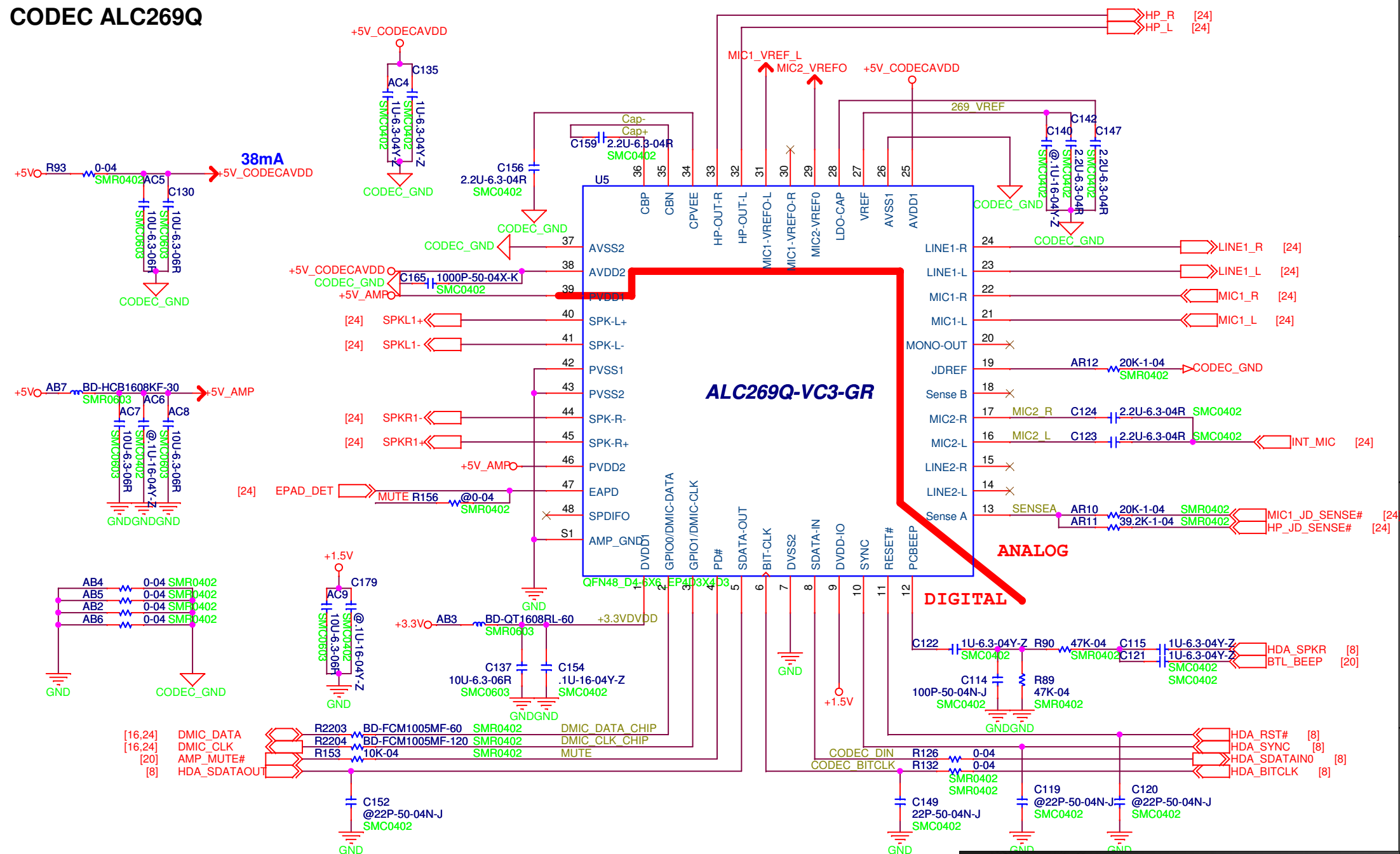
# Braswell

|            |  |            |
|------------|--|------------|
| Size<br>A4 | Document Number<br>RJ45 CONN/ SD Card Socket | Rev<br>1.1 |
|------------|--|------------|

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## CODEC ALC269Q

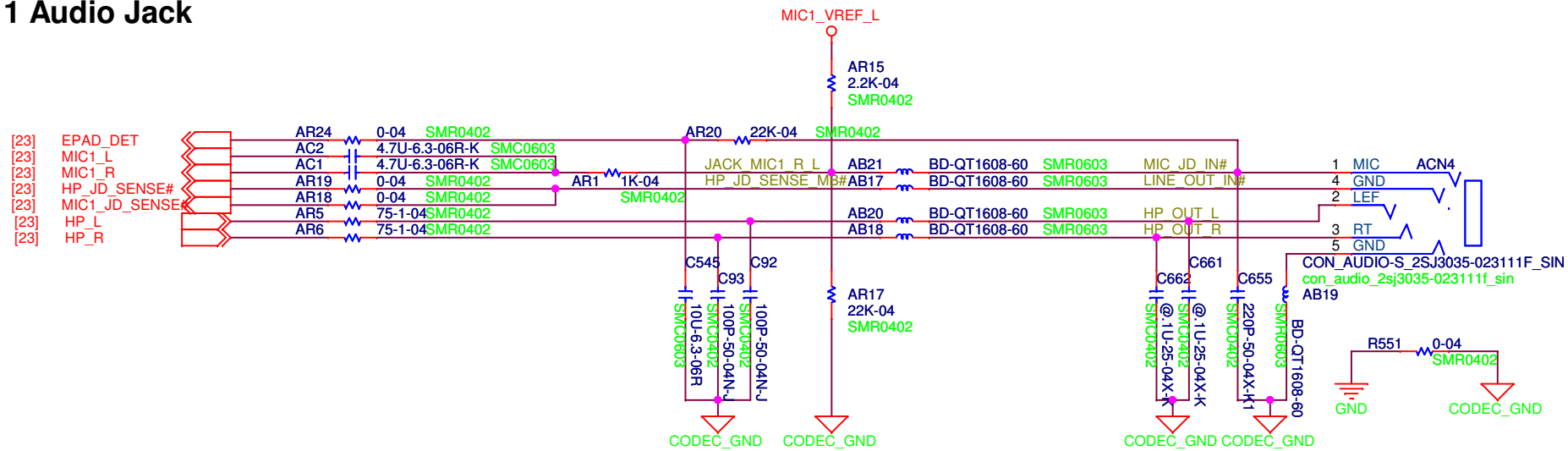
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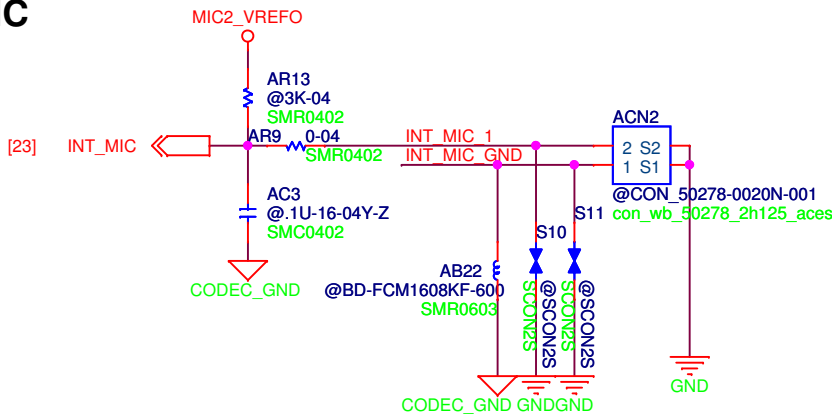
|            |  |  |  |                 |    |            |    |
|------------|--|--|--|-----------------|----|------------|----|
| Title      |  |  |  | <b>Braswell</b> |    |            |    |
| Size<br>A4 | Document Number<br><b>AUDIO CODEC(ALC269Q)</b> |  |  |                 |    | Rev<br>1.1 |    |
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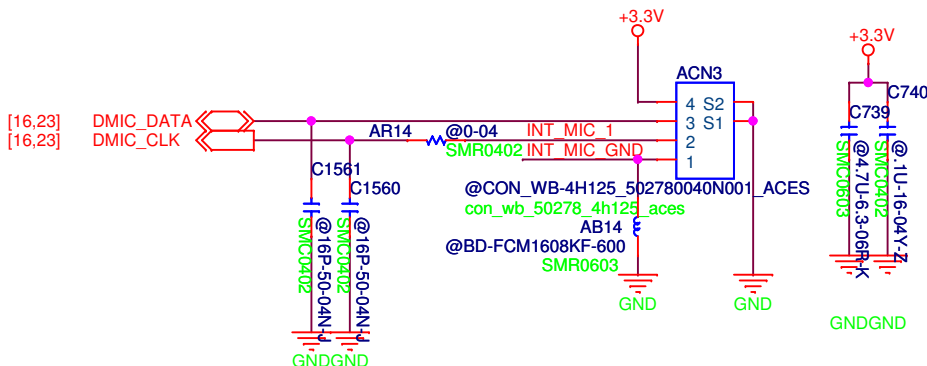
2 IN 1 Audio Jack



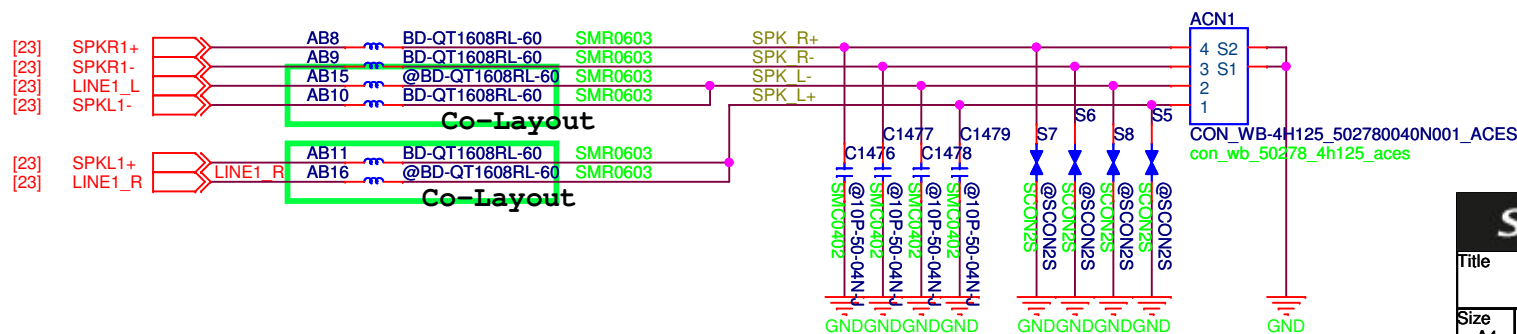
INT\_MIC



Digital Mic

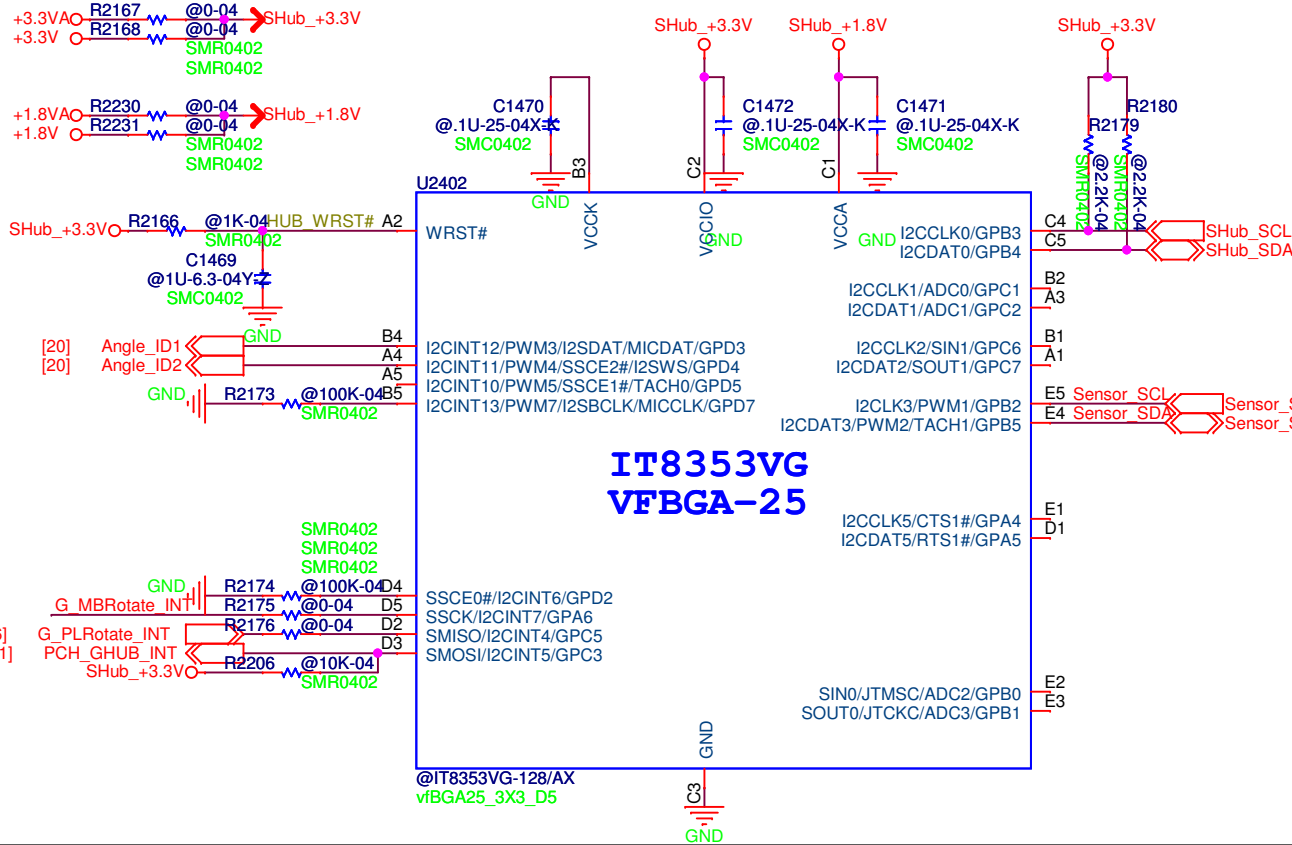


INT\_SPEAKER

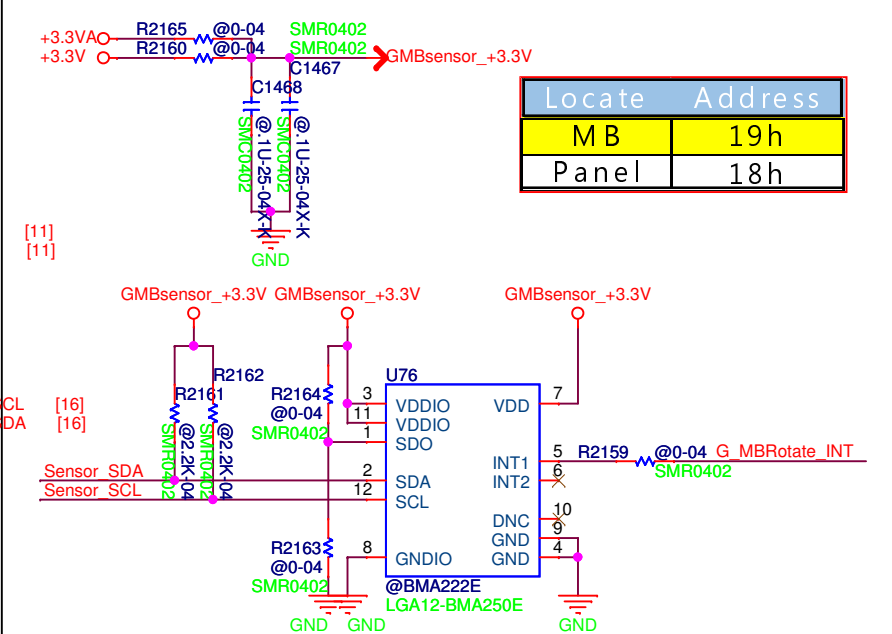




## SENSOR HUB

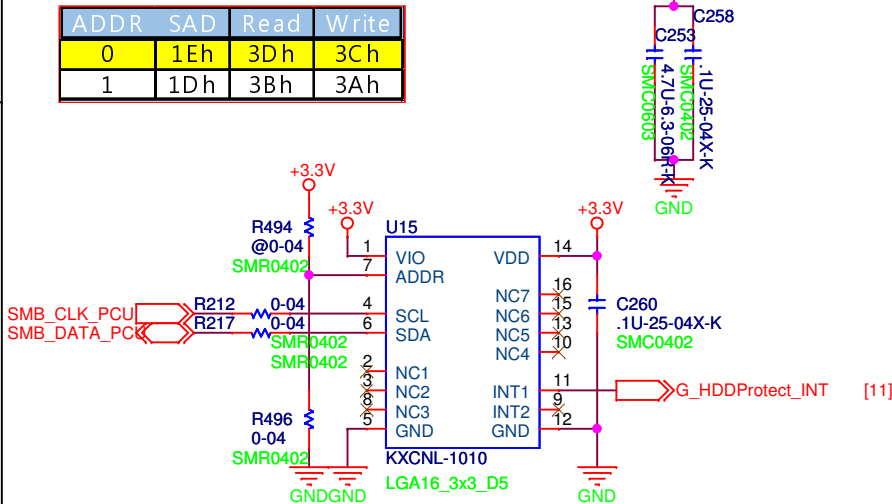


## G SENSOR For Rotate



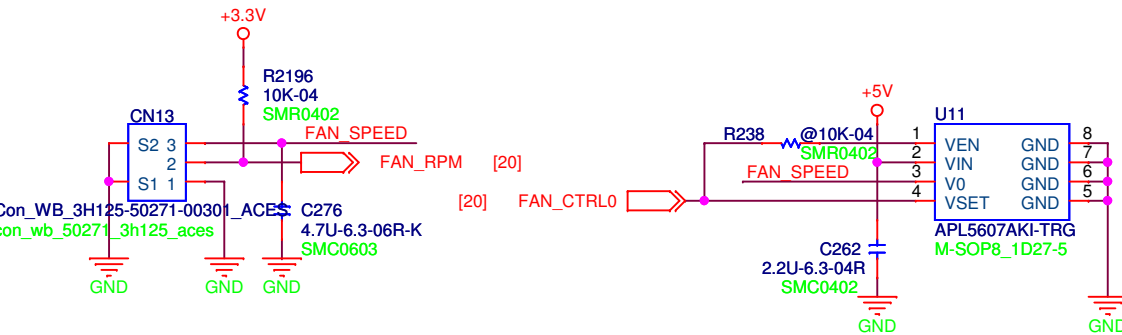
| Locate | Address |
|--------|---------|
| MB     | 19h     |
| Panel  | 18h     |

## G SENSOR For HDD Protect



| ADDR | SAD | Read | Write |
|------|-----|------|-------|
| 0    | 1Eh | 3Dh  | 3Ch   |
| 1    | 1Dh | 3Bh  | 3Ah   |

## FAN CONTROLLER



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Title: **Braswell**

Size: A4 Document Number: **Sensor Hub/G-sensor/ Fan** Rev: 1.1

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VGG POWER

| SEL1 | SEL0 | SVIDrail addr | I2C |
|------|------|---------------|-----|
| 0    | 0    | 00H           | 20H |
| 0    | 1    | 01H           | 22H |
| 1    | 1    | 05H           | 26H |

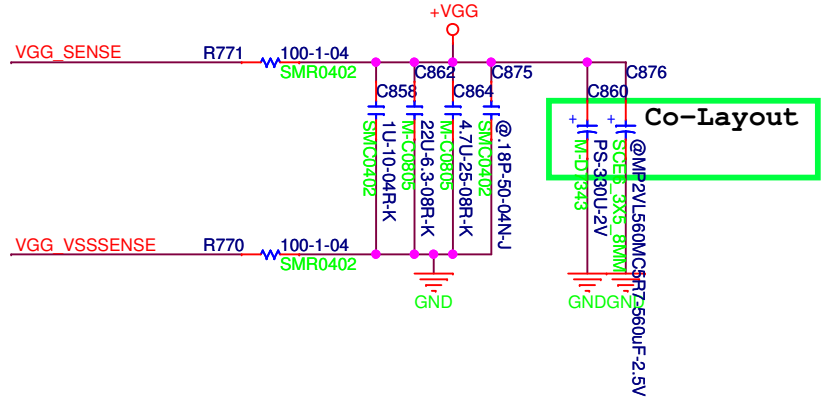
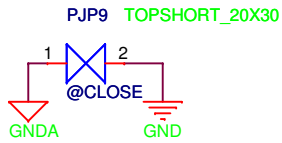
- [20,27] SMB\_CLK\_EC
- [20,27] SMB\_DATA\_EC
- [9,27] H\_VIDALERT#
- [9,27] H\_CPU\_SVIDDAT
- [9,27] H\_CPU\_SVIDCLK
- [9,27,32] VR\_TTB

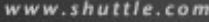

[20] VGG\_ON

[9] VGG\_SENSE

VGG SENSE

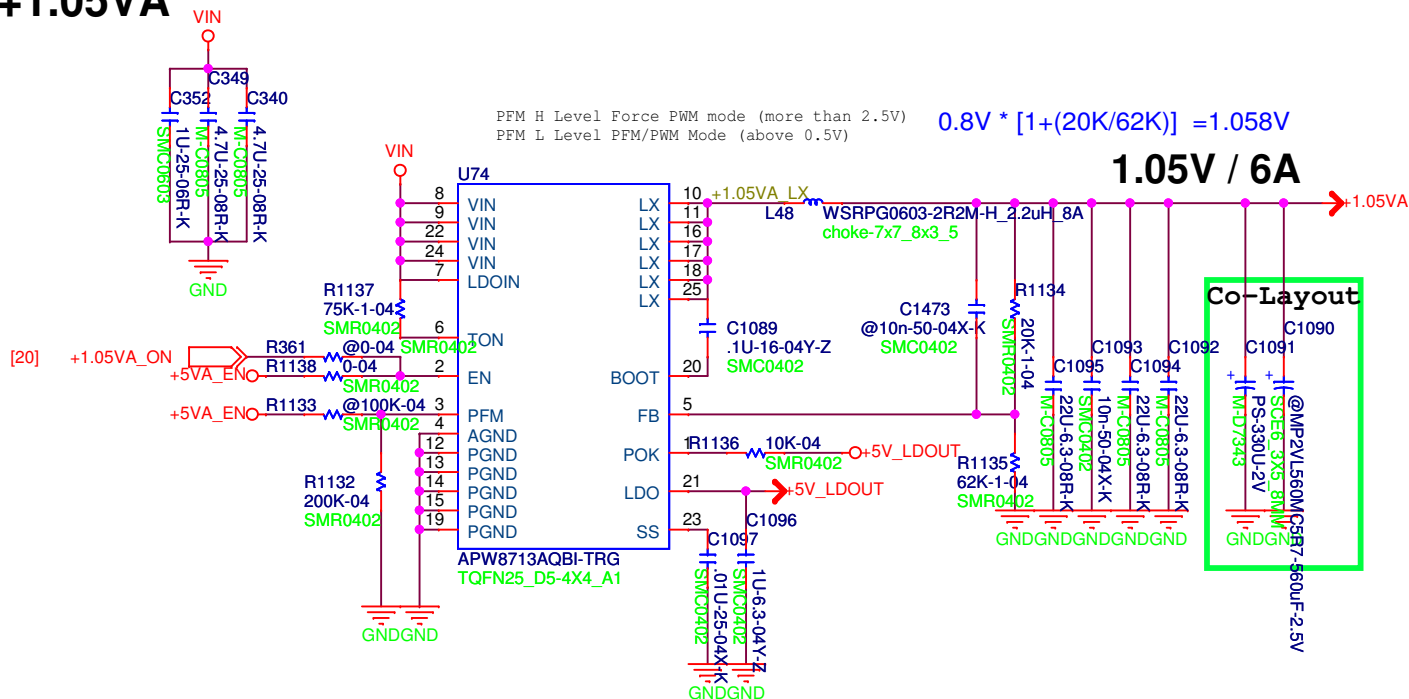
VGG\_VSSSENSE



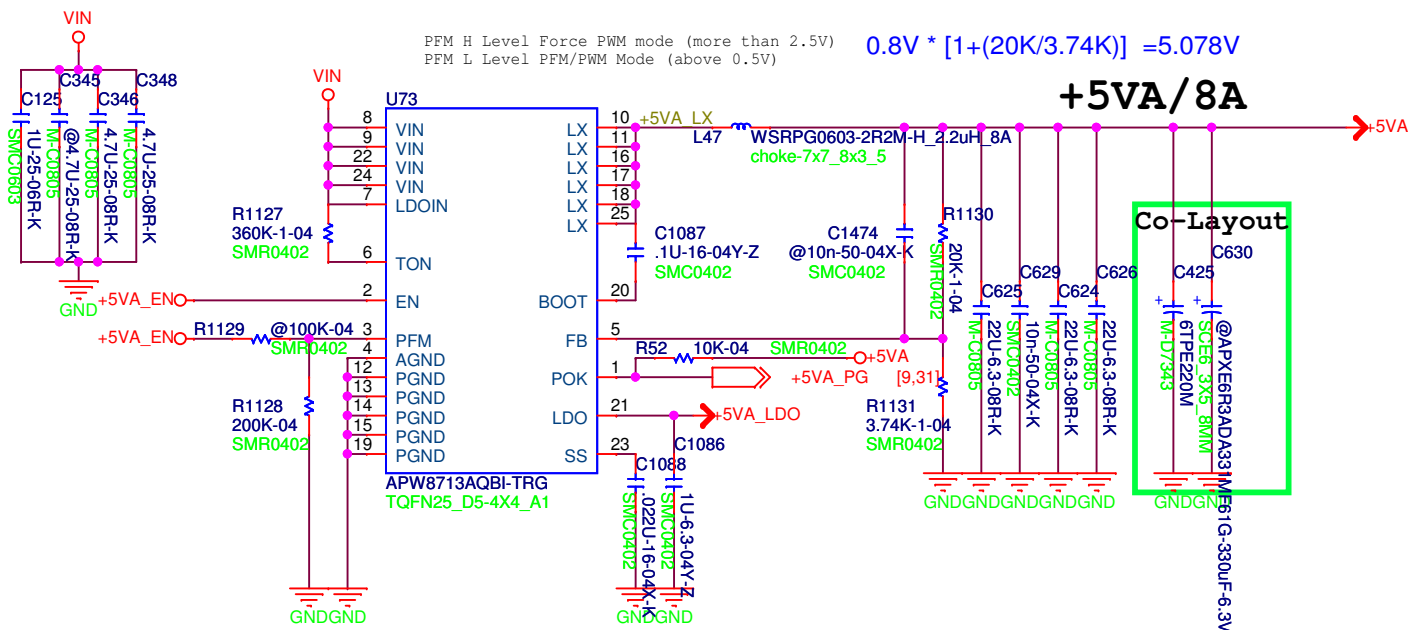


|                                  |                 |                |          |         |
|----------------------------------|-----------------|----------------|----------|---------|
| Title                            |                 |                | Braswell | Rev 1.1 |
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| +VGG CORE (OZ8271)               |                 |                |          |         |
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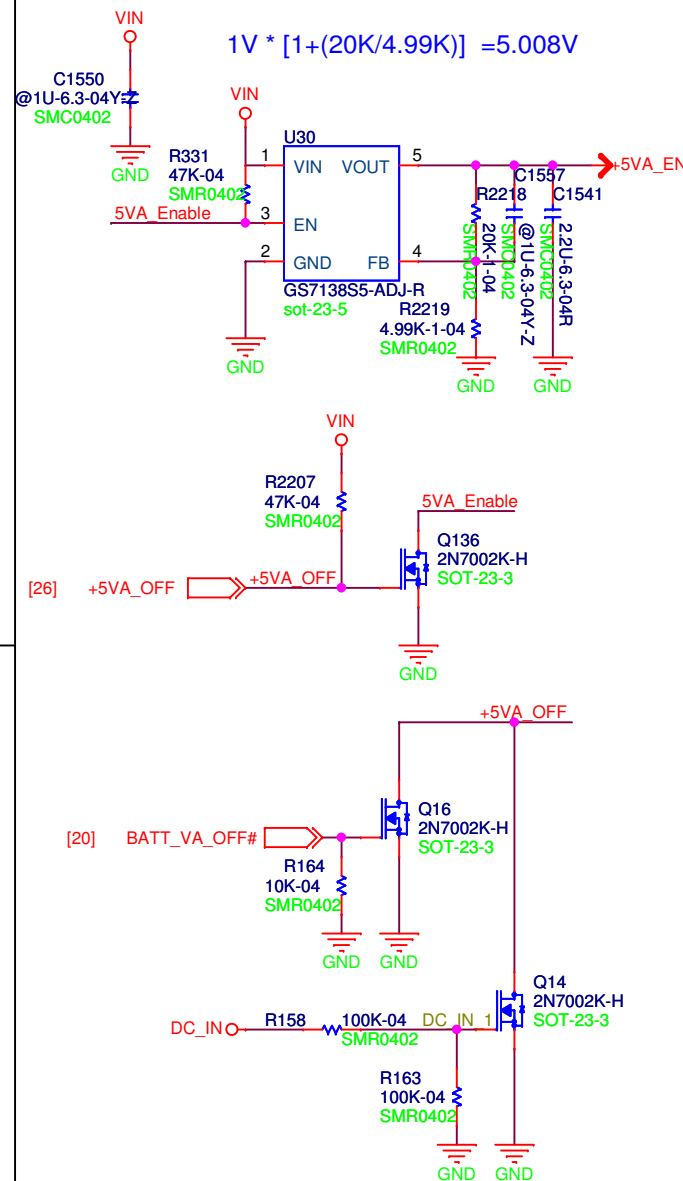
# +1.05VA



# +5VA



# Power Save Function

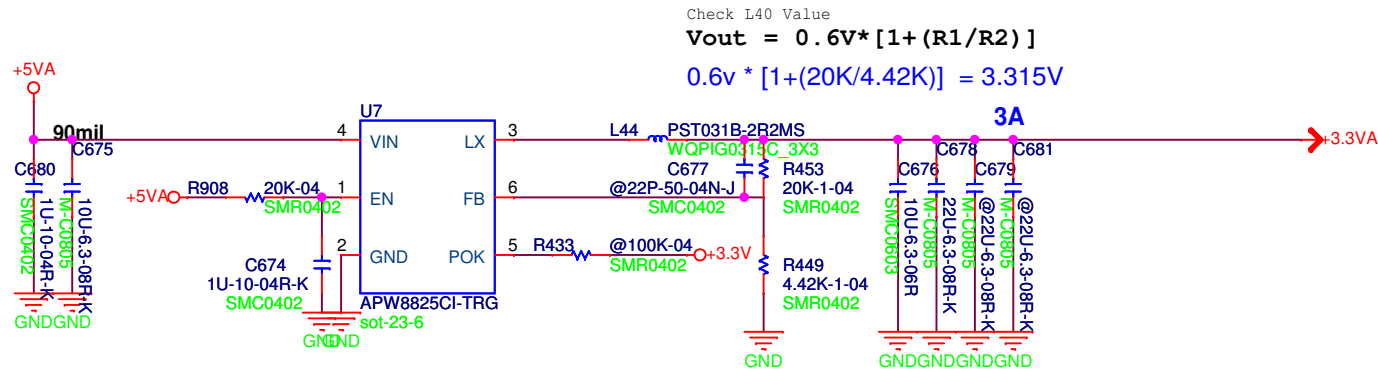


Shuttle®

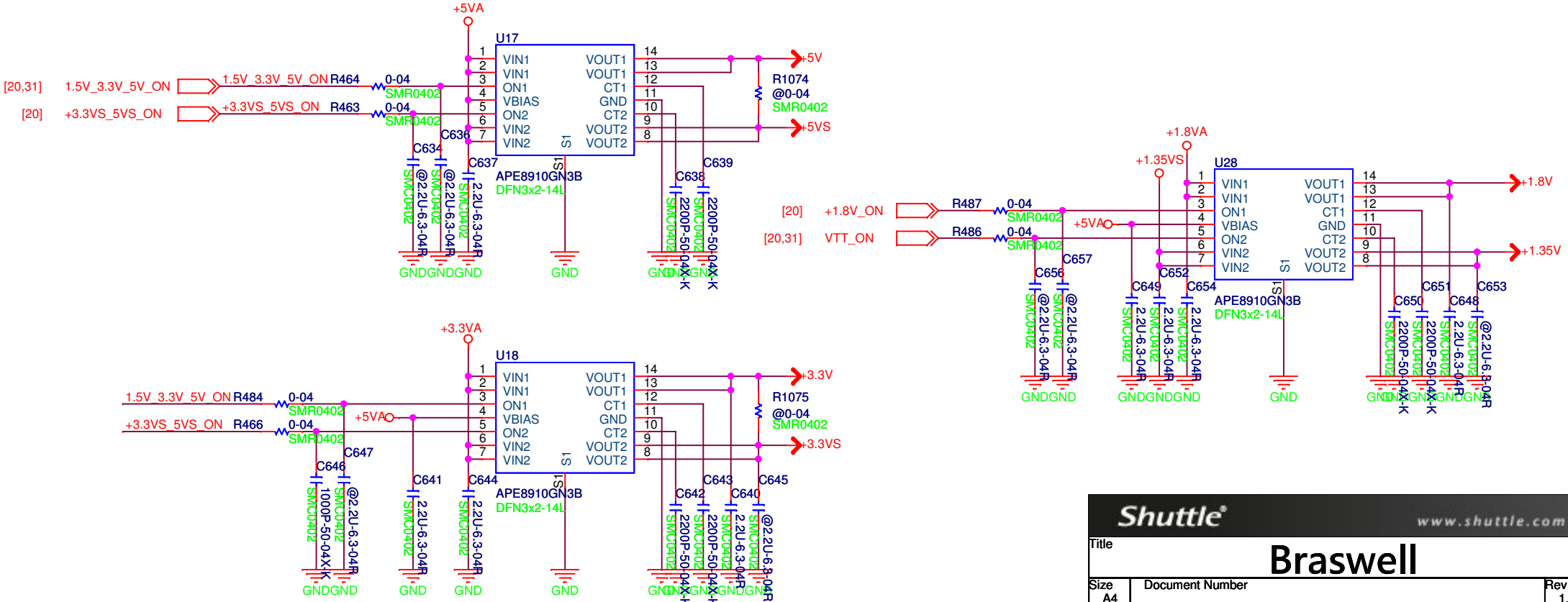
www.shuttle.com

|       |                         |                 |              |       |
|-------|-------------------------|-----------------|--------------|-------|
| Title |                         |                 | Braswell     |       |
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# 3.3VA Step Down Convert



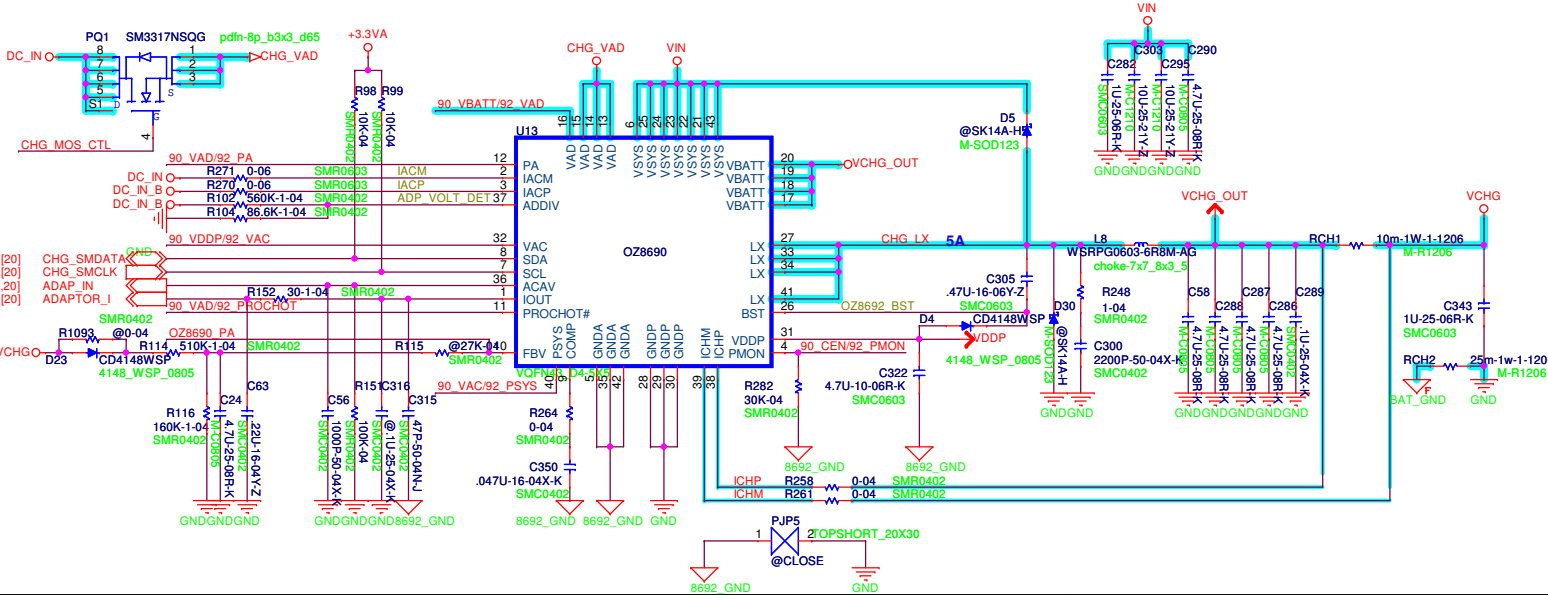
# VCC Switch





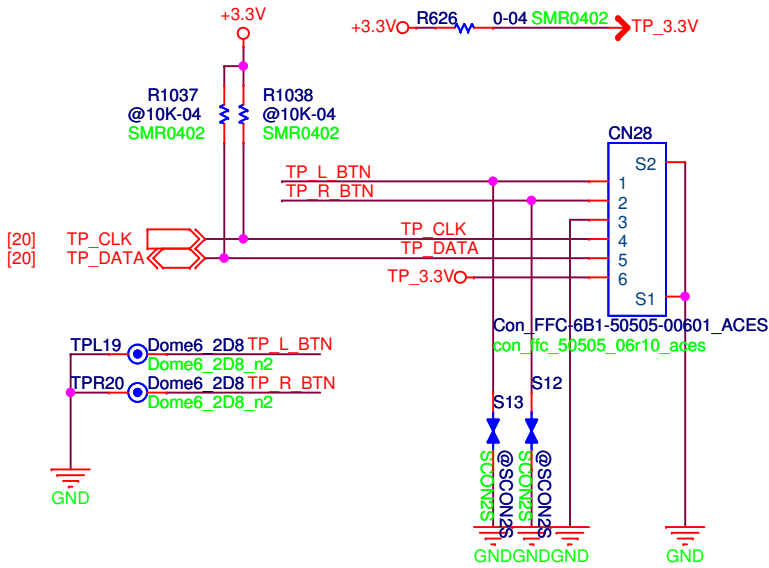


CHARGER

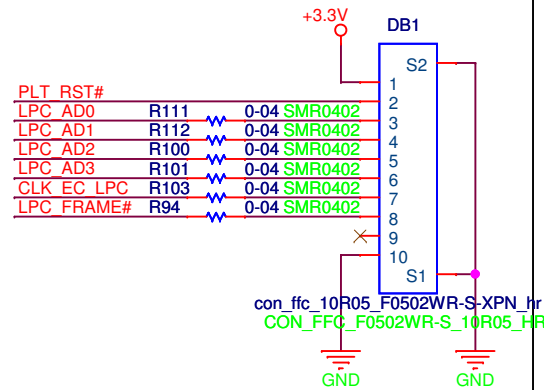




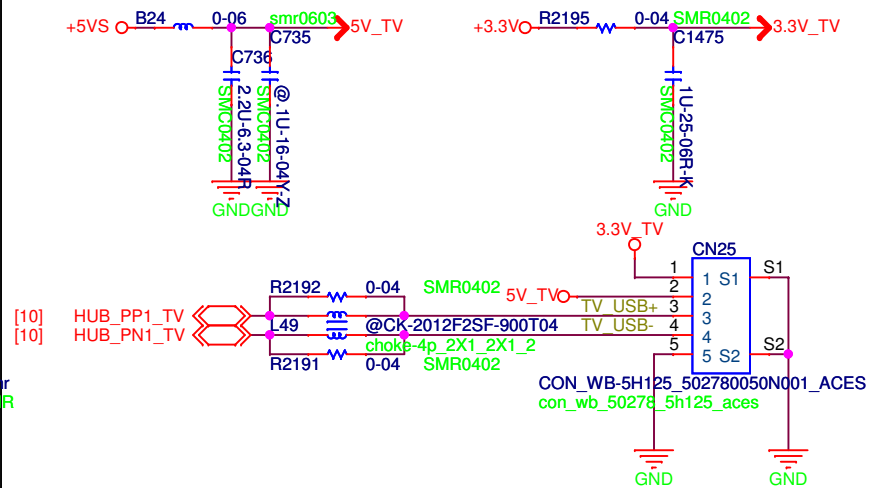
## Touch Pad



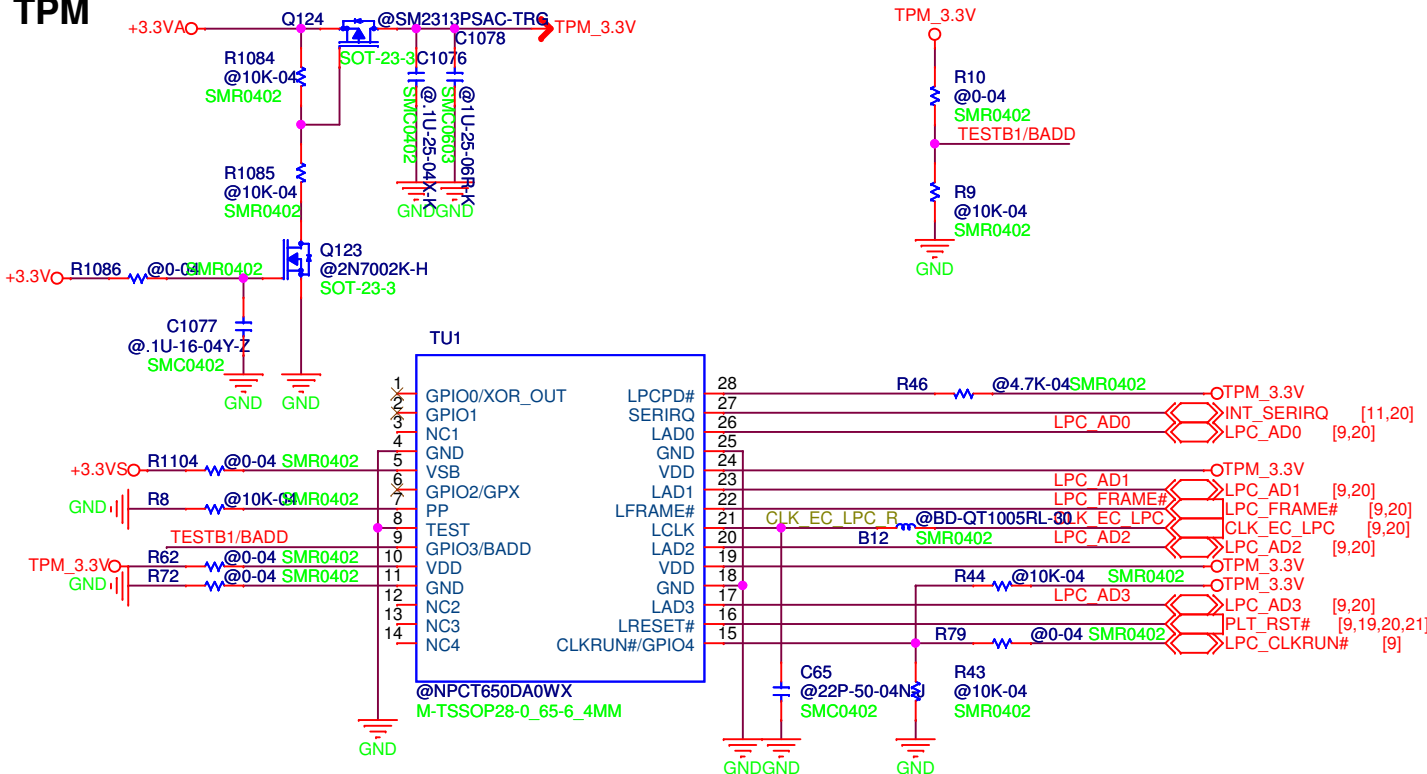
## PORT 80



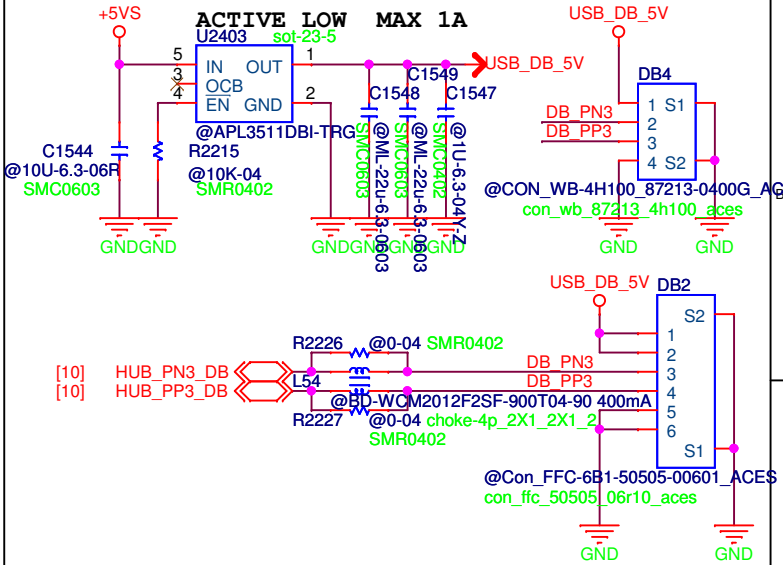
## TV Module



## TPM



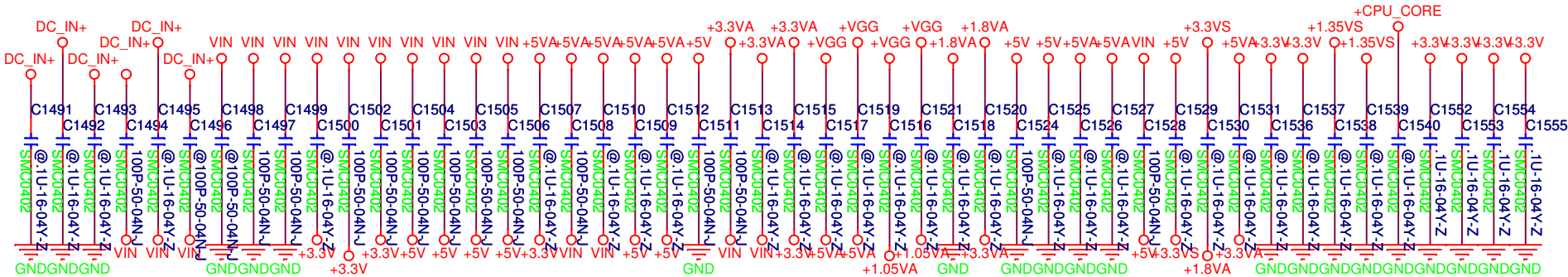
## USB DB CONN



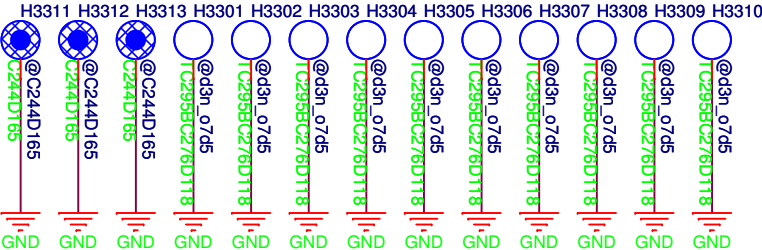
|                          |                                   |  |                   |
|--------------------------|-----------------------------------|--|-------------------|
|                          |                                   | <a href="http://www.shuttle.com">www.shuttle.com</a> |                   |
| <b>Title</b>             |                                   |  |                   |
| <b>Braswell</b>          |                                   |  |                   |
| <b>Size</b><br>A4        | <b>Document Number</b>            |  | <b>Rev</b><br>1.1 |
| <b>TP/LED/TPM/USB DB</b> |                                   |  |                   |
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HIGH-SPEED CAP

Discharge Resistor



Screw Hole






|       |                            |  |          |    |       |
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|   |   |   |   |   |
|---|---|---|---|---|
| 5 | 4 | 3 | 2 | 1 |
| D |   |   |   | D |
| C |   |   |   | C |
| B |   |   |   | B |
| A |   |   |   | A |

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Title

Braswell

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