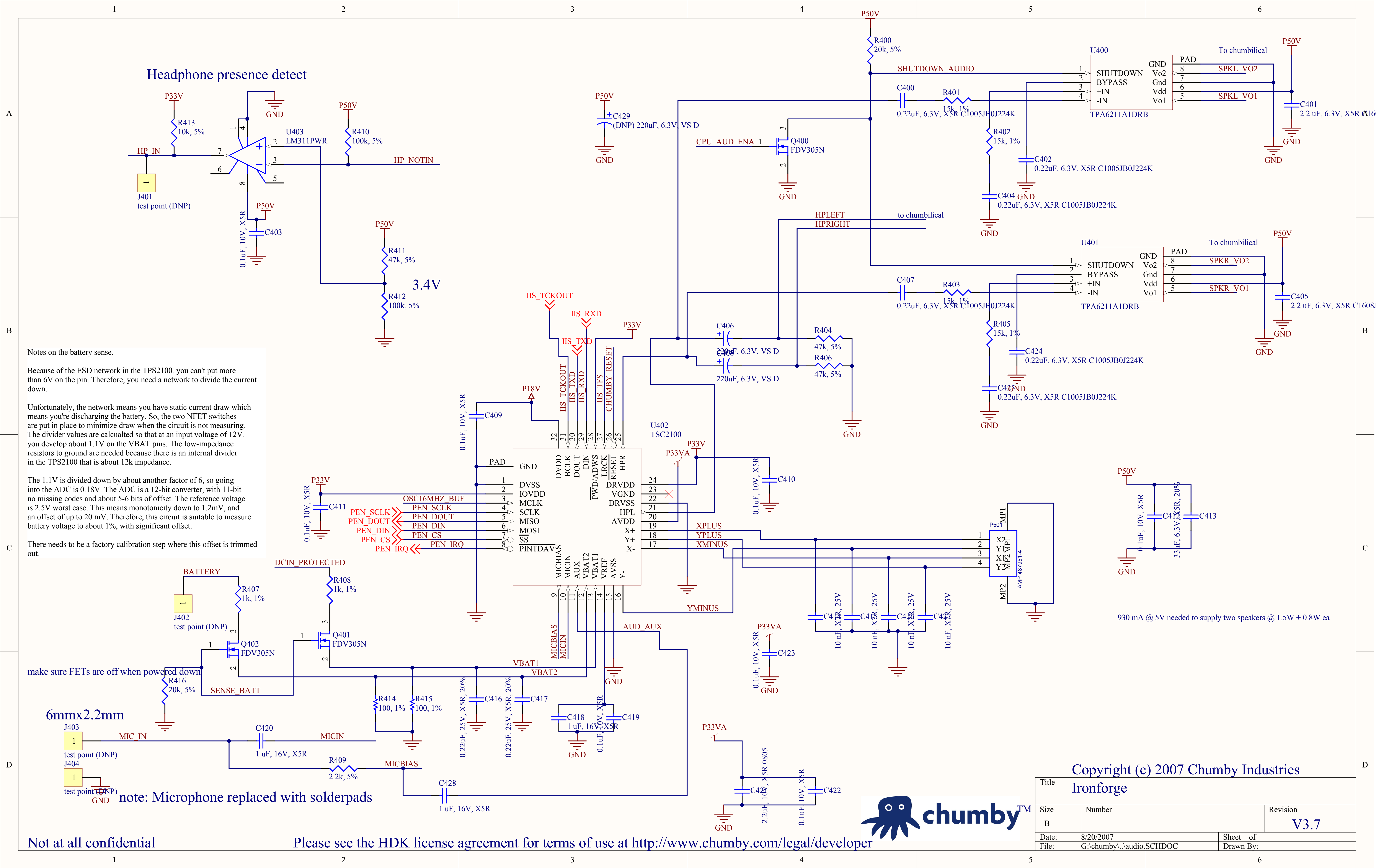
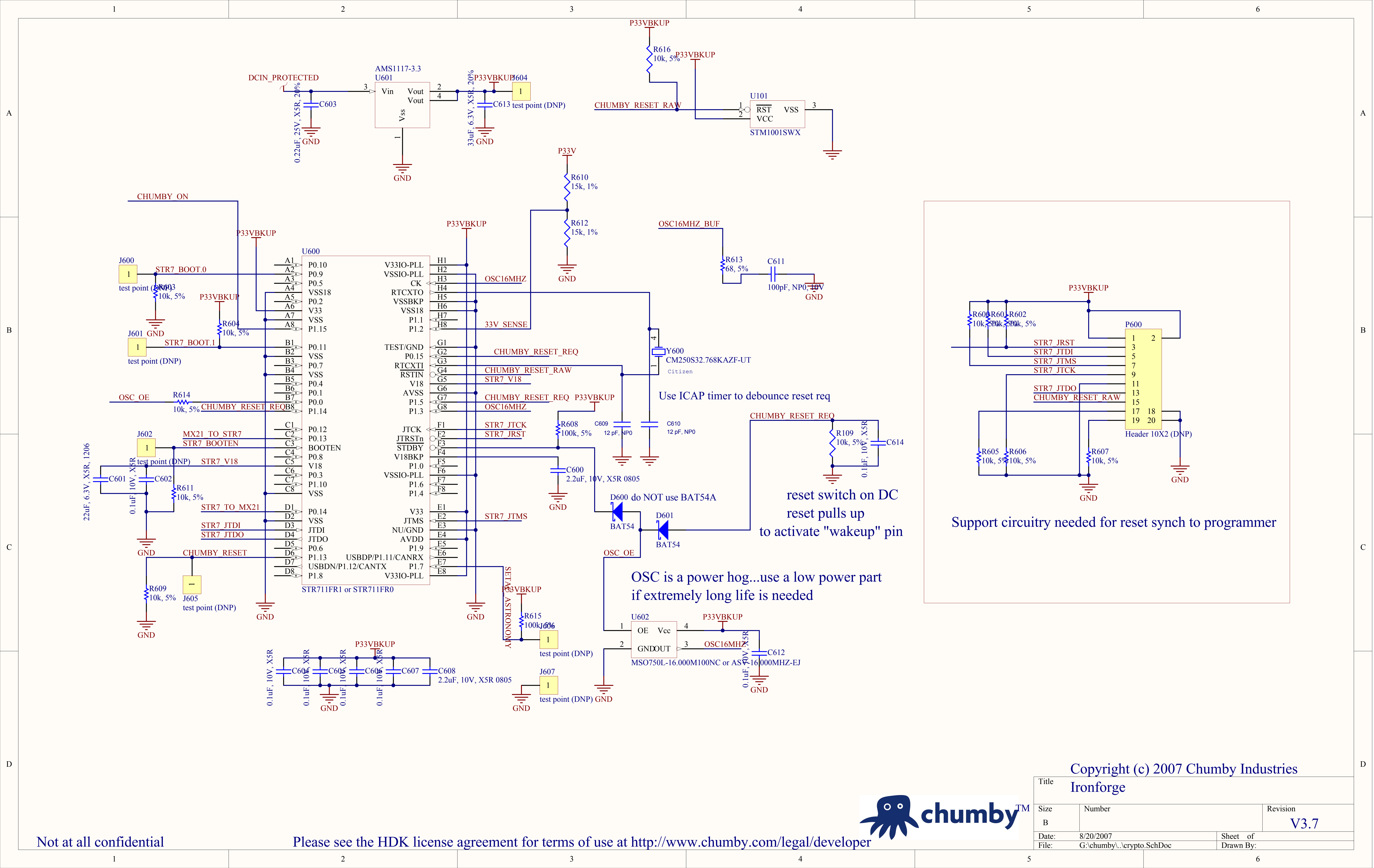
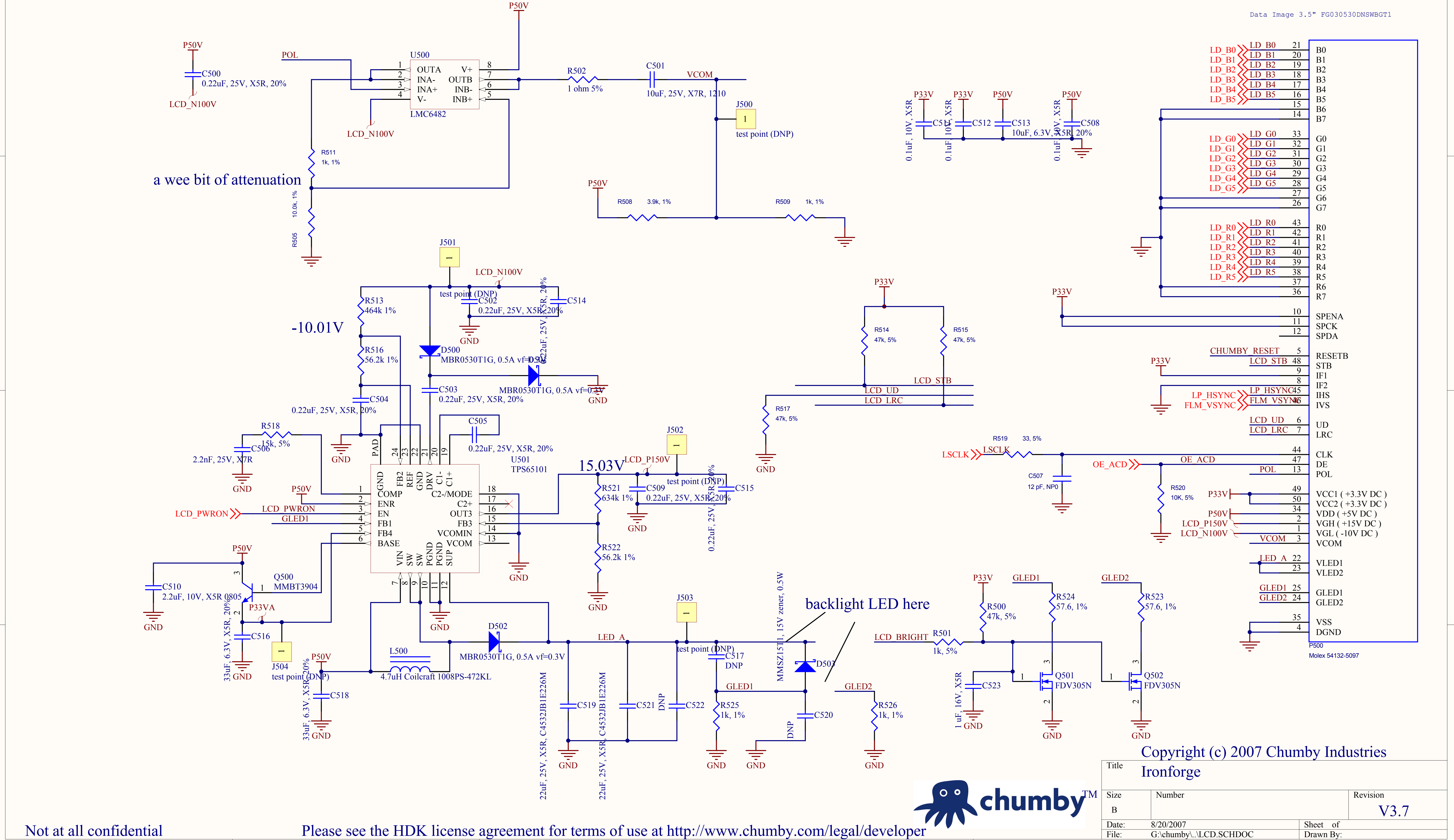








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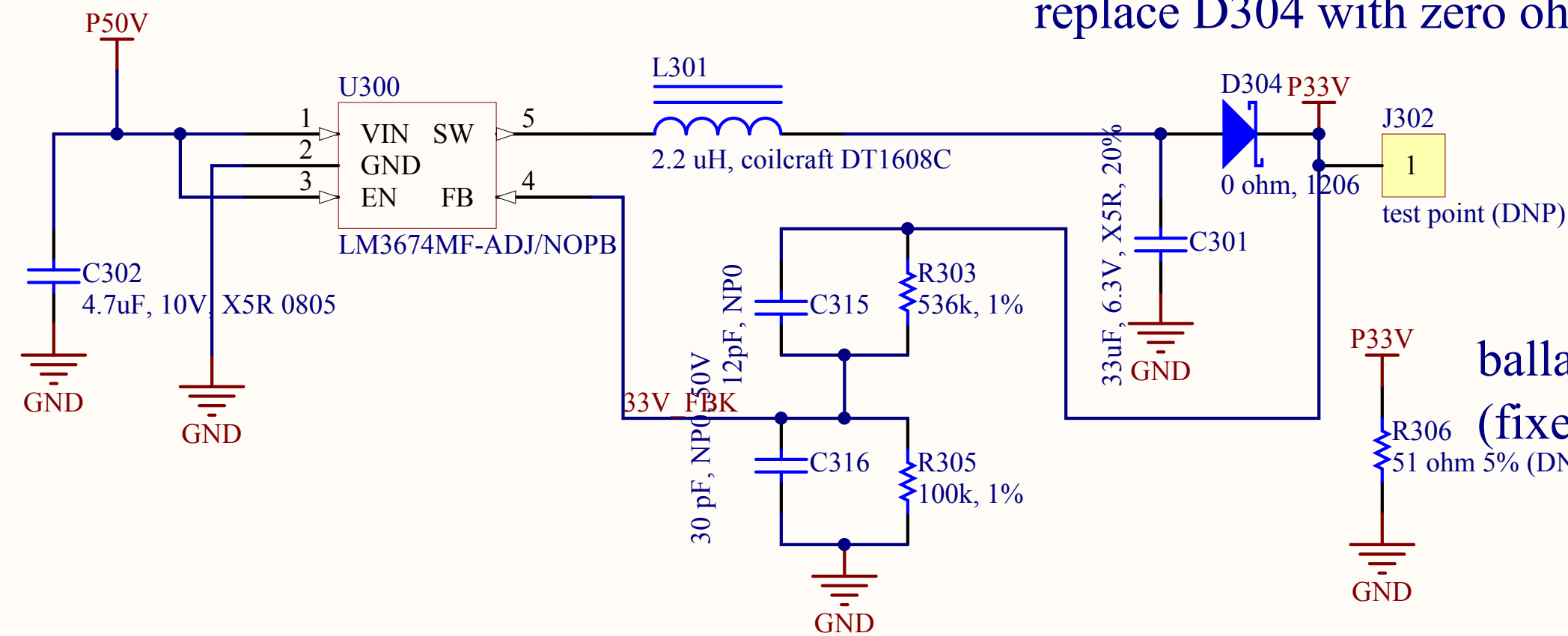
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B	Number	V3.7
Date:	8/20/2007	Sheet of
File:	G:\chumby\LCD.SCHDOC	Drawn By:

3.3V regulator (3.18V, 2% set point)

C315 to max value of 15pF (increase phase margin at expense of bandwidth)

Scale rdiv network down by 2 to reduce noise sensitivity

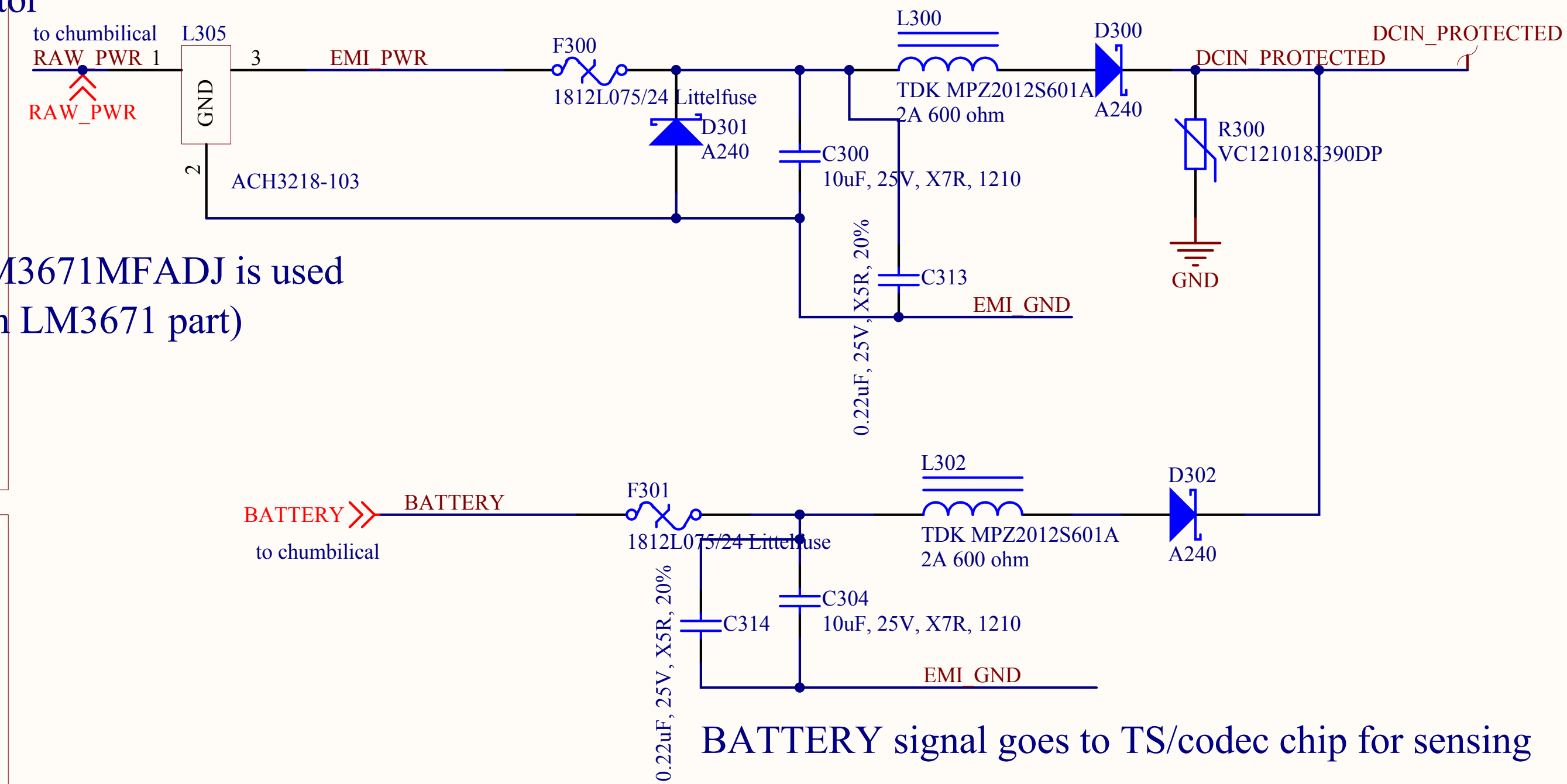
replace D304 with zero ohm resistor



ballast if LM3671MFADJ is used
(fixes bug in LM3671 part)

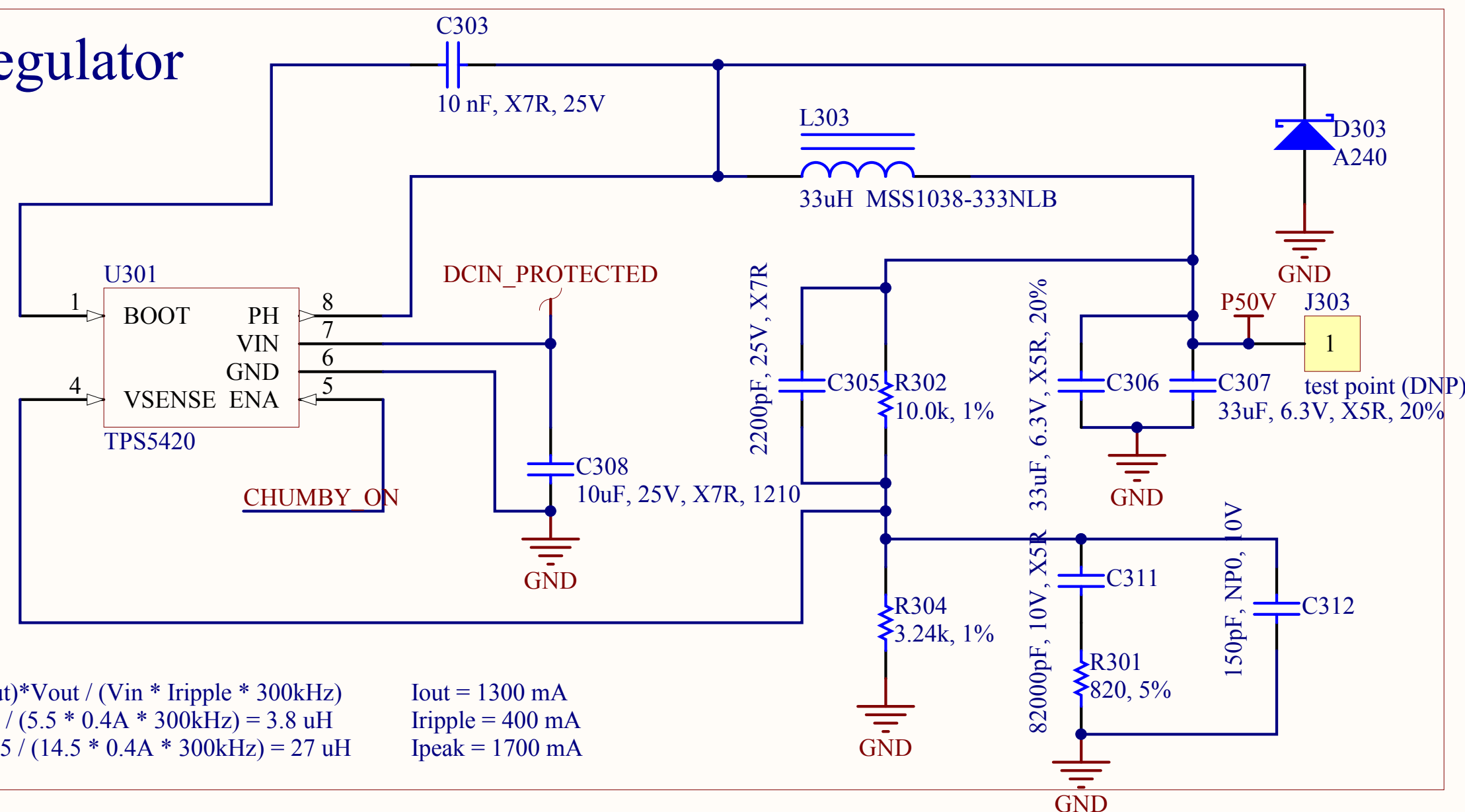
5.5V - 15.5V capable (from battery)

10V - 15.5V capable (from wall w/ 9V battery)



BATTERY signal goes to TS/codec chip for sensing

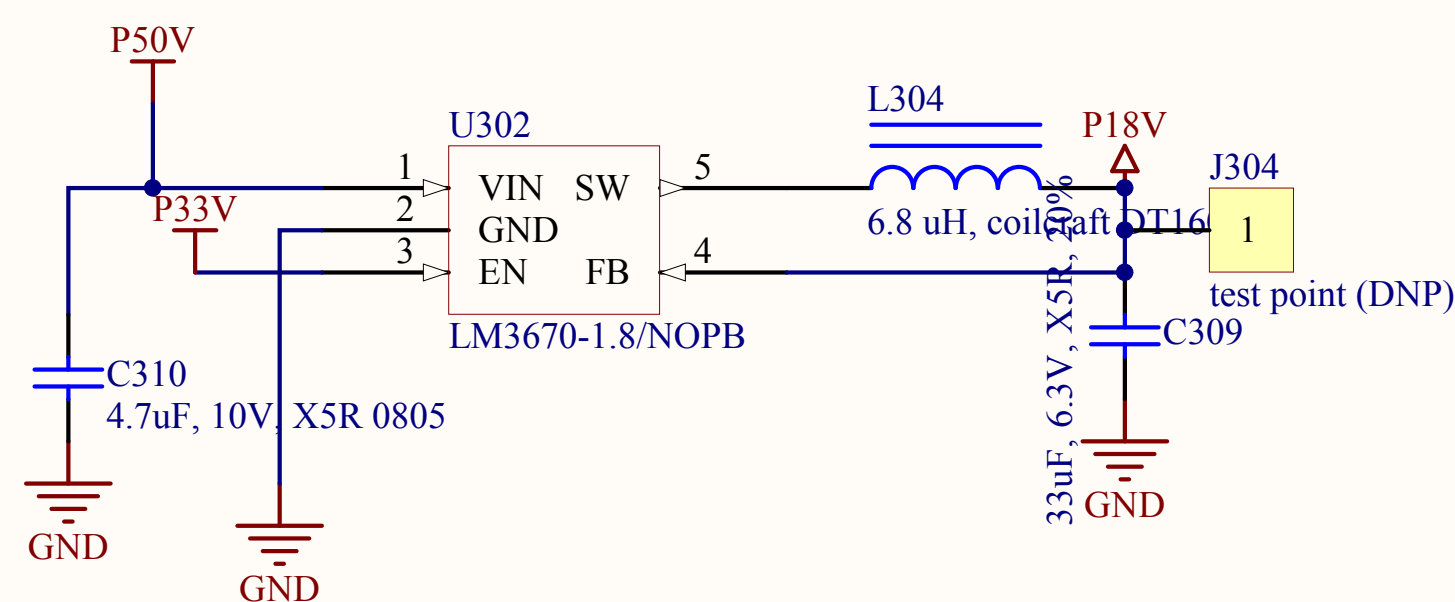
5V regulator


$$L = (V_{in} - V_{out}) * V_{out} / (V_{in} * I_{ripple} * 300\text{kHz})$$
$$L = (5.5 - 5) * 5 / (5.5 * 0.4\text{A} * 300\text{kHz}) = 3.8 \text{ uH}$$
$$L = (14.5 - 5) * 5 / (14.5 * 0.4\text{A} * 300\text{kHz}) = 27 \text{ uH}$$

I_{out} = 1300 mA
I_{ripple} = 400 mA
I_{peak} = 1700 mA

1.8V regulator

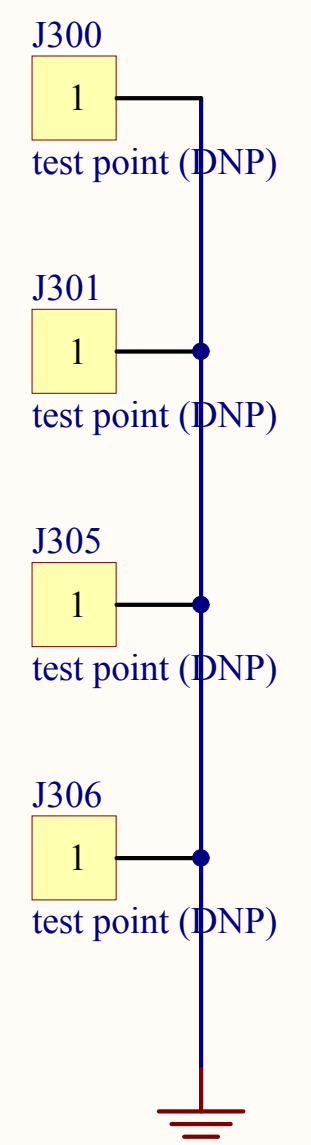
enable off of P33V to enforce power sequencing for MX21



For CHUMBY_ON:

there is a 700k (max) 150k (typ) pull-up on the line from the processor at reset. This, combined with the weak pull-up built into the TPS5420, insures that the chumby will power on without any special configuration on part of the STR711

Ground test points



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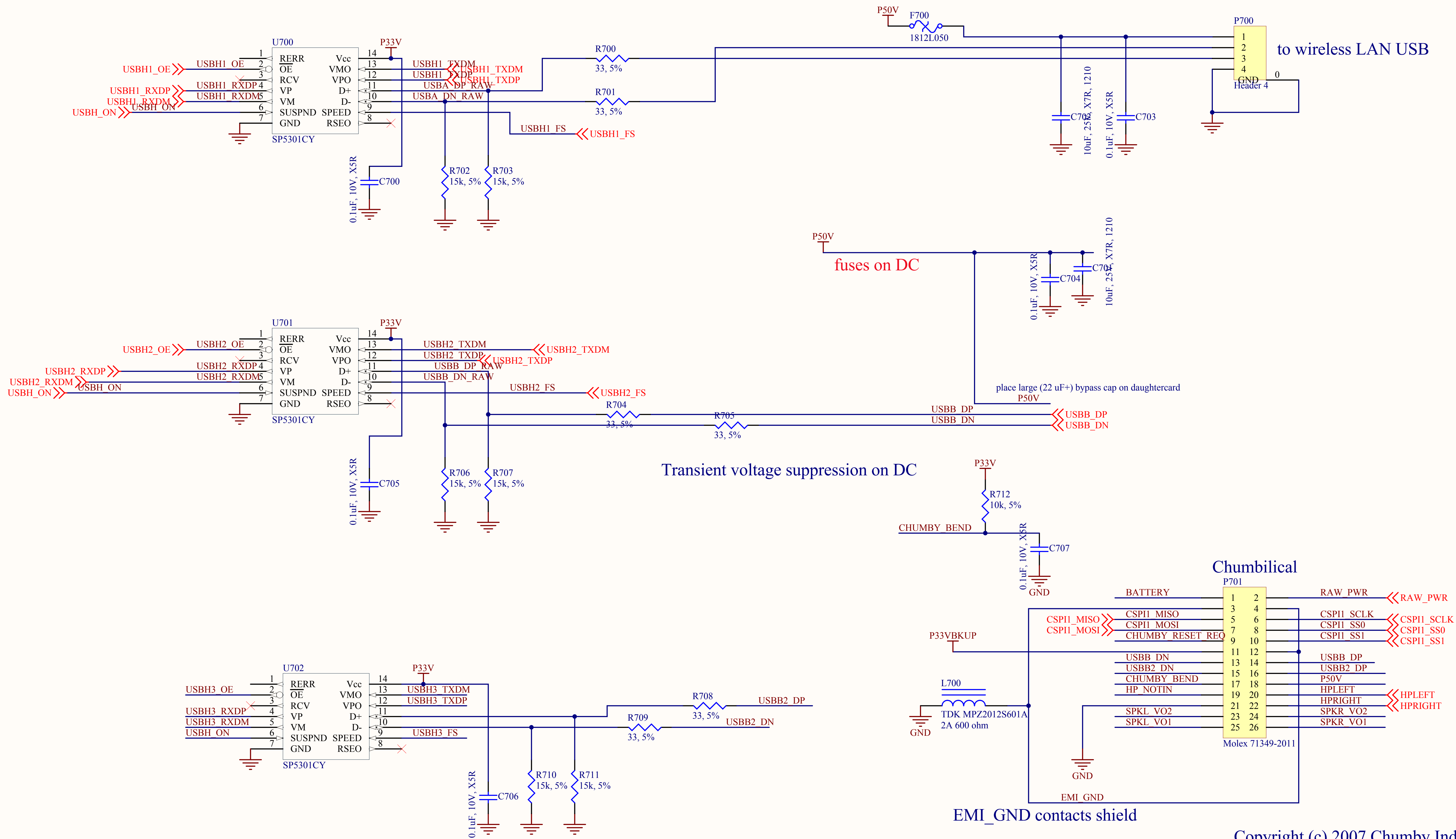
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USBH1_FS is muxed with USBH1_RXDAT



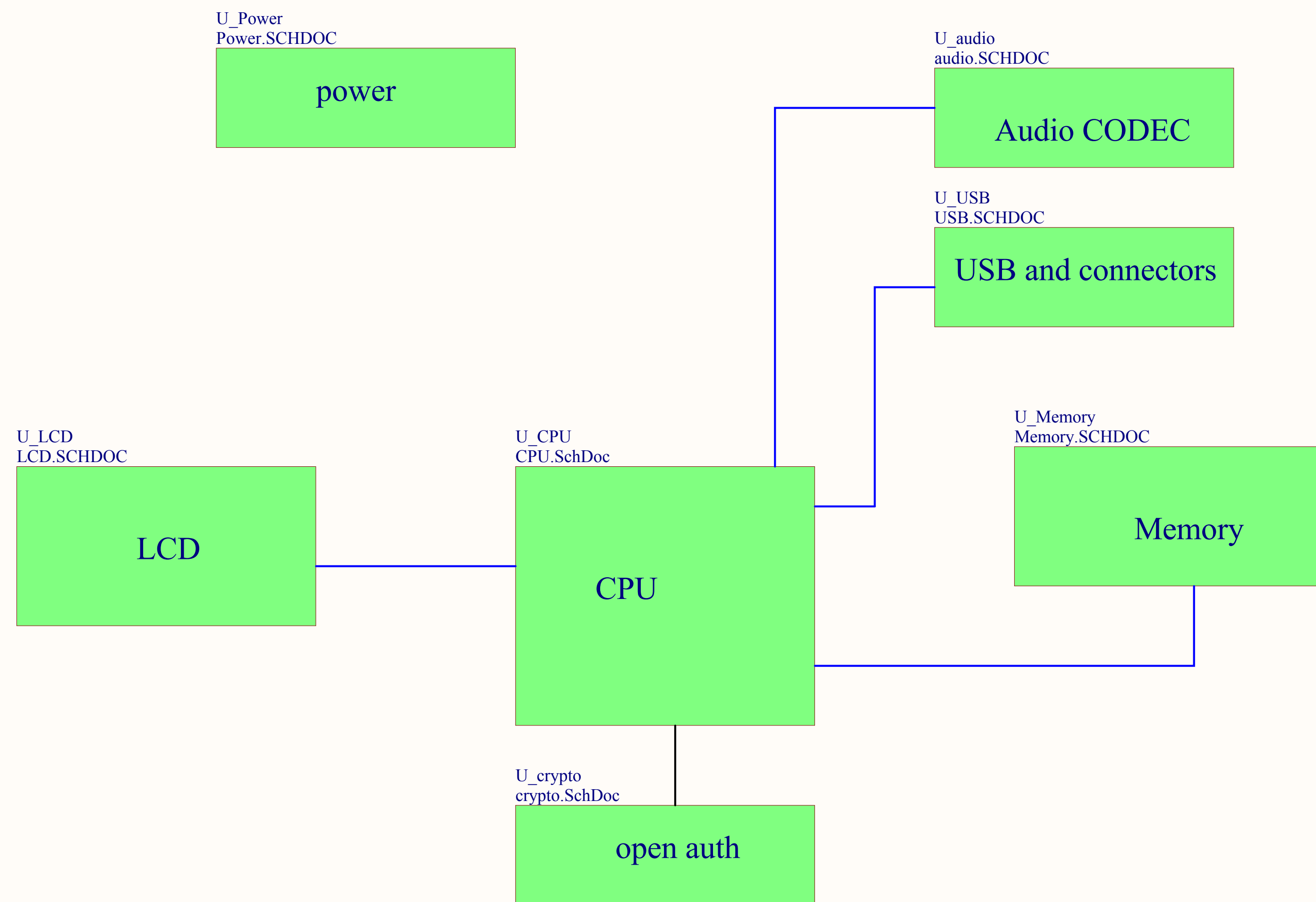
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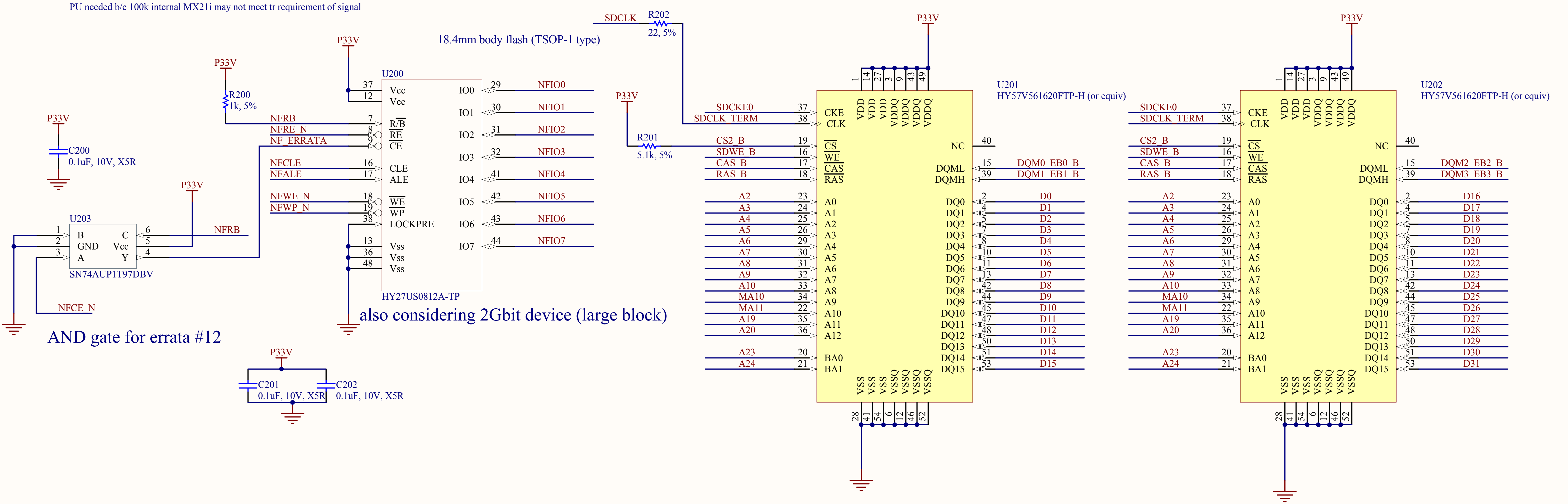


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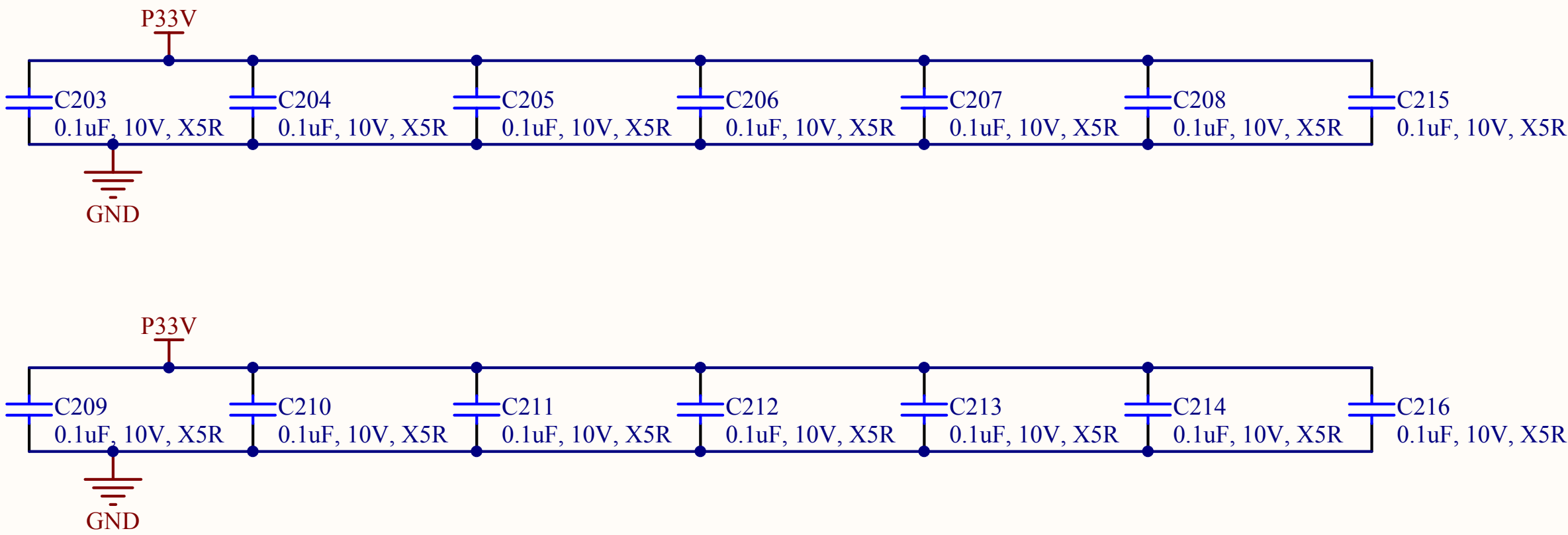


Termination calculations:

Tt (transition time) is about 2.9ns, from the Samsung (Micron equiv) SDRAM datasheet.

At 2.9ns (2900 ps), wavelength is about 16-17 inches. Thus, if the overall trace length can be kept to about 2-3" in length, the system will appear roughly quasistatic as far as the transmission line approximation is concerned.

There is a secondary concern that energy in the transmission lines might cause FCC radiation problems even if the system is electrically functional. Thus, to provide for this case, the layout is structured so that it is fairly easy to add a set of series termination resistors fairly late in the game. However, if we can do without the resistors, it would greatly reduce component count and therefore reduce cost. All traces are laid out with the goal of keeping them on the EMI-shield side of the ground plane as well, so that emissions are contained within the shielded region.



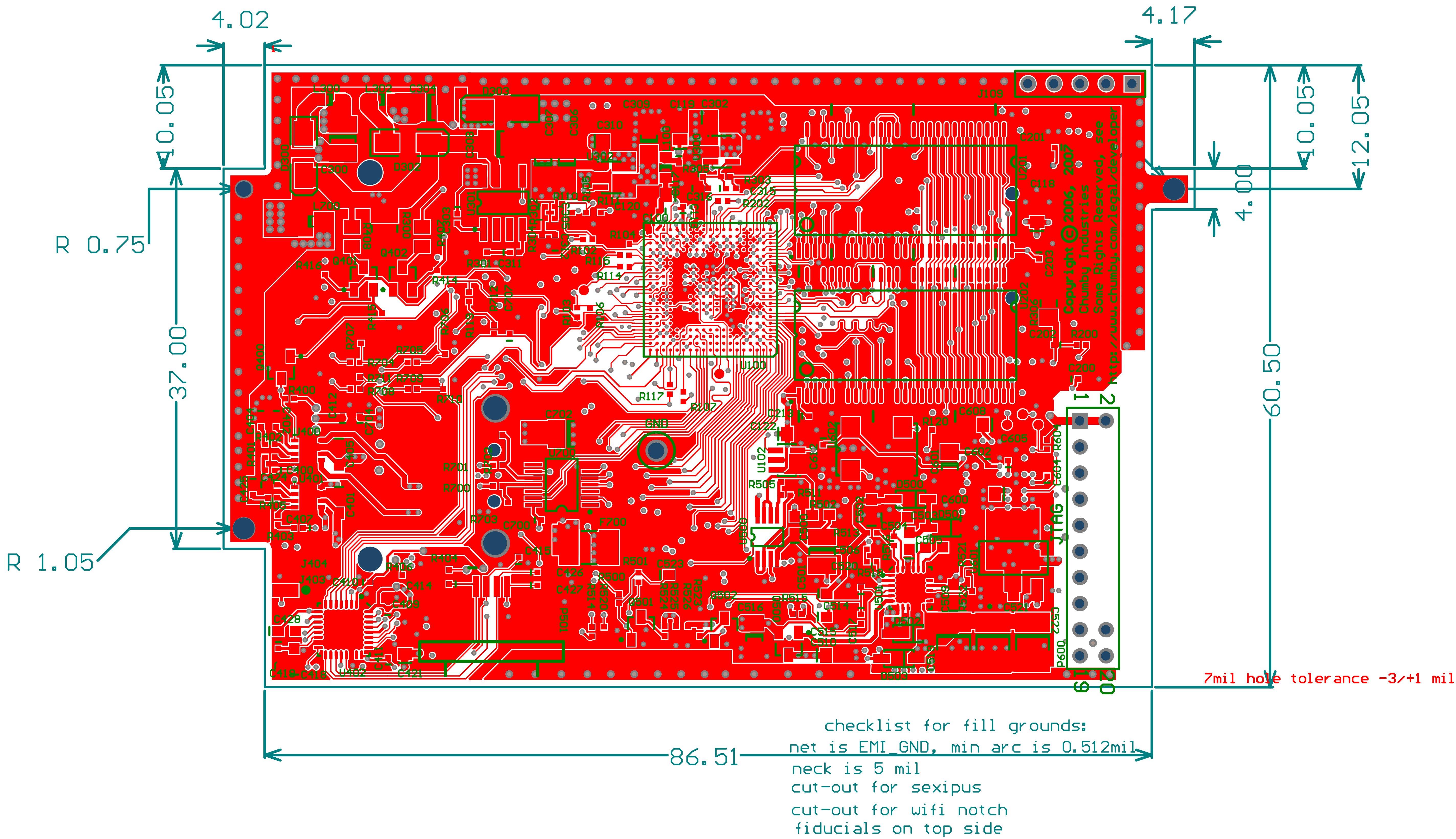
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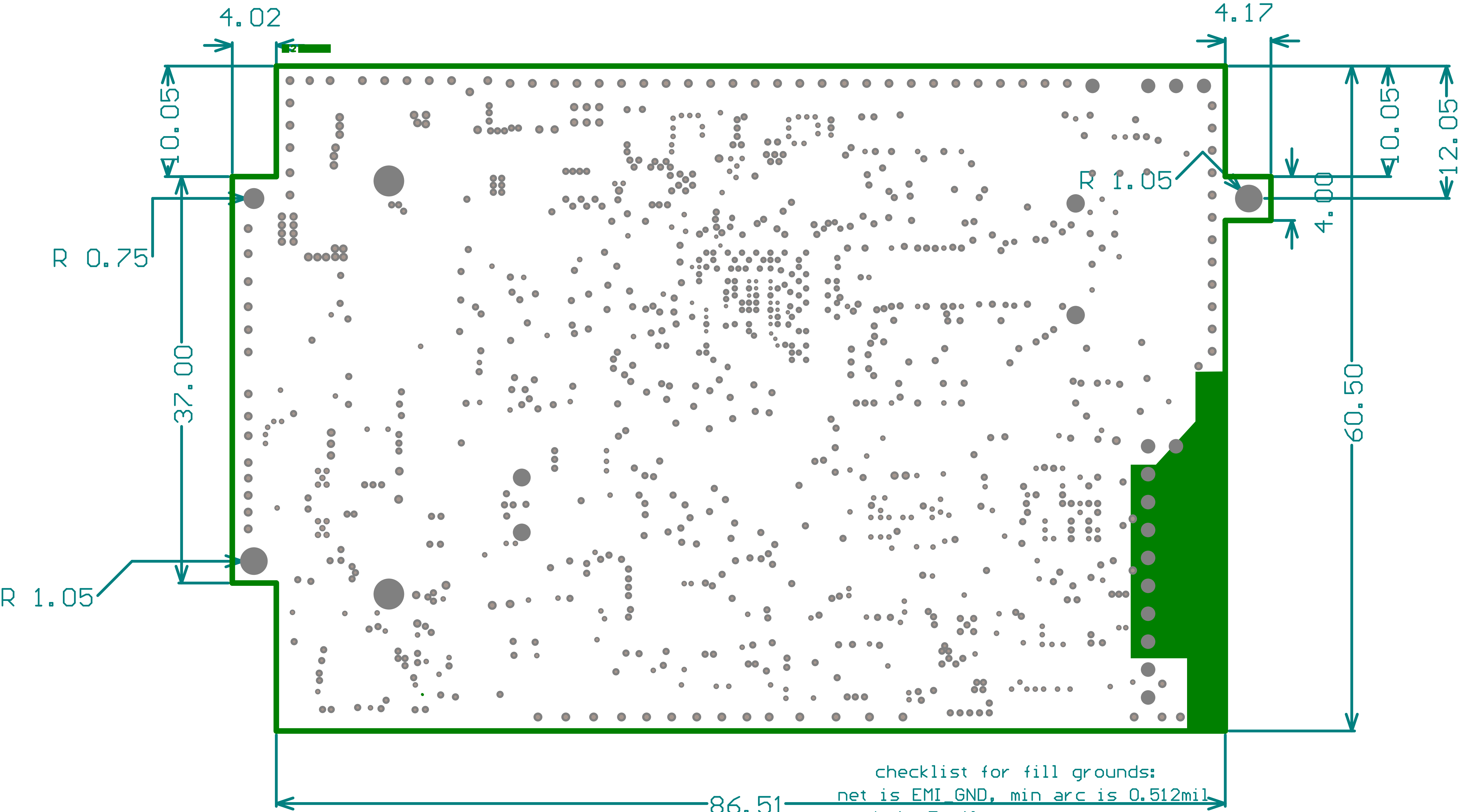


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Date:	8/20/2007	Sheet of
File:	G:\chumby\...\Memory.SCHDOC	Drawn By:

maximum top side clearance = 3mm
(tallest item = touchscreen connector height = 2.56mm +/- 0.18mm)
1.5mm thermal gap pad used (check tolerance of thermal pad)

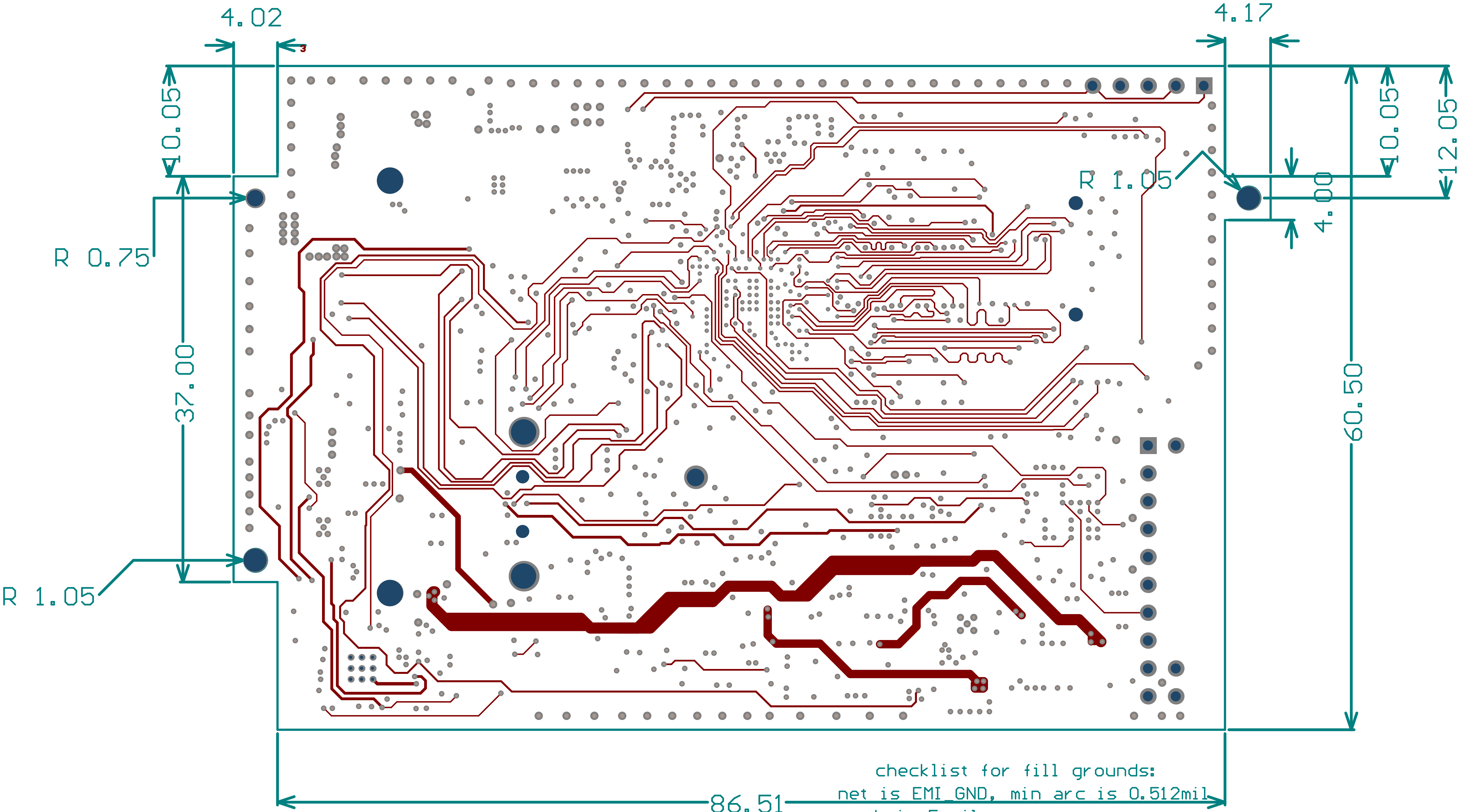


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(tallest item = touchscreen connector height = 2.56mm +/- 0.18mm)
1.5mm thermal gap pad used (check tolerance of thermal pad)



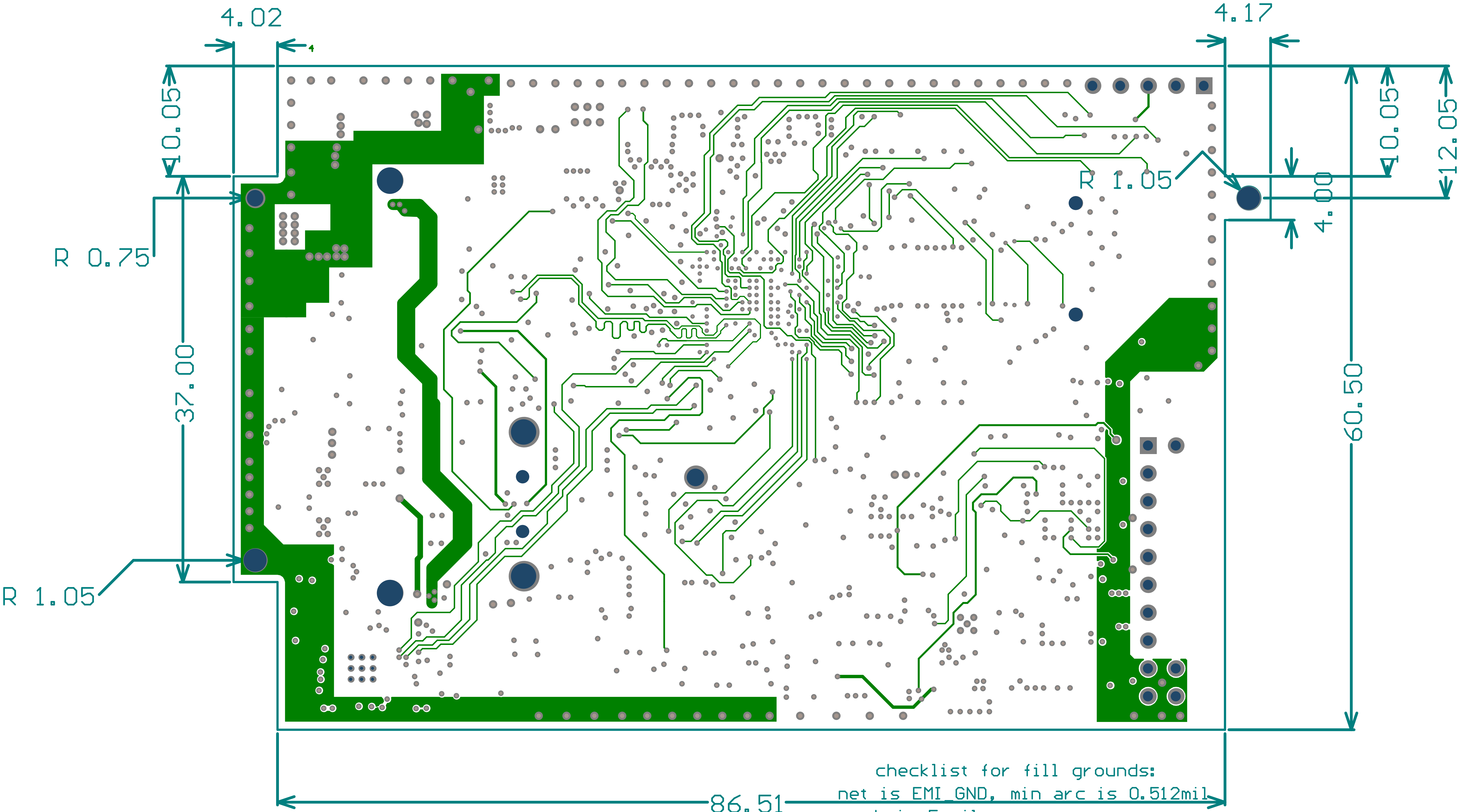
checklist for fill grounds:
net is EMI_GND, min arc is 0.512mil
neck is 5 mil
cut-out for sexipus
cut-out for wifi notch
fiducials on top side

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(tallest item = touchscreen connector height = 2.56mm +/- 0.18mm)
1.5mm thermal gap pad used (check tolerance of thermal pad)



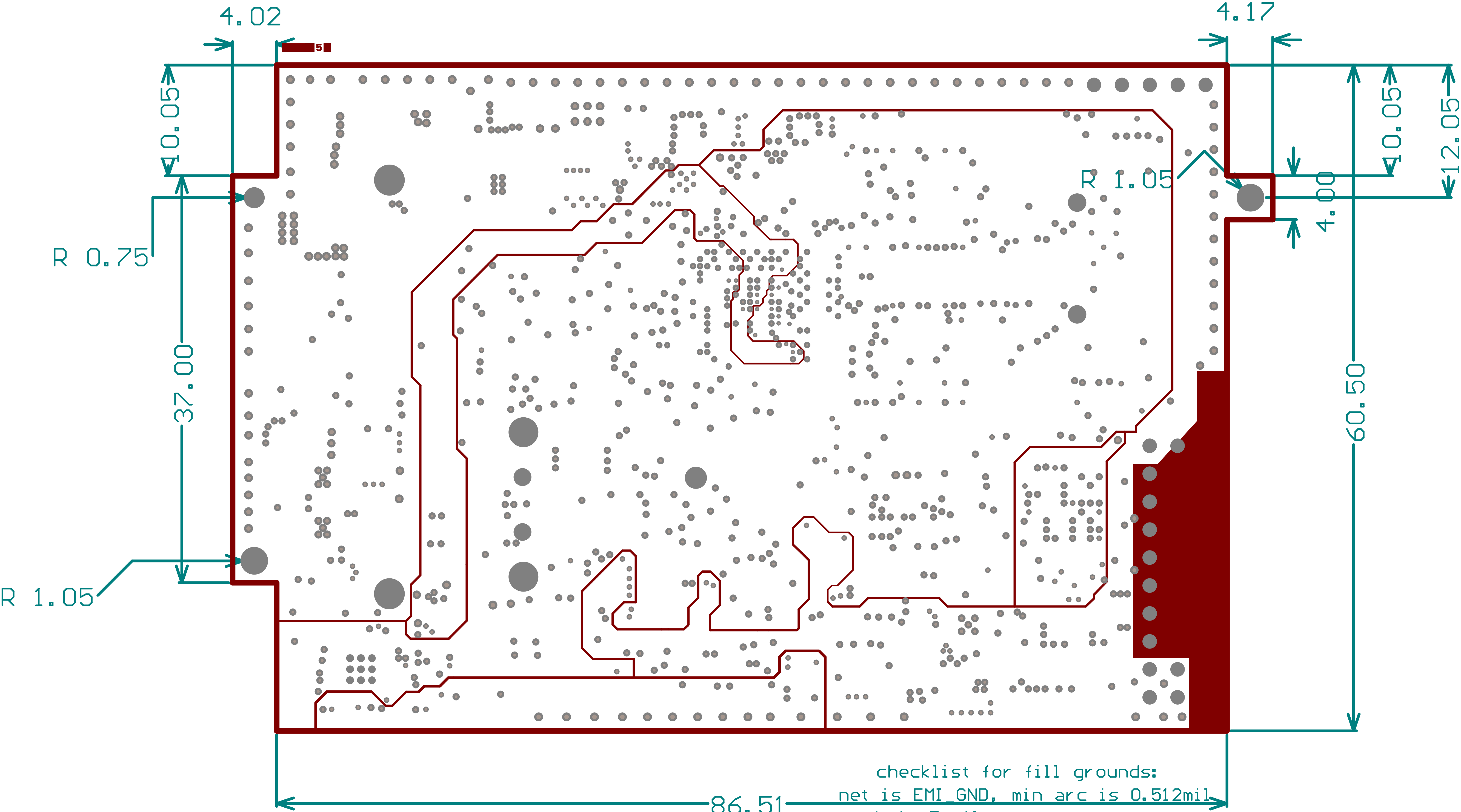
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