

place in scan matrix? would need 3-4 wires to UPPER board instead of 2!
 No. VOL+ or VOL- can either be connected to GPIOs
 or drive two FETs that sit in the keyboard matrix
 in any case it is sufficient to connect GPIO-VOL+ and VOL- to two pins on the B2B connector

Buttons

TITLE: GTA04b7

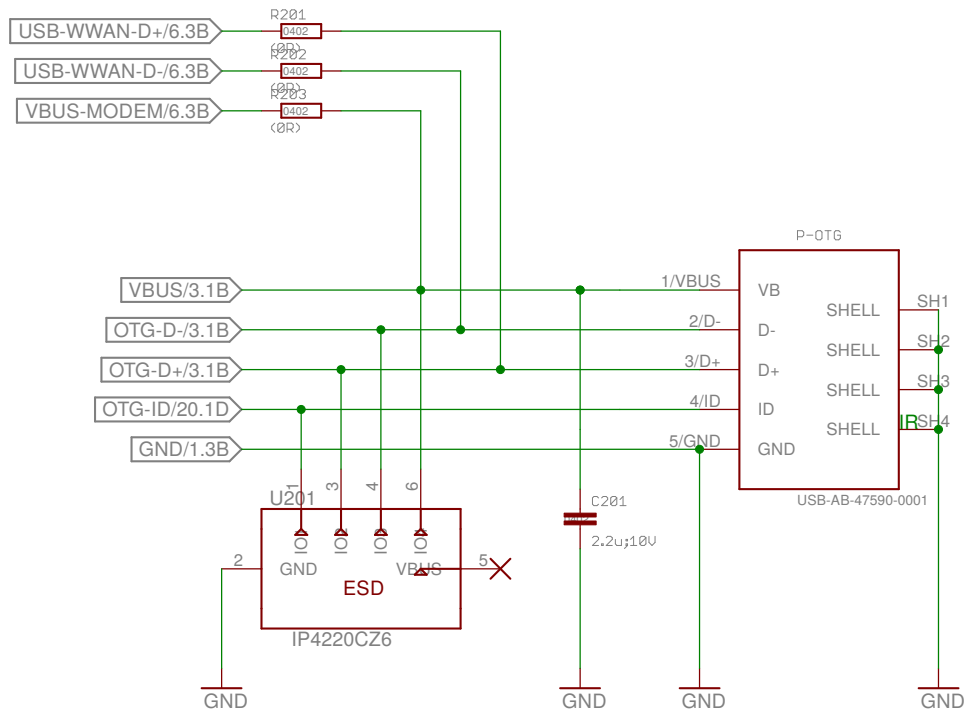
Document Number:

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V2b

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can be used to test/operate the modem through the OTG port (w/o UPPER PCB)



OTG

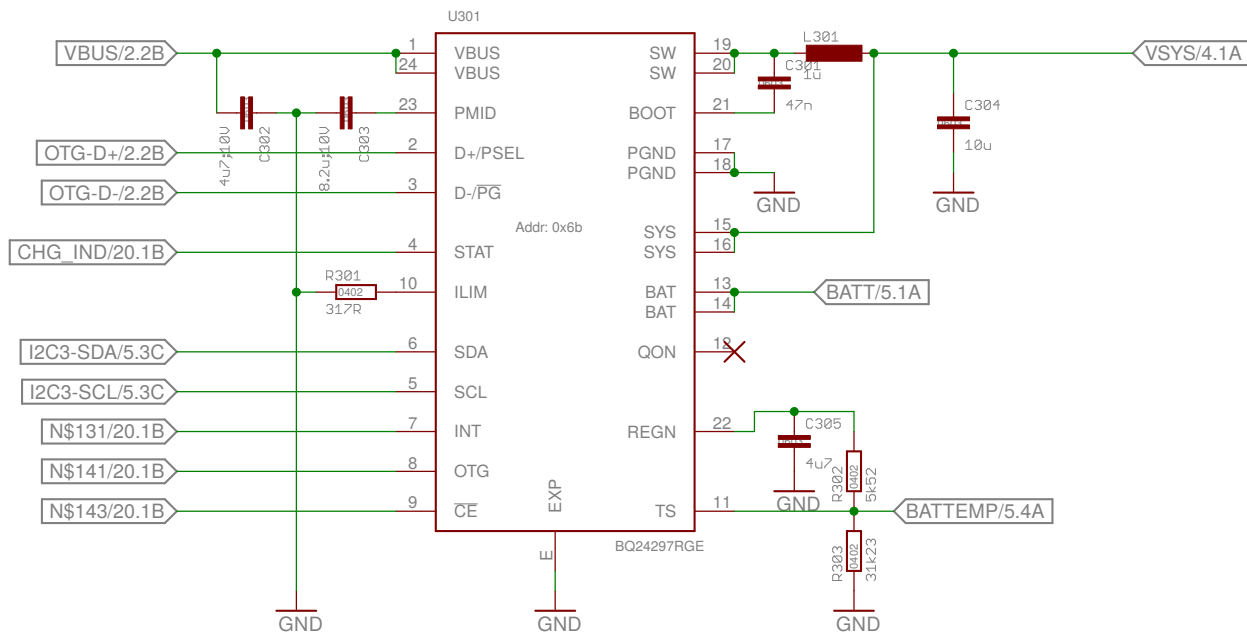
TITLE: GTA04b7

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Charger/OTG-Booster

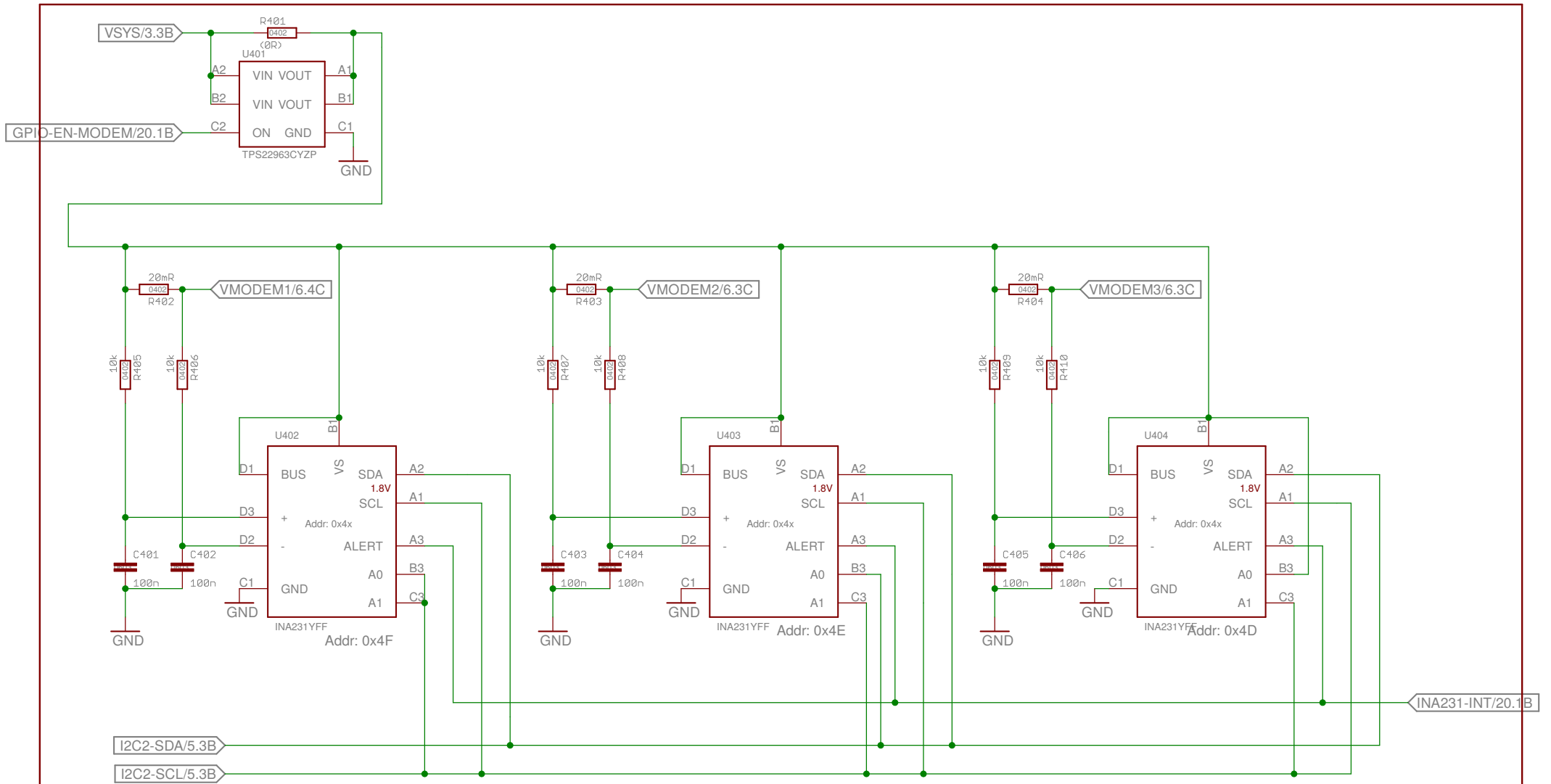
TITLE: GTA04b7

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Modem Power

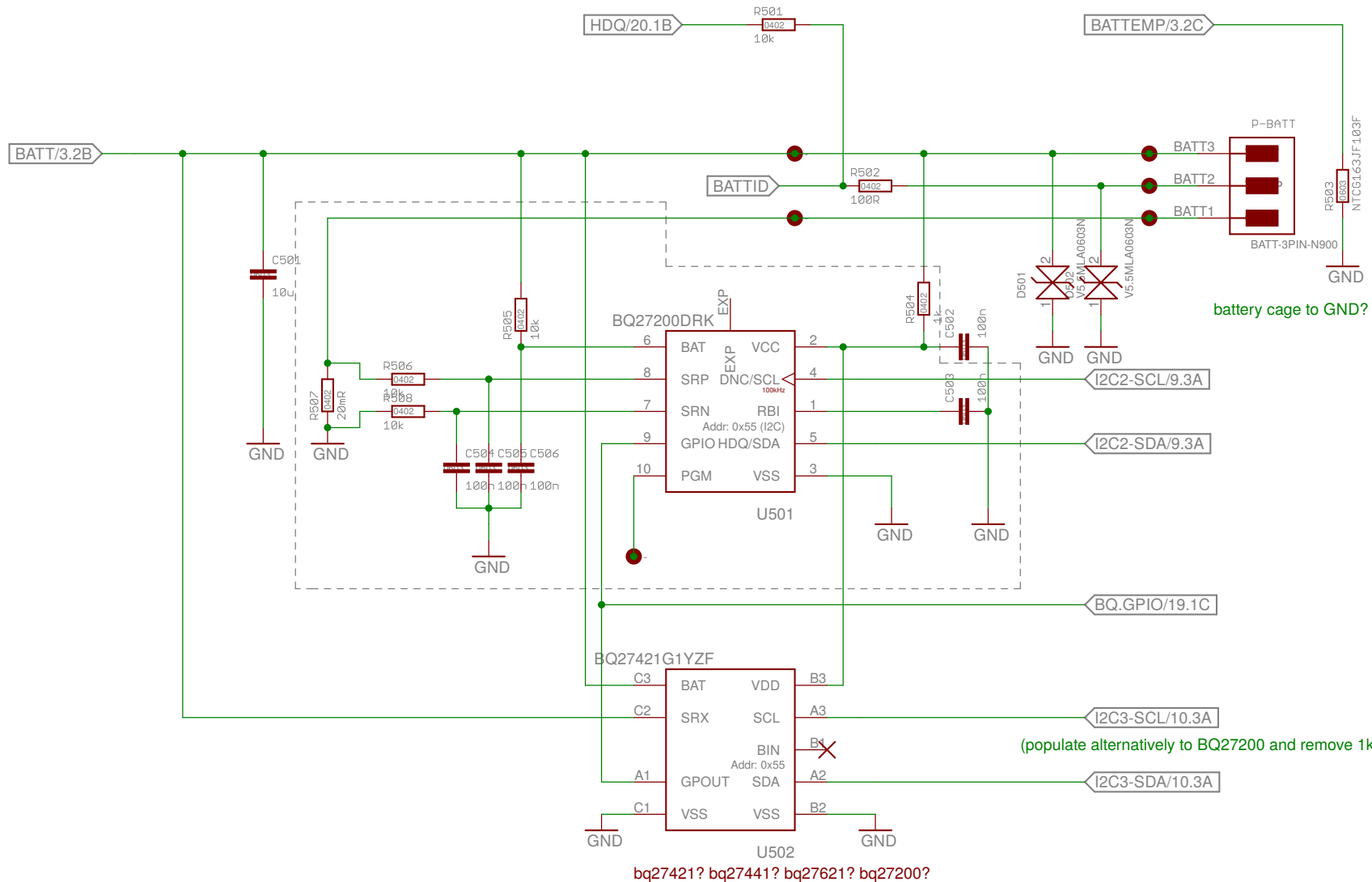
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battery cage to GND?

(populate alternatively to BQ27200 and remove 1k to BATT)

bq27421? bq27441? bq27621? bq27200?

Fuel Gauge

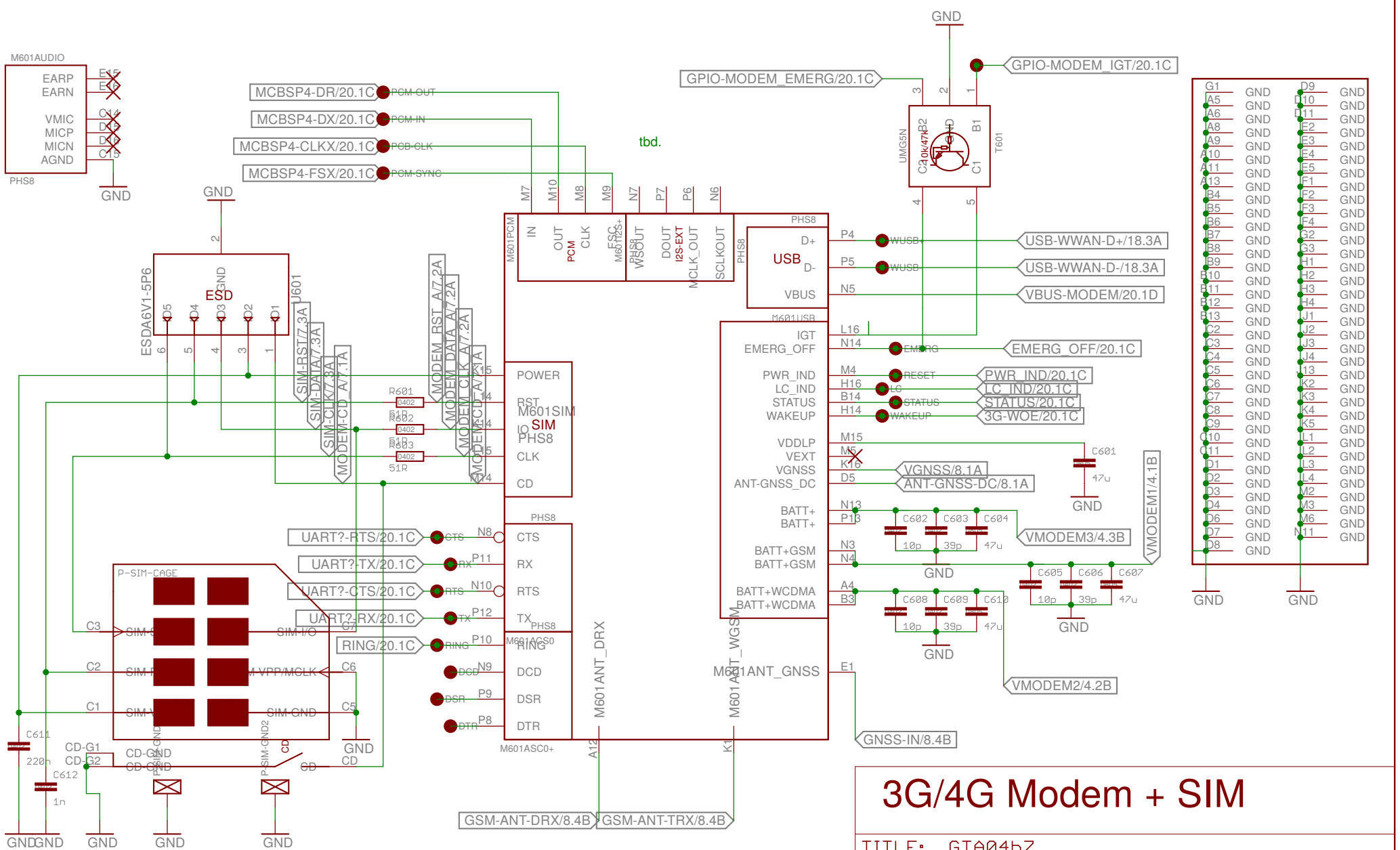
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3G/4G Modem + SIM

TITLE: GTA04b7

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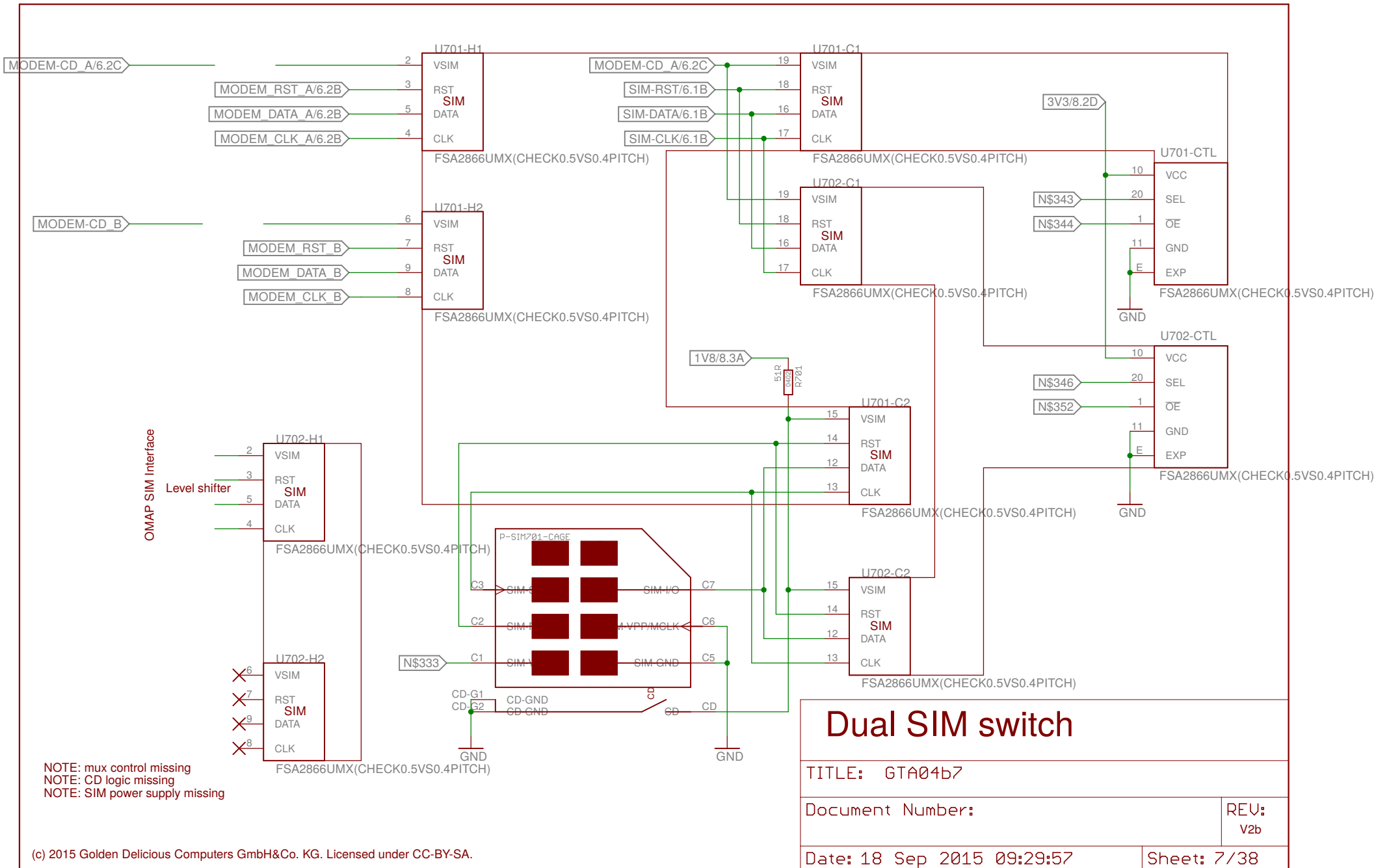
REV:
V2b

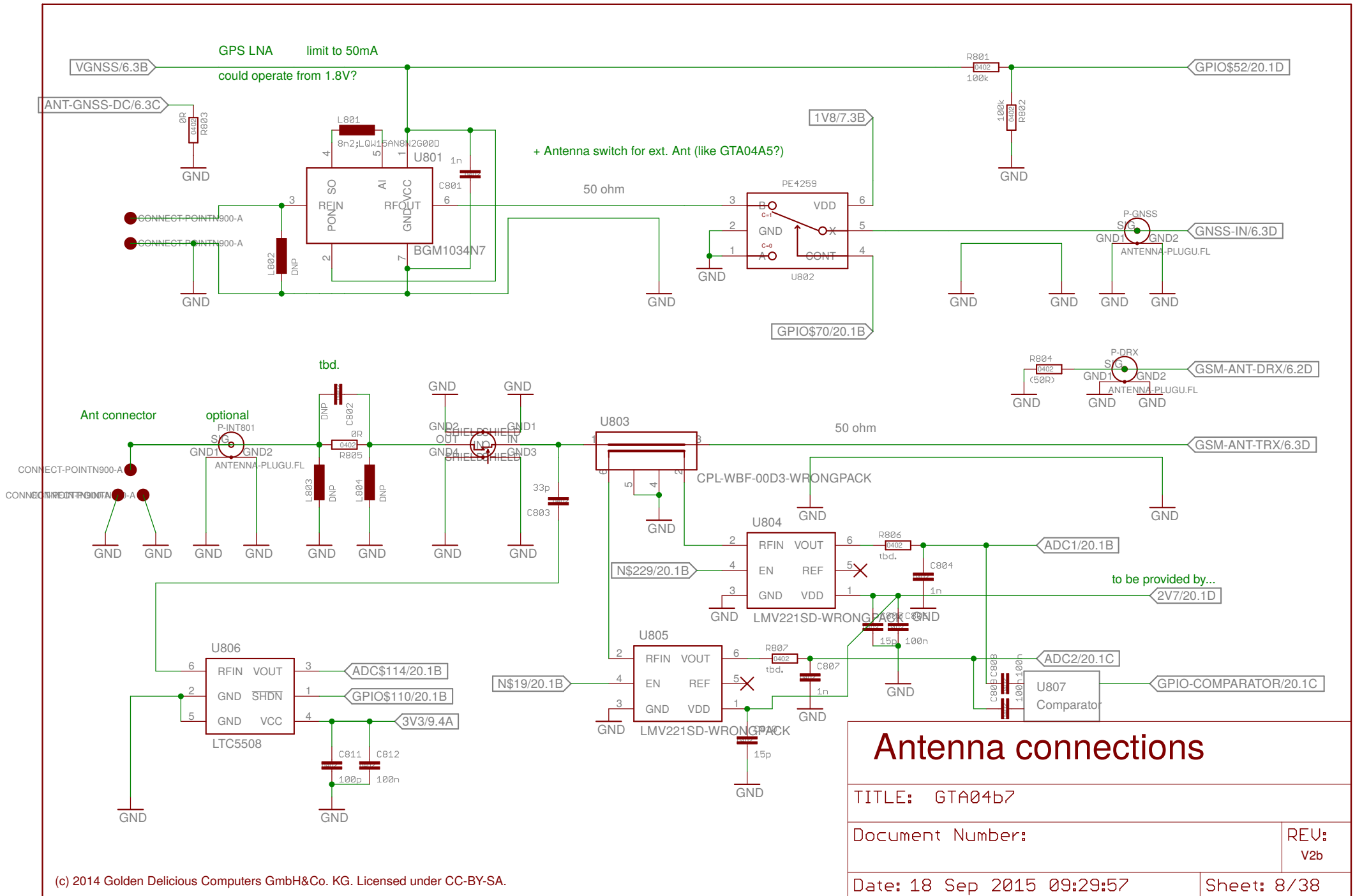
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Can we connect UART in parallel to Bluetooth UART (i.e. if BT is disabled we can unbrick the Modem?)

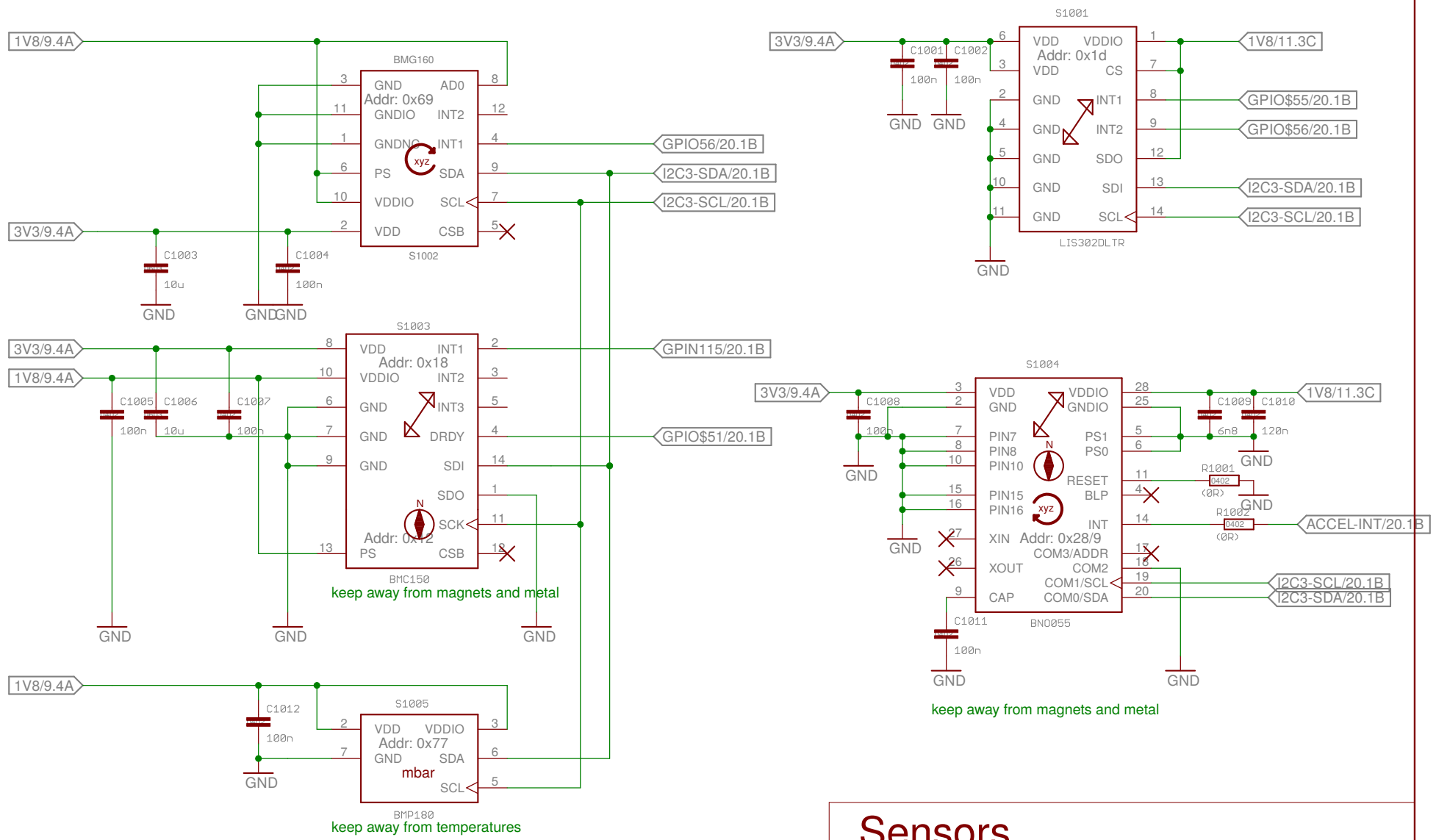
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<h1>Antenna connections</h1>	
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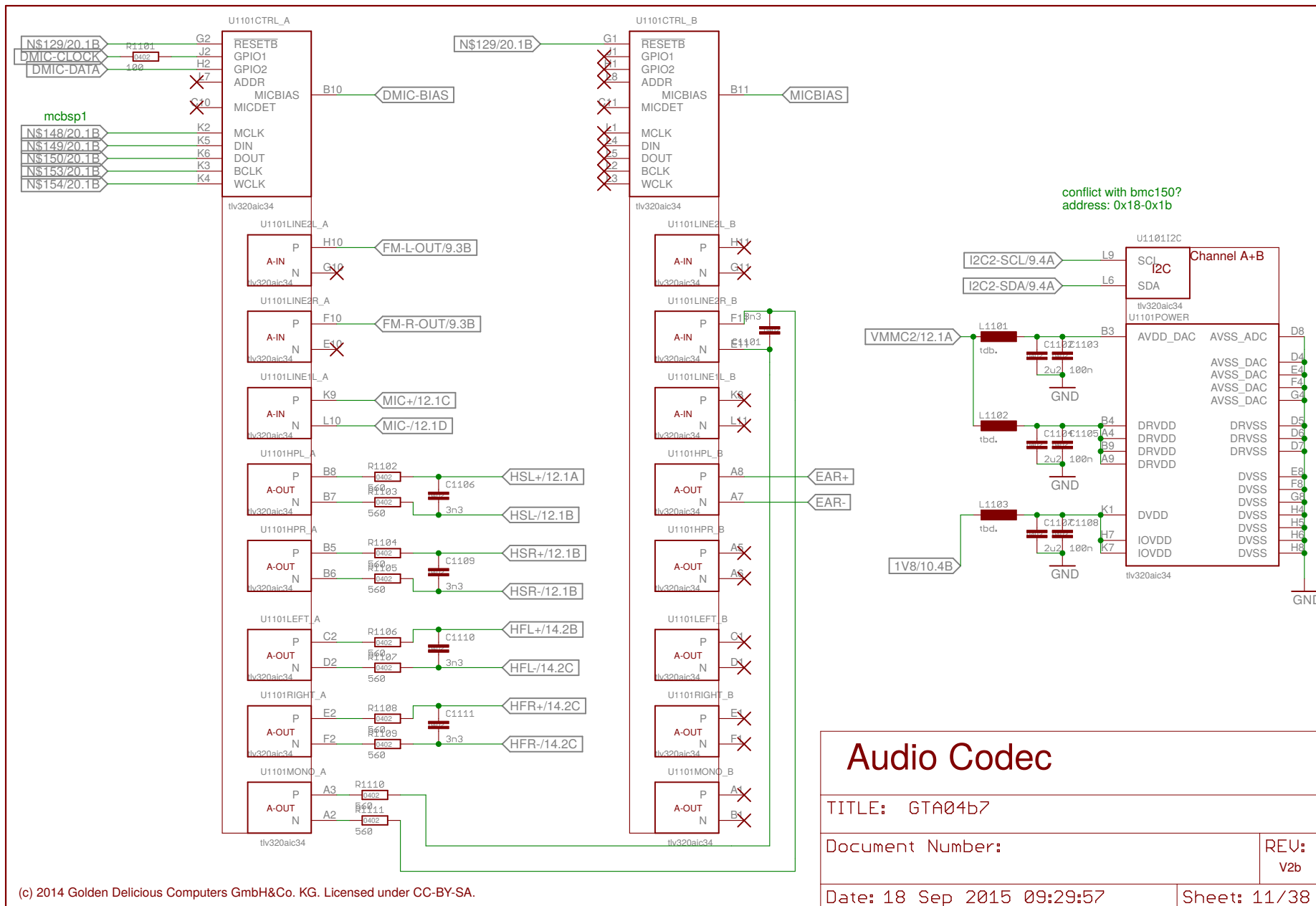
Sensors

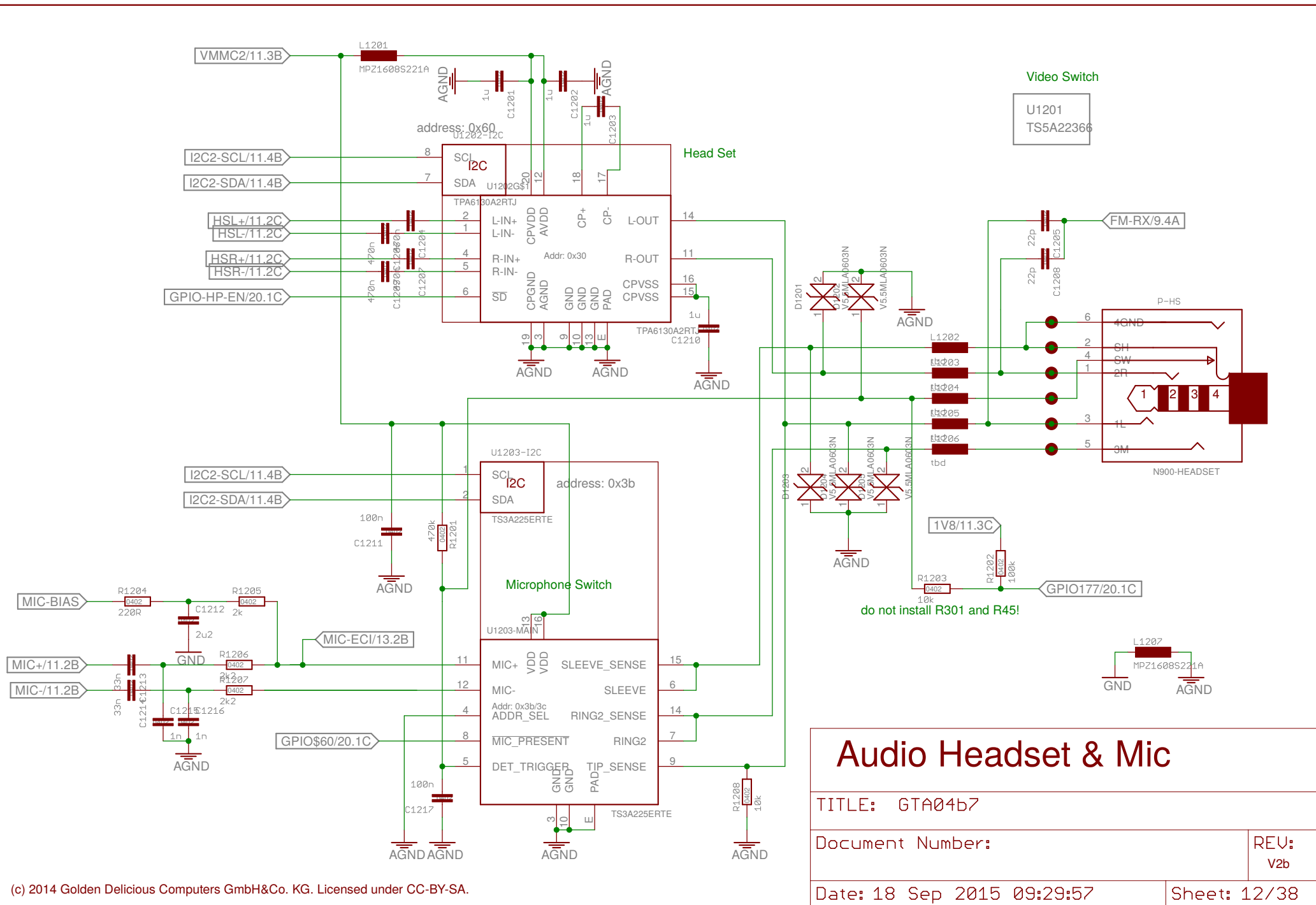
TITLE: GTA04b7

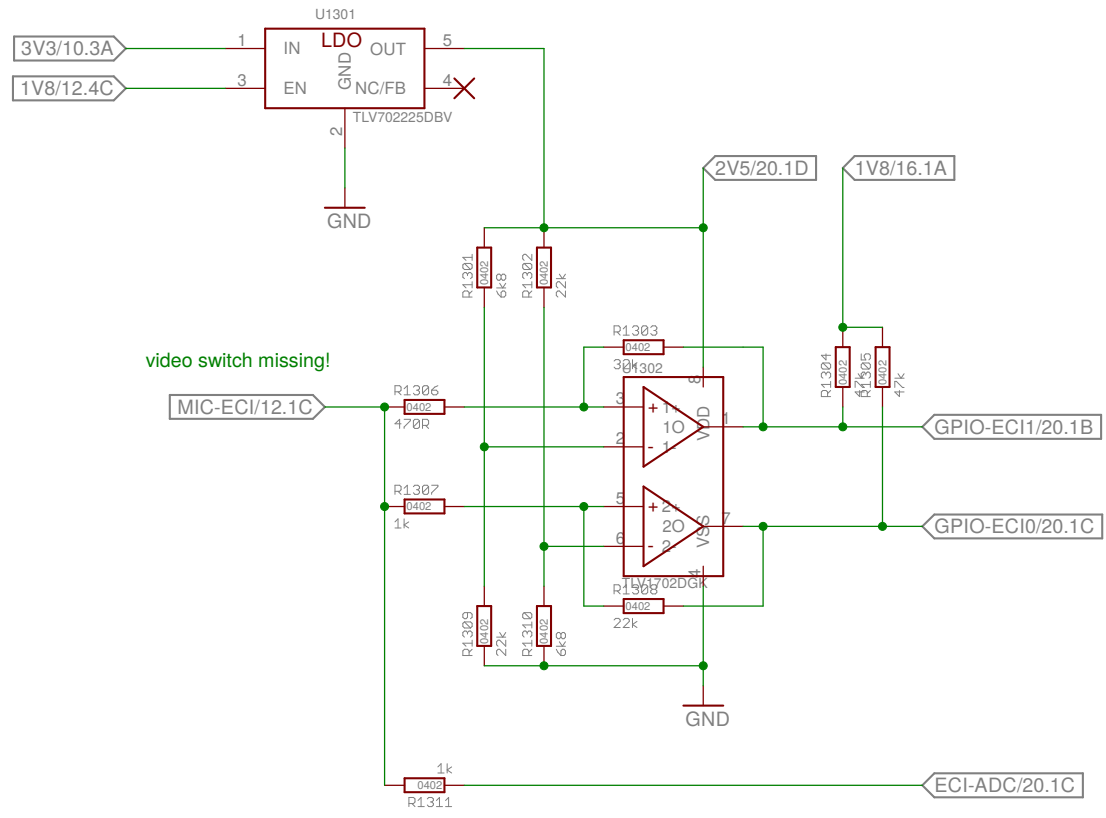
Document Number: REV: V2b

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problem: this is a 0.5mm BGA making lower board expensive!
 but it appears to be not extremely critical (only 3 rows and inner ring is GND)
 problem: analog mic is on upper board!
 alternative: place on upper board (to be evaluated)

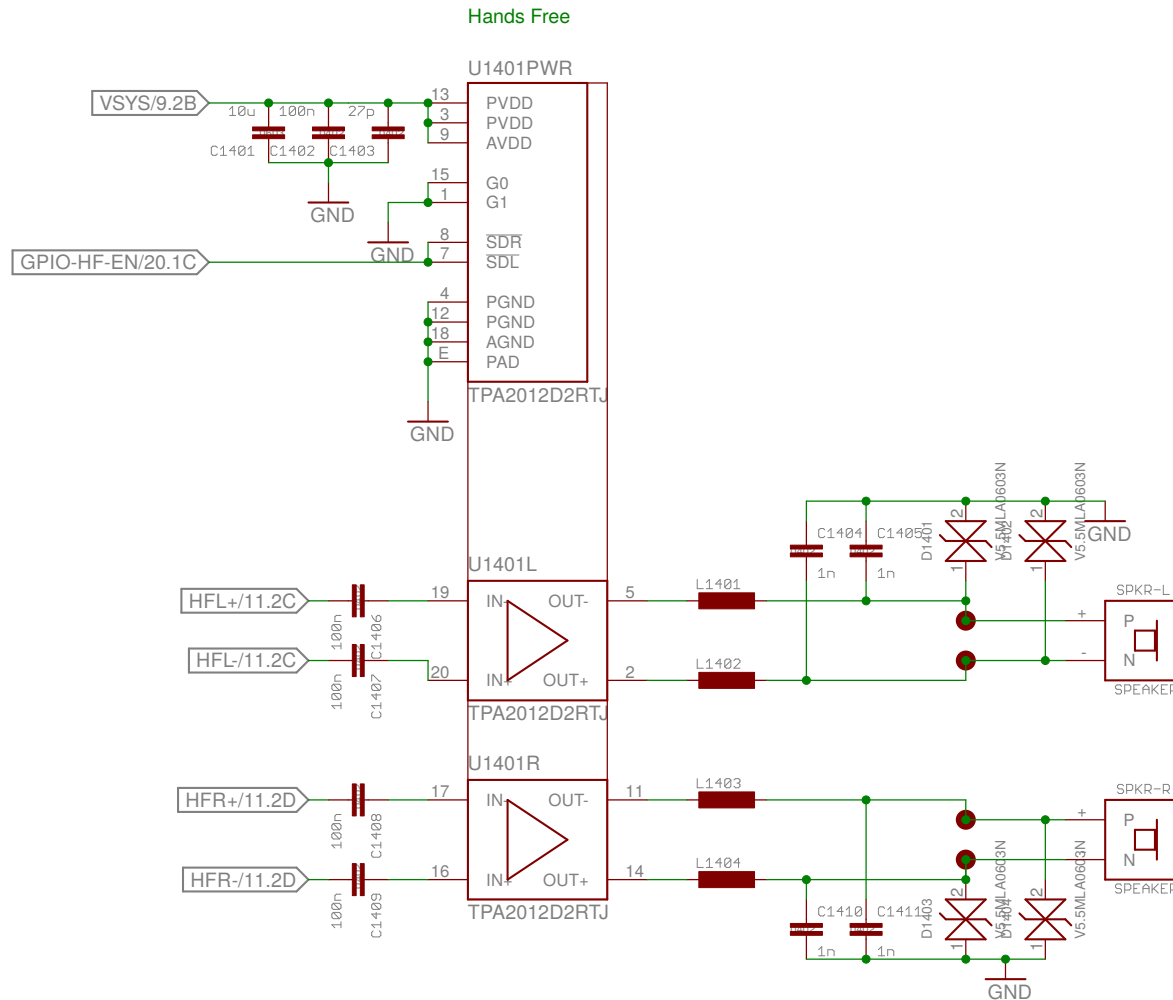






video switch missing!

<h1>ECI</h1>	
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Audio Handsfree

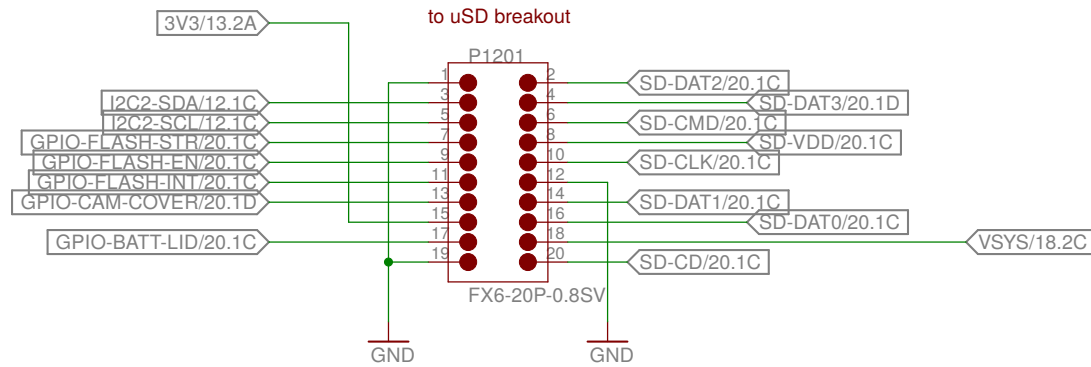
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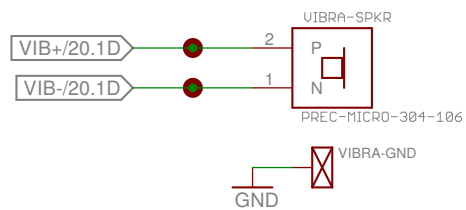
REV:
V2b

Date: 18 Sep 2015 09:29:57

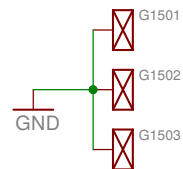
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Vibramotor



Shield



Misc (lower)

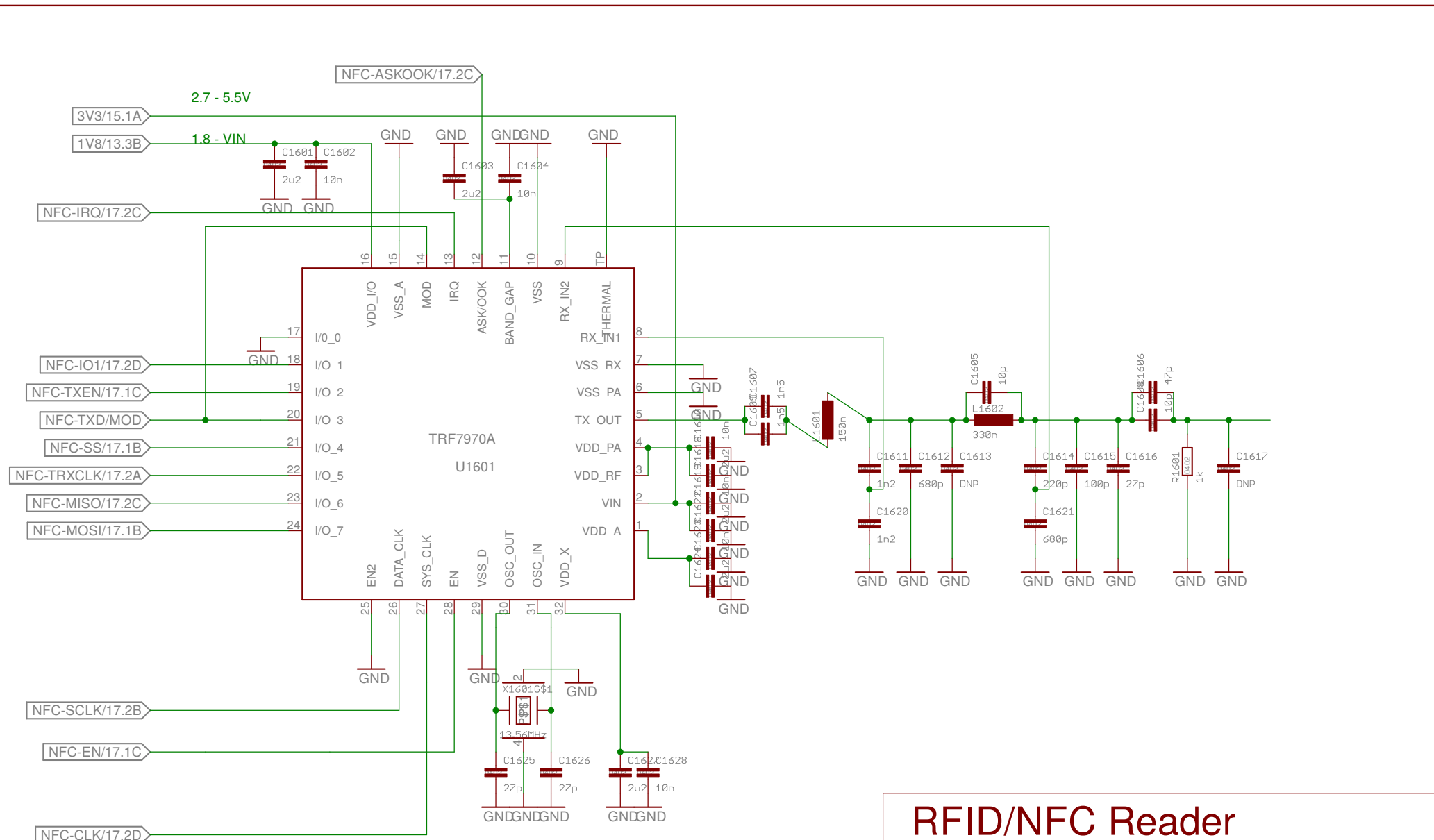
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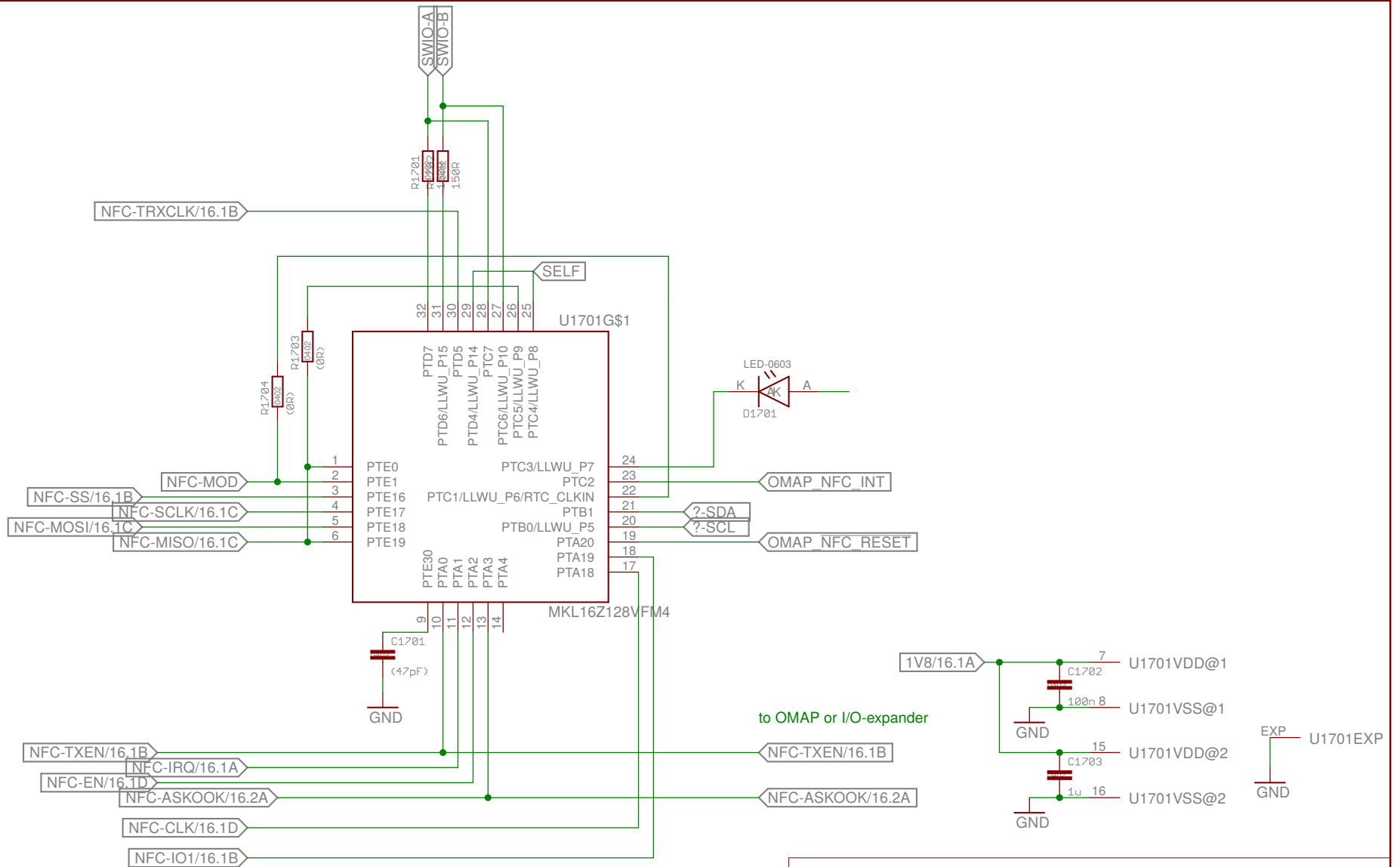


RFID/NFC Reader

TITLE: GTA04b7

Document Number: REV: V2b

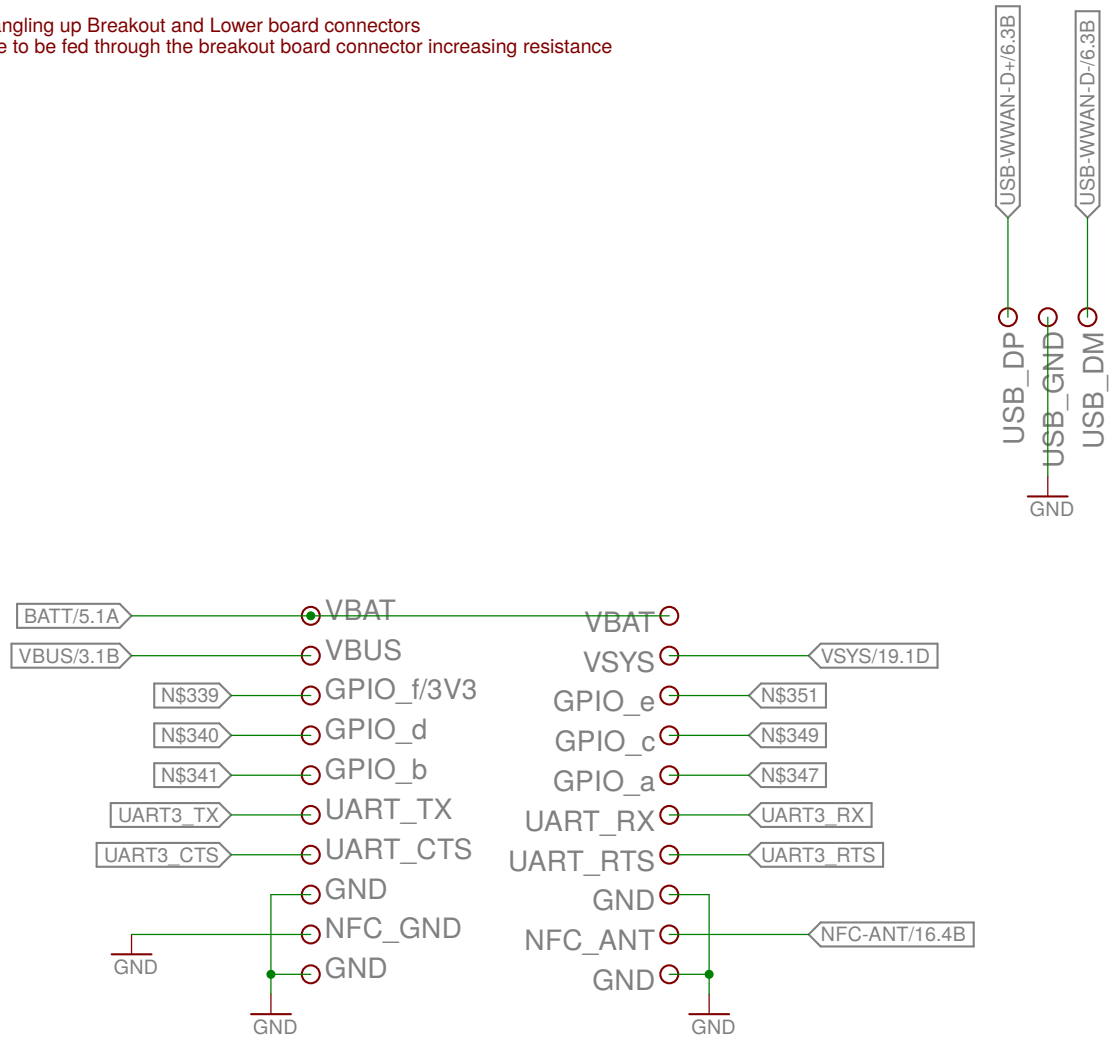
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RFID/NFC Controller

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NOTE: this is mangling up Breakout and Lower board connectors
 Signals may have to be fed through the breakout board connector increasing resistance



Missing 10 level shifter chip (or do we really have the space for 10x discrete T+R+D ca. 3x3mm each?)

Missing 6x 2R for alternate function select (do we have the space for ca. 2.5 x 5mm?)

Hackerbus

TITLE: GTA04b7

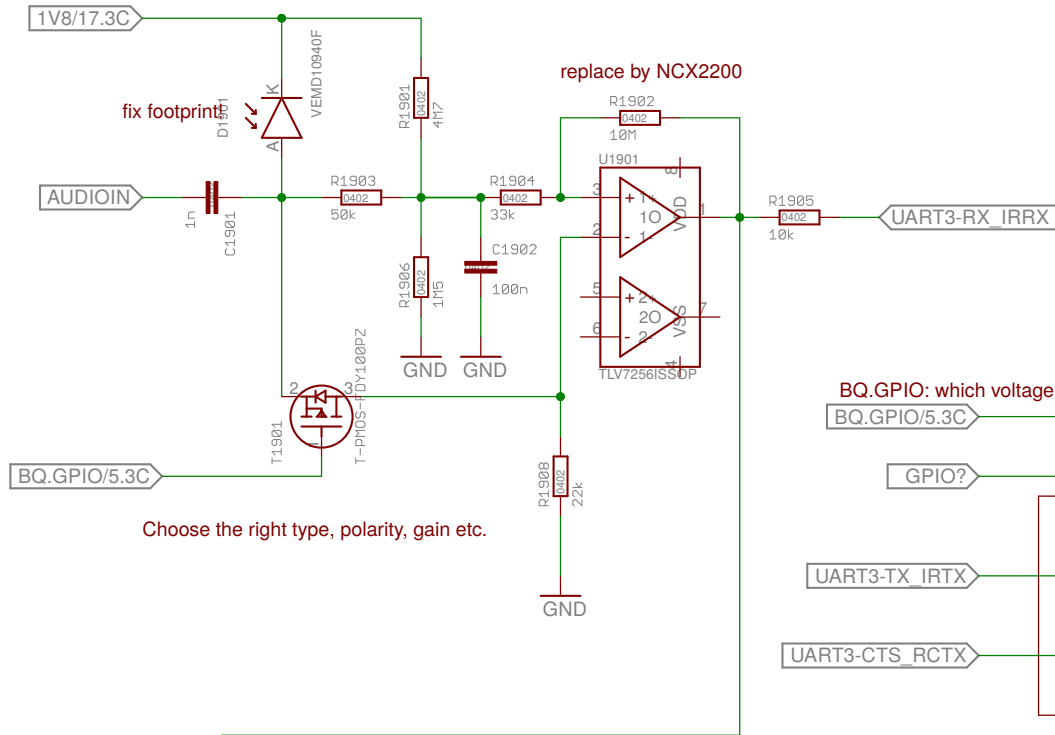
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REV:
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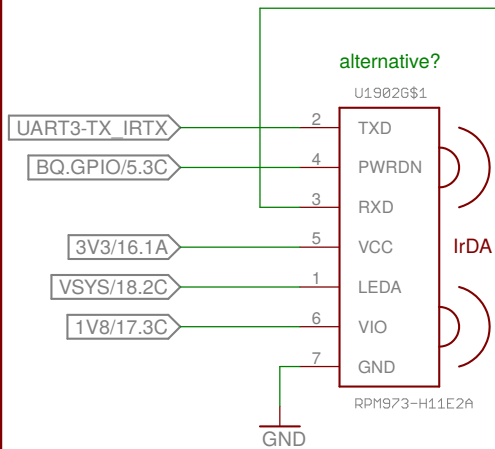
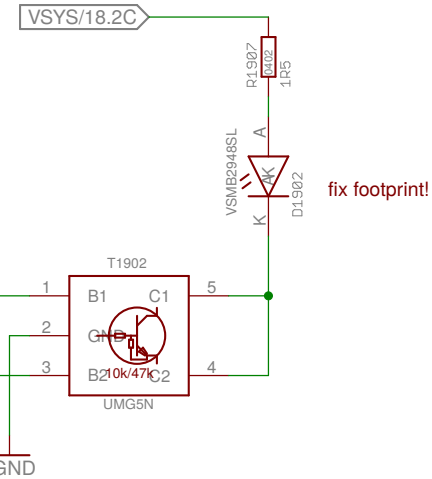
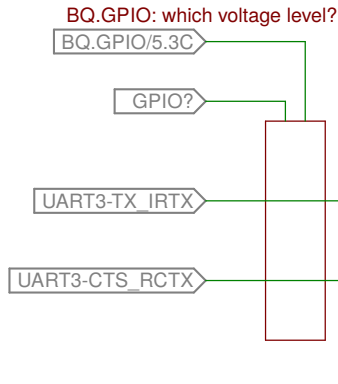
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NOTE: 1V8 may be quite noisy!



Choose the right type, polarity, gain etc.



Infrared

TITLE: GTA04b7

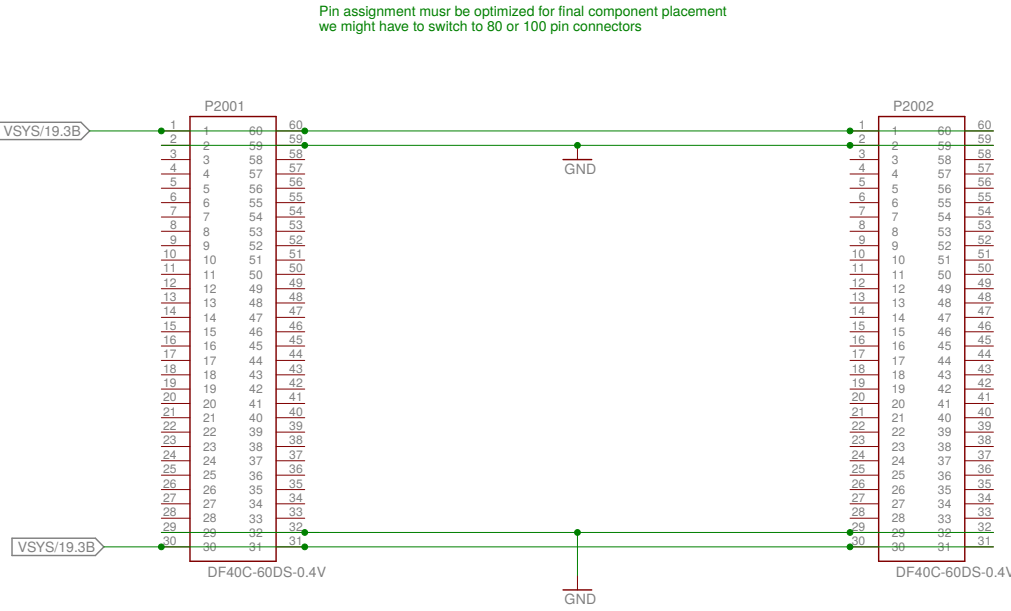
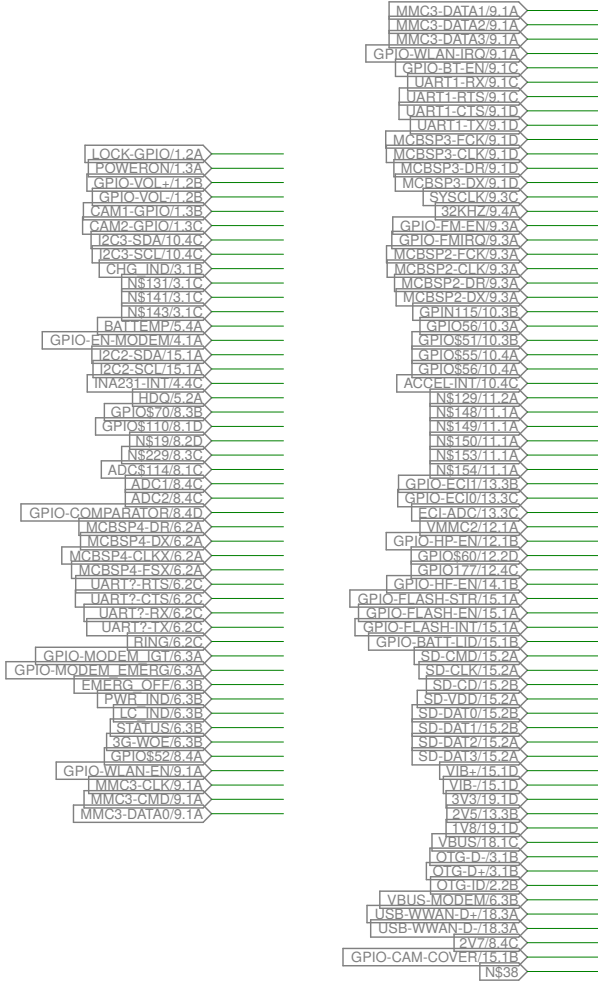
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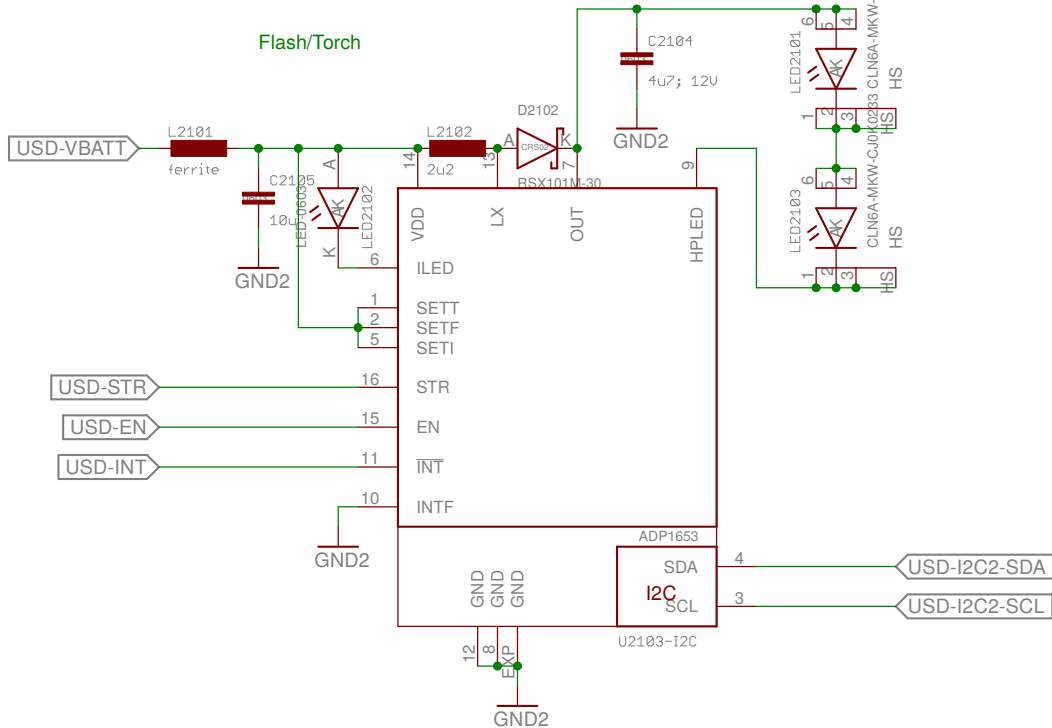
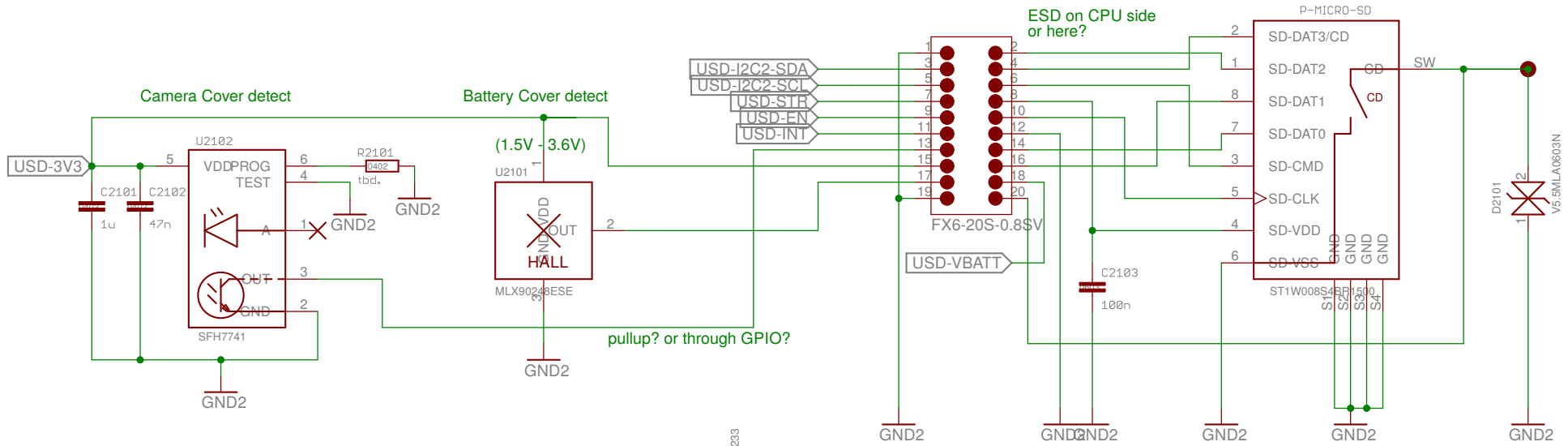
ca. 130 signals (to be counted exactly after definition of upper/lower split)



B2B to upper board

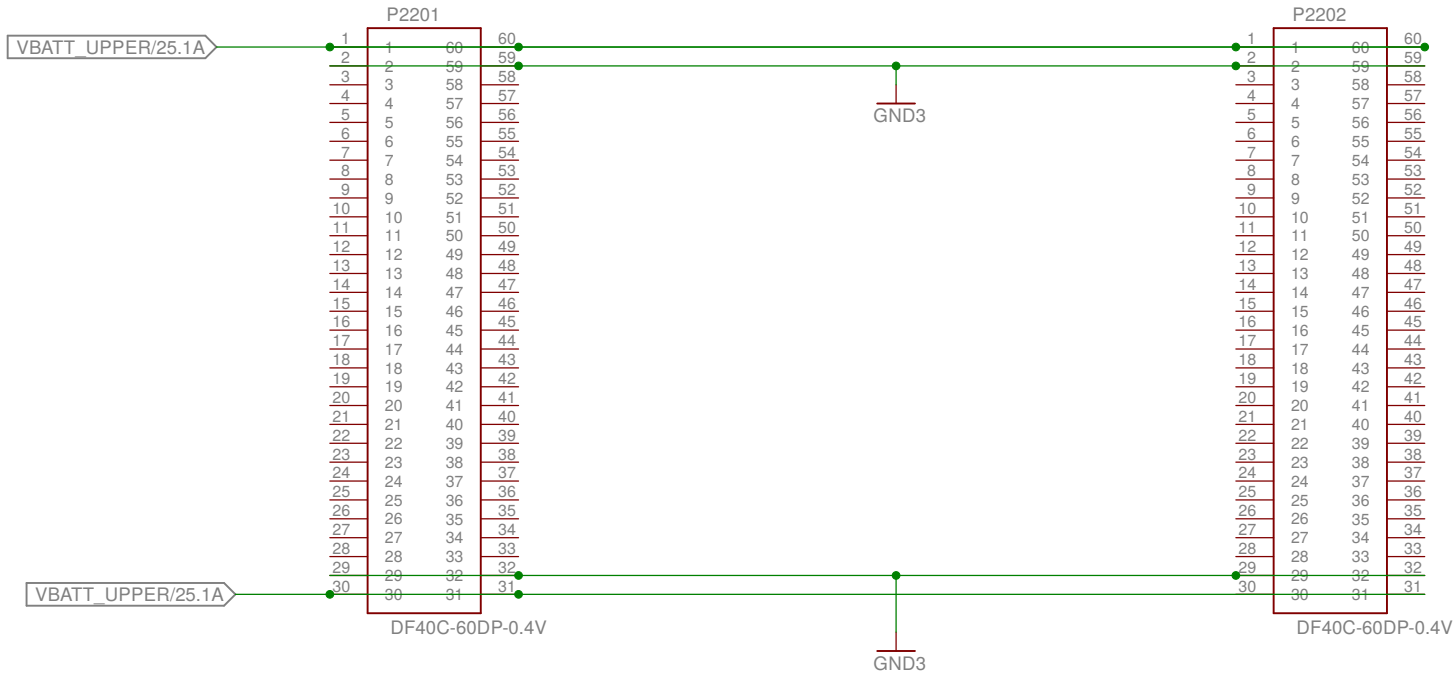
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Document Number:	REV: V2b
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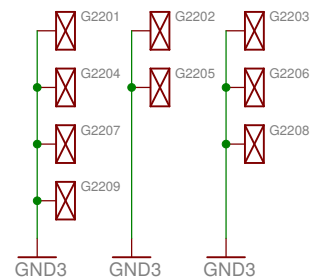


<h1>µSD Breakout Board</h1>	
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to be adjusted to lower board connector



SHIELD



B2B to lower board

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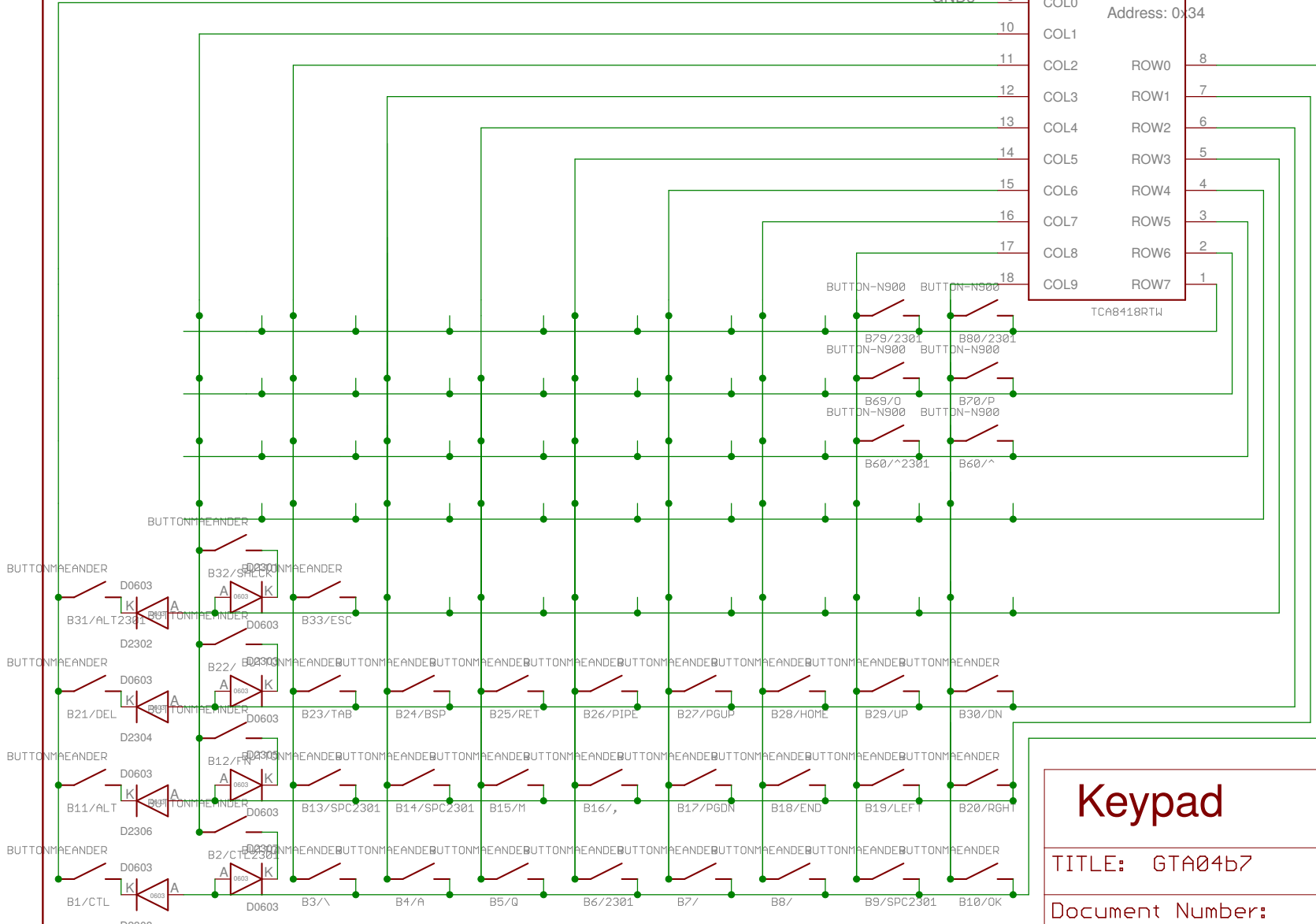
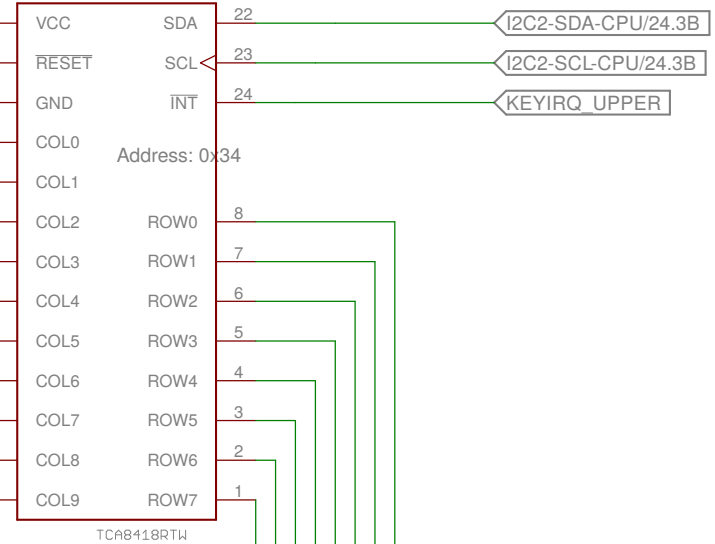
needs final tuning (which button on which position)
 VOL+ and VOL- could drive FETs sitting in the matrix

1V8-CPU/24.1A
 RESET UPPER

RESET UPPER

GND3

U2301



replace by 2x RB521ZS8A30 for space constraints

Keypad

TITLE: GTA04b7

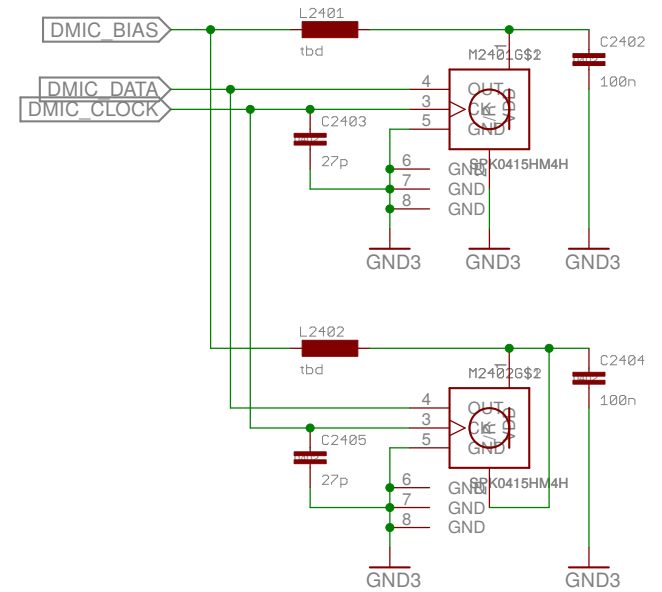
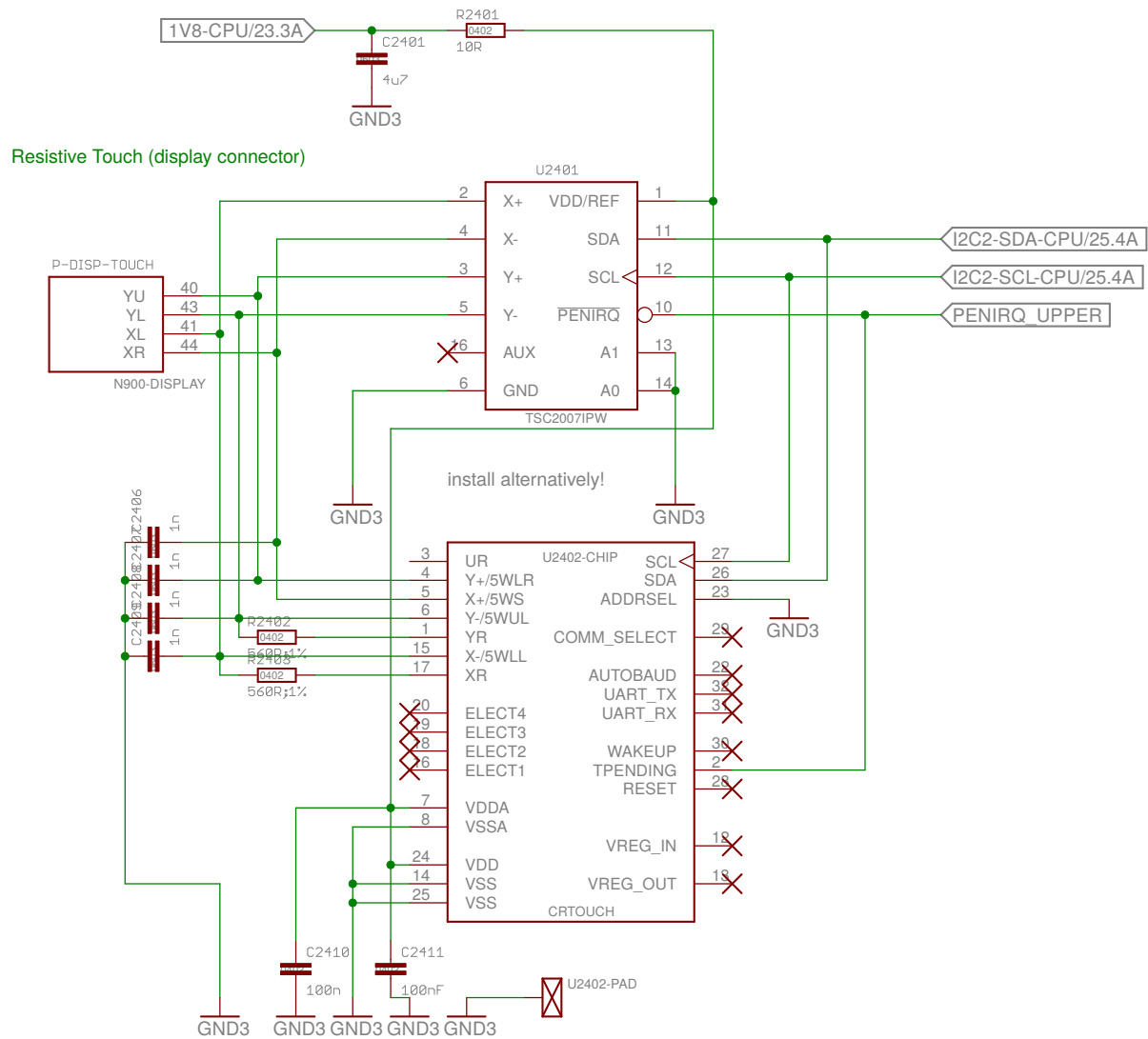
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Display-Peripherals

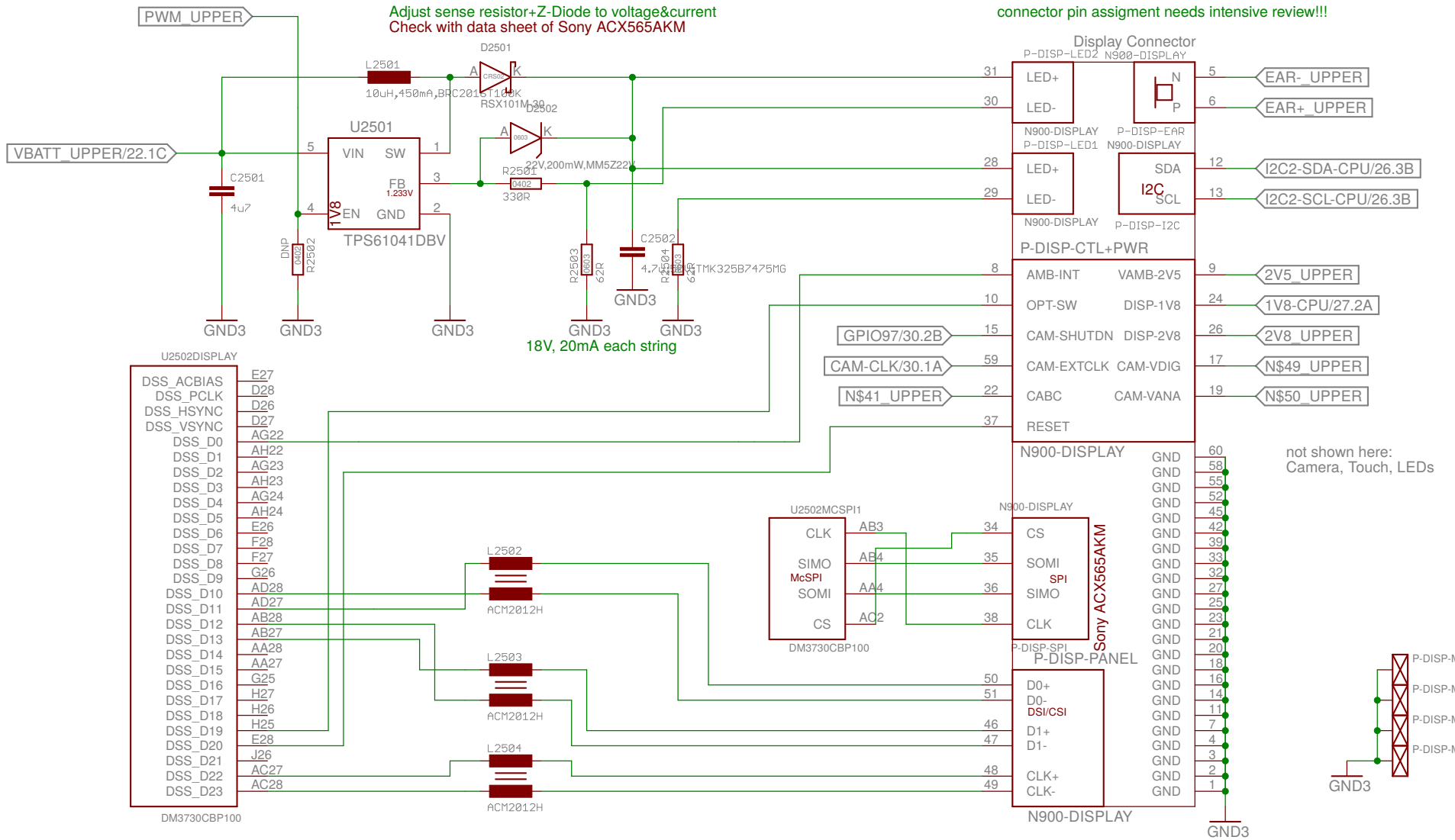
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Display-Panel&Power

TITLE: GTA04b7

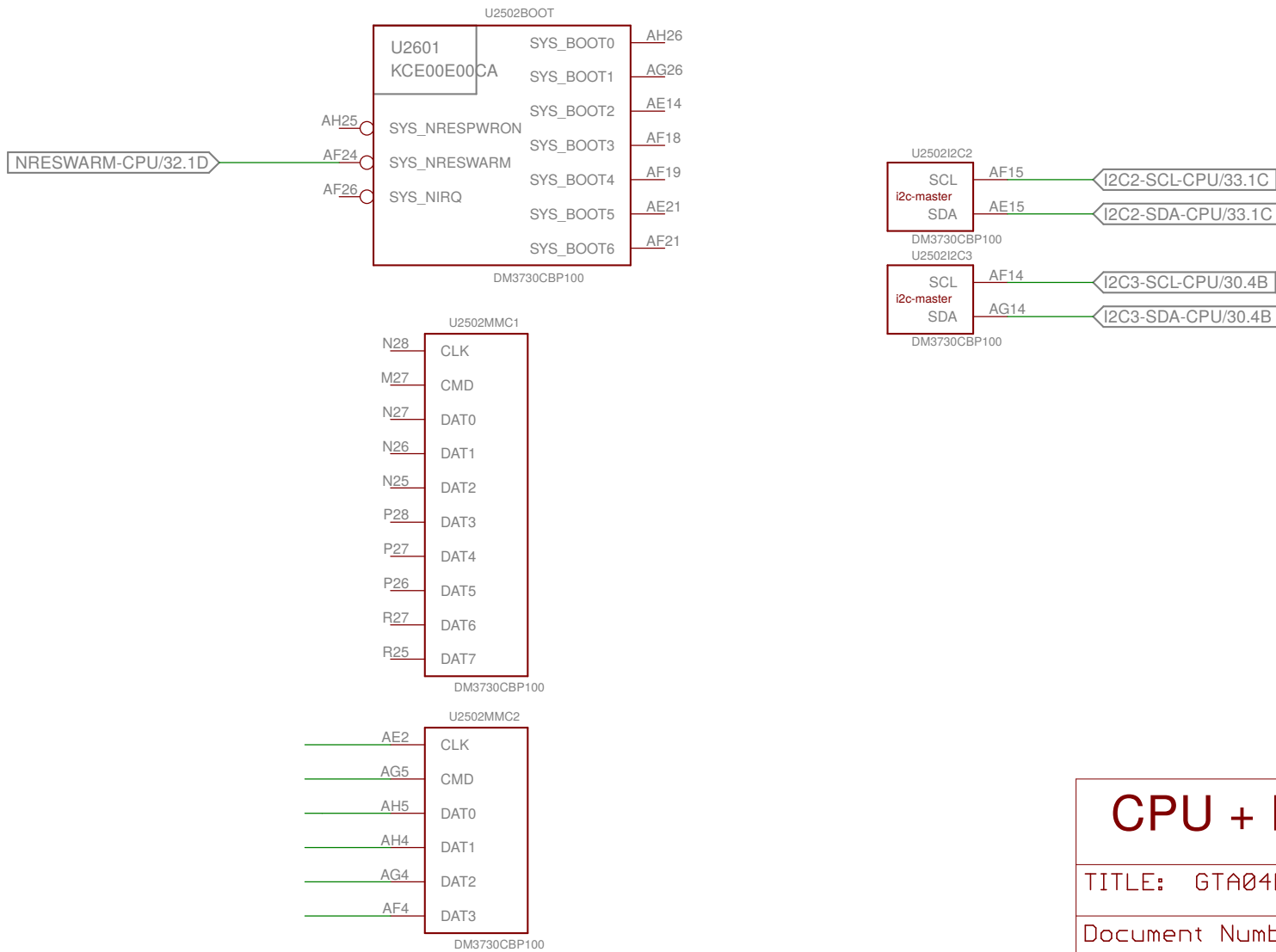
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INCOMPLETE in V2



CPU + PoP RAM/NAND

TITLE: GTA04b7

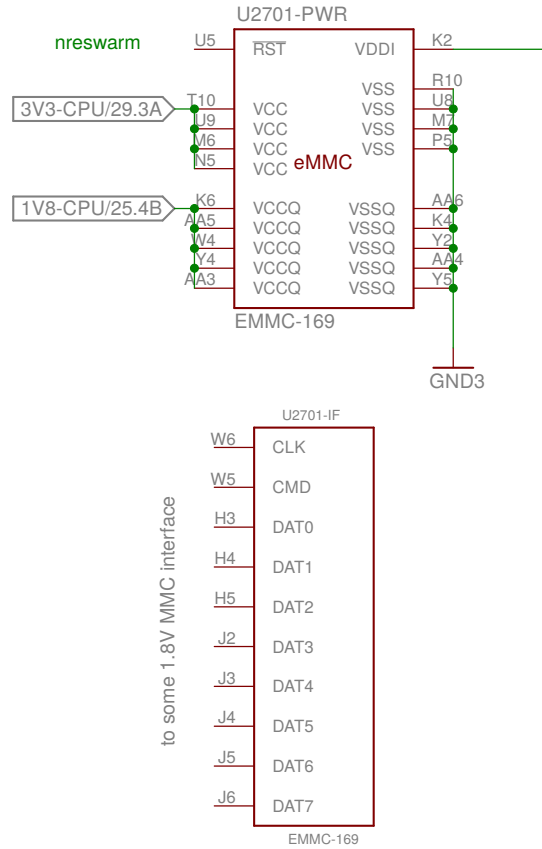
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INCOMPLETE in V2



eMMC

TITLE: GTA04b7

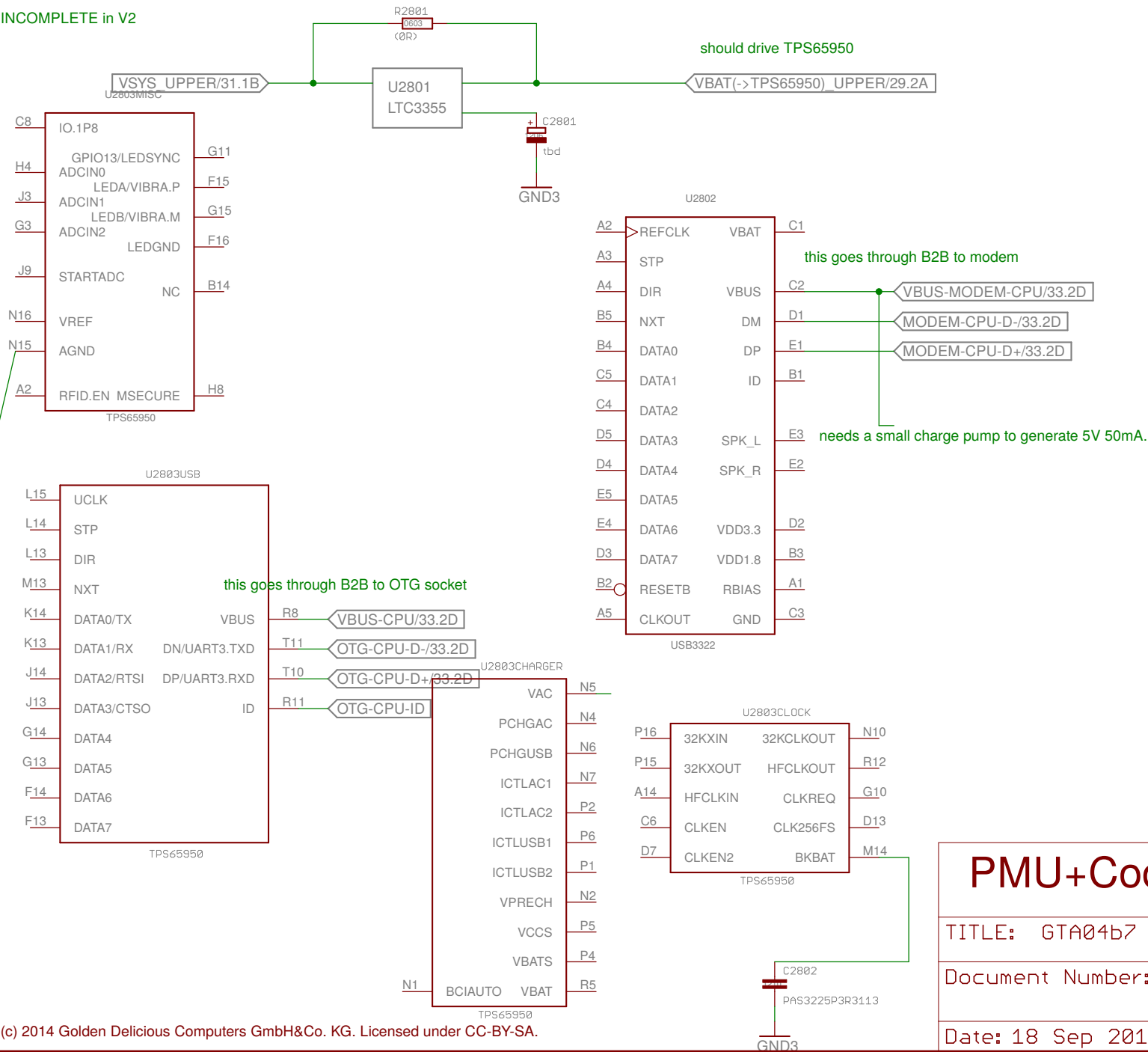
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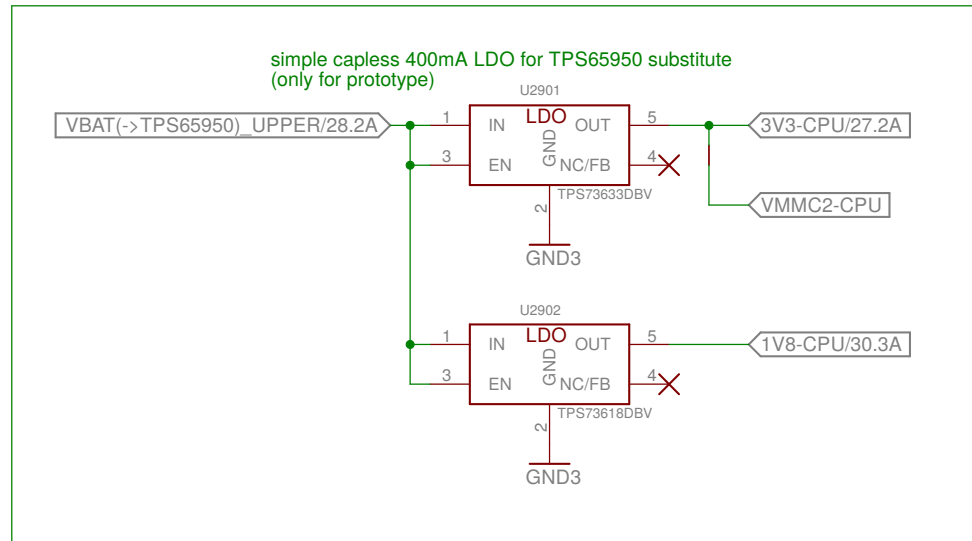
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INCOMPLETE in V2



PMU+Codec

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BB-XM Dummy (TWL4030)

TITLE: GTA04b7

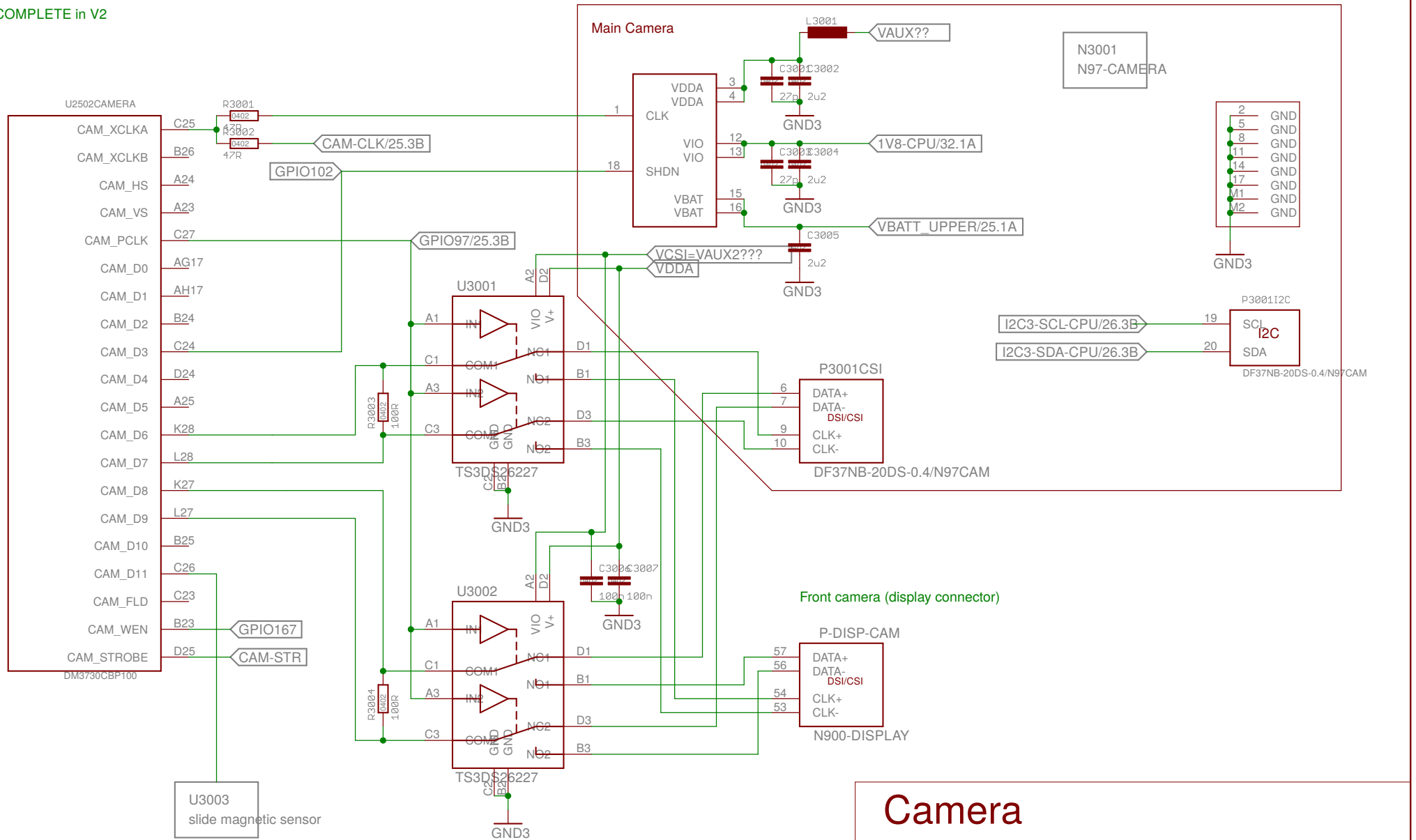
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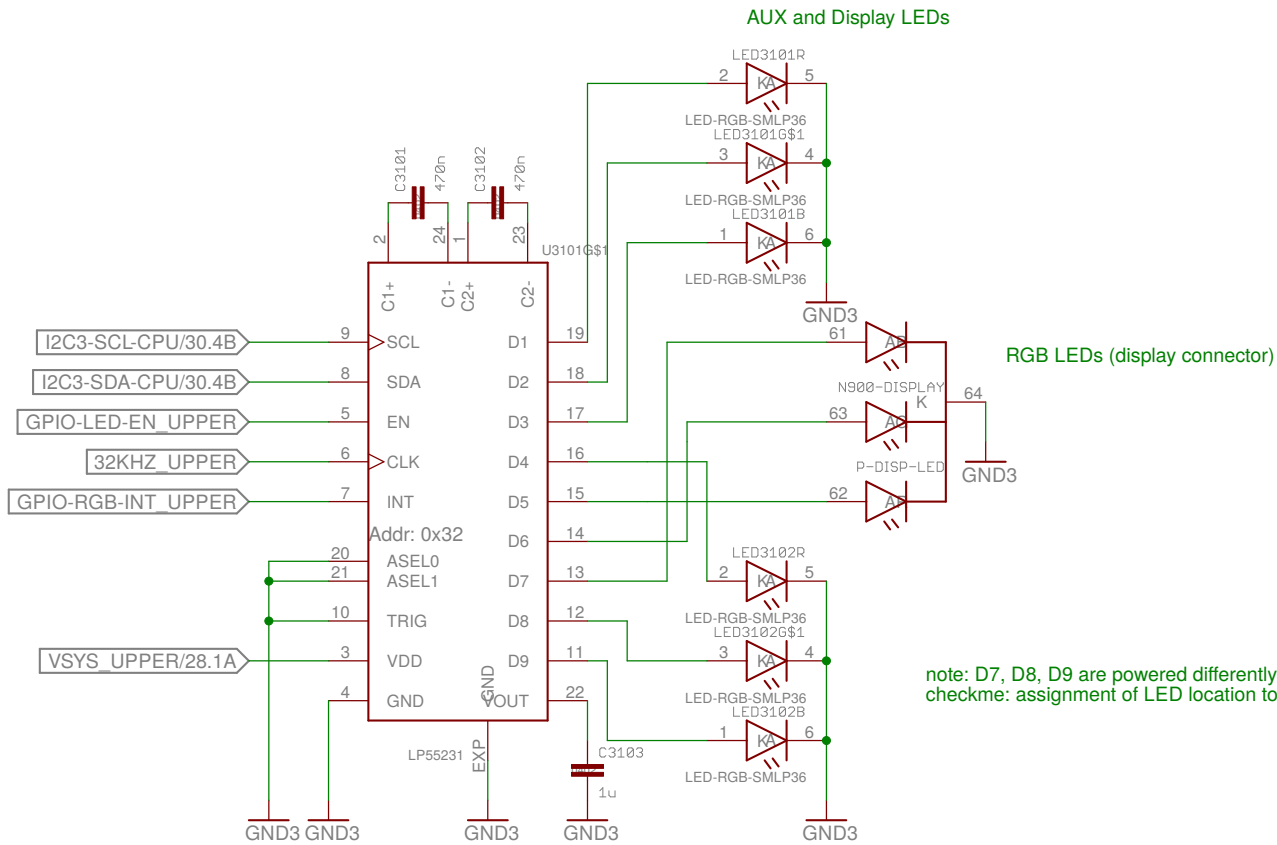
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INCOMPLETE in V2

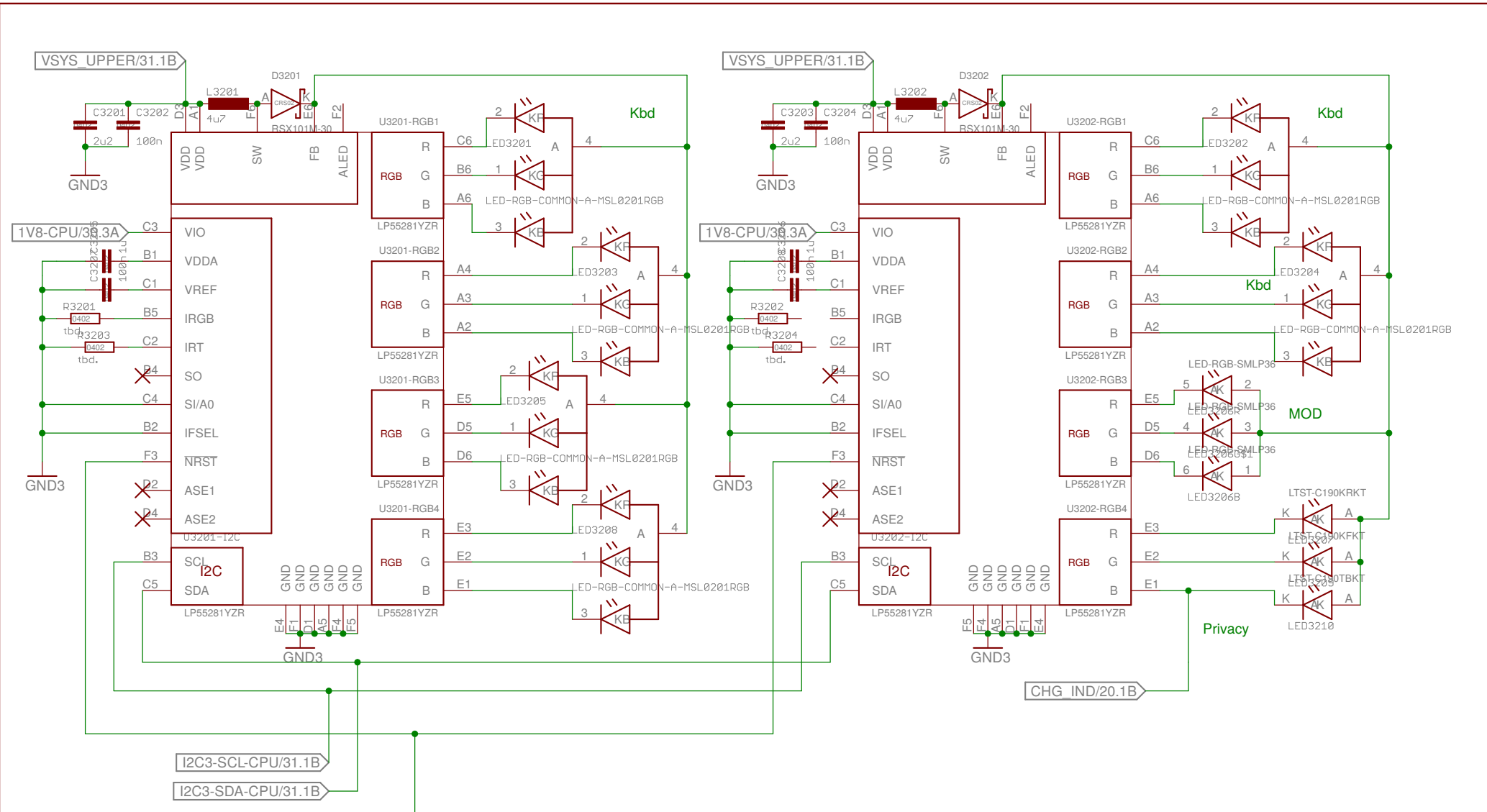


Camera

TITLE: GTA04b7	
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<h1>LEDs</h1>	
TITLE: GTA04b7	
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Fancy LEDs

TITLE: GTA04b7

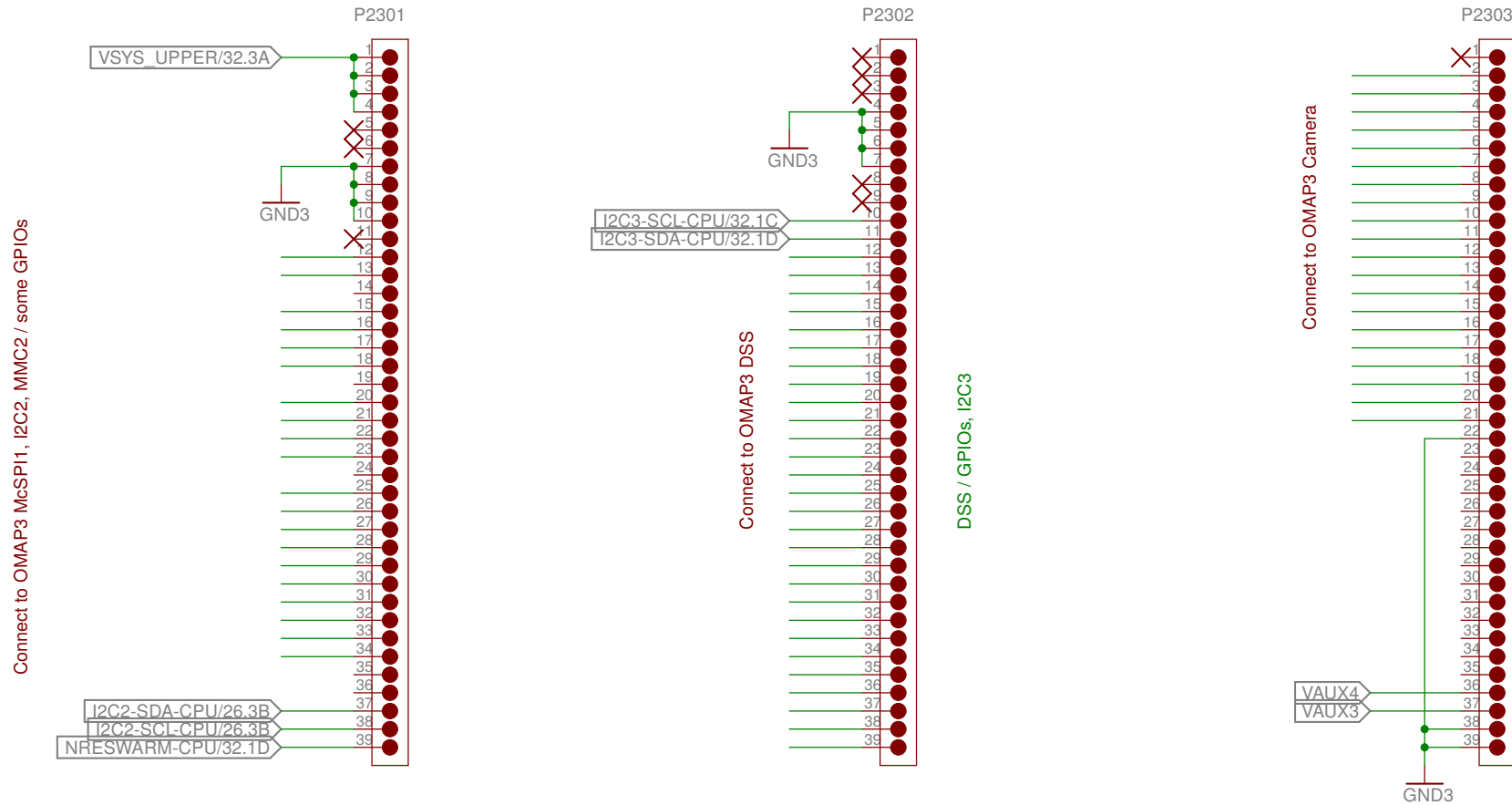
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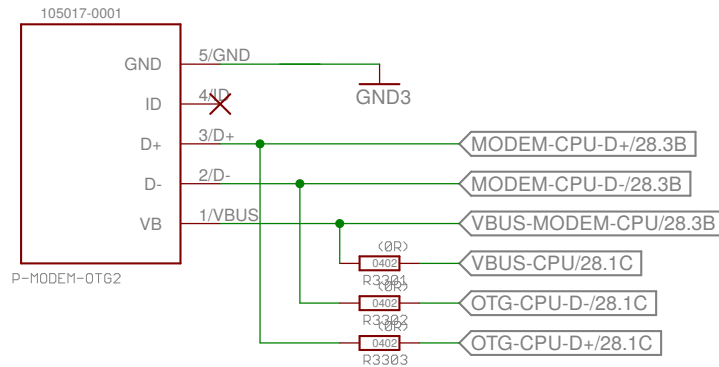
These connectors allow to "emulate" the DM3730 by connecting a BB-XM

INCOMPLETE
prototype only

connect to respective CPU-pads



connect to BB
by some Micro-USB cable



Connector to BB

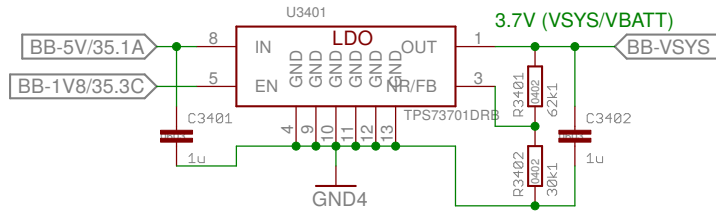
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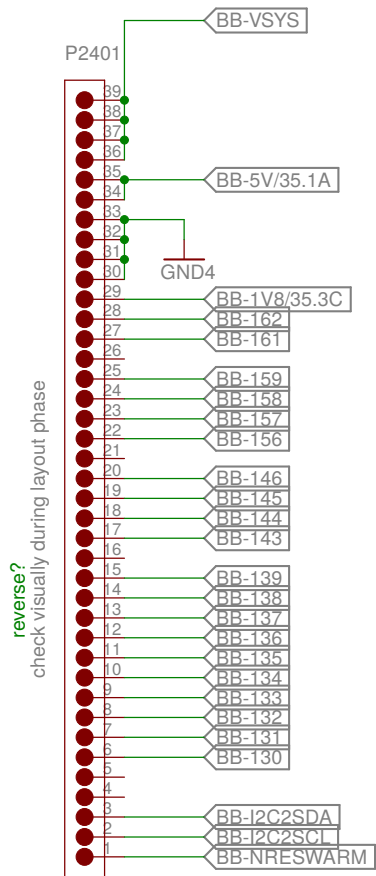
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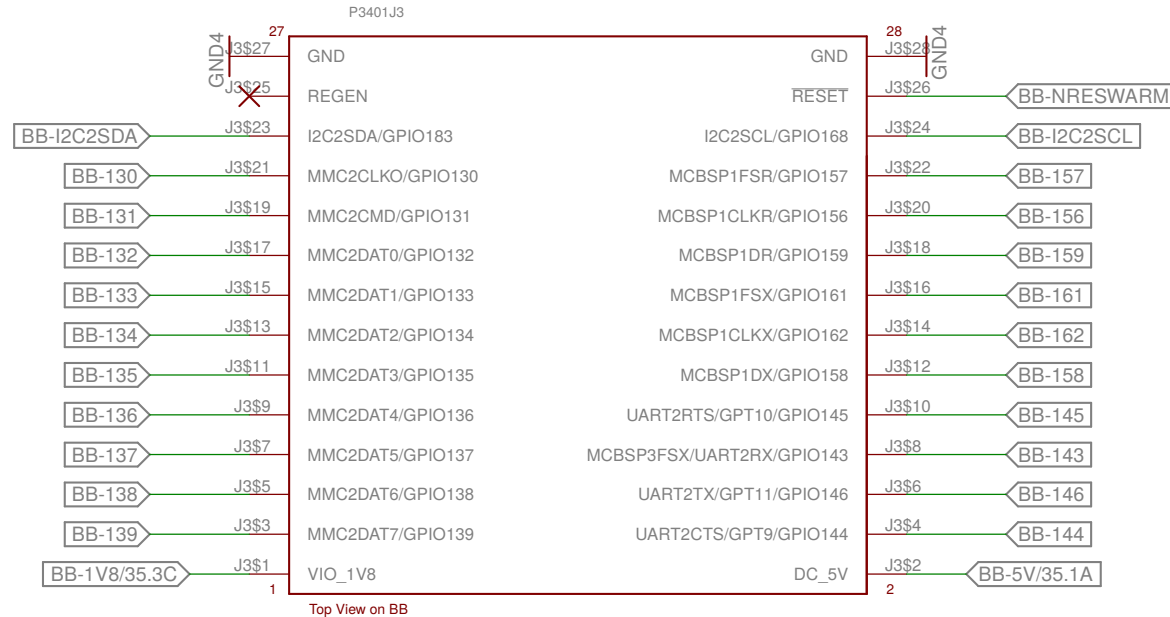
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Ersetzen durch 2A buck converter



reverse?
check visually during layout phase



BB-XM Adapter (CPU)

TITLE: GTA04b7

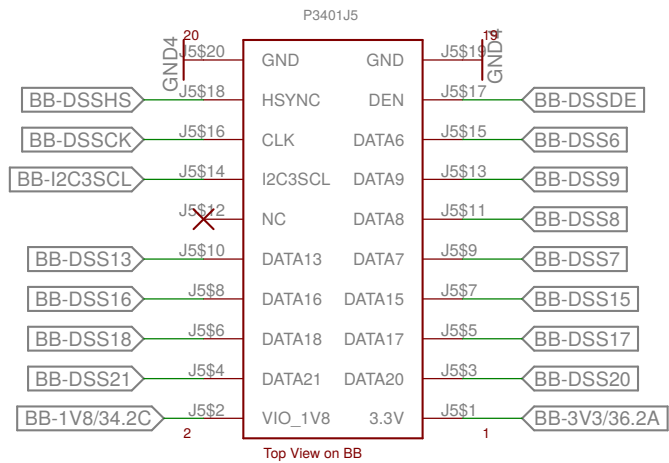
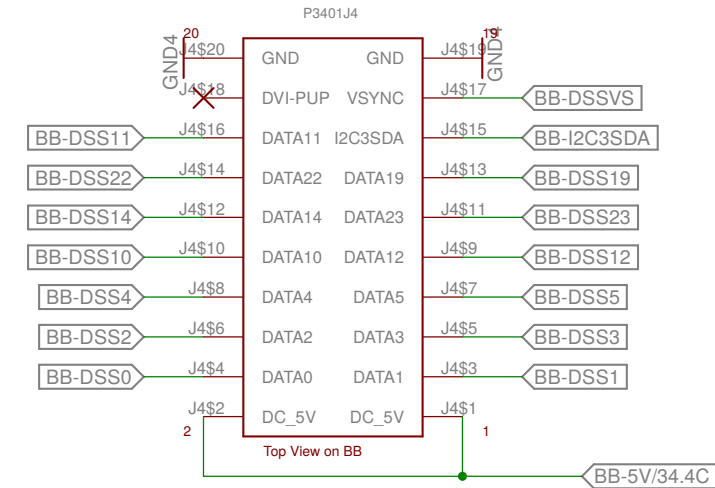
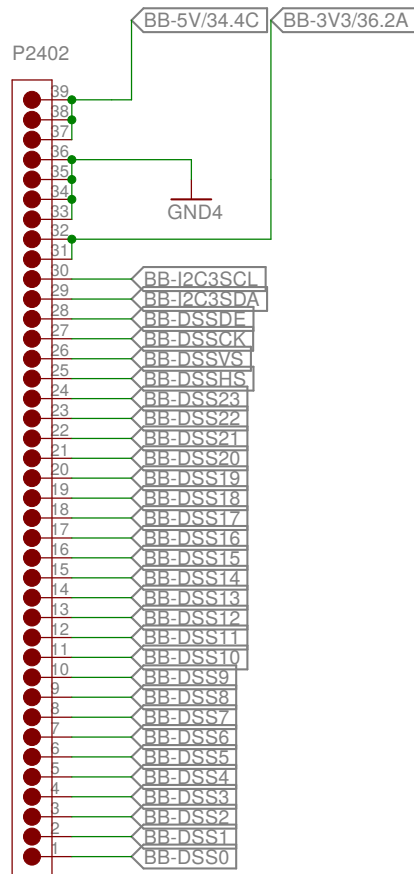
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reverse?
check visually during layout phase



BB-XM Adapter (DISP)

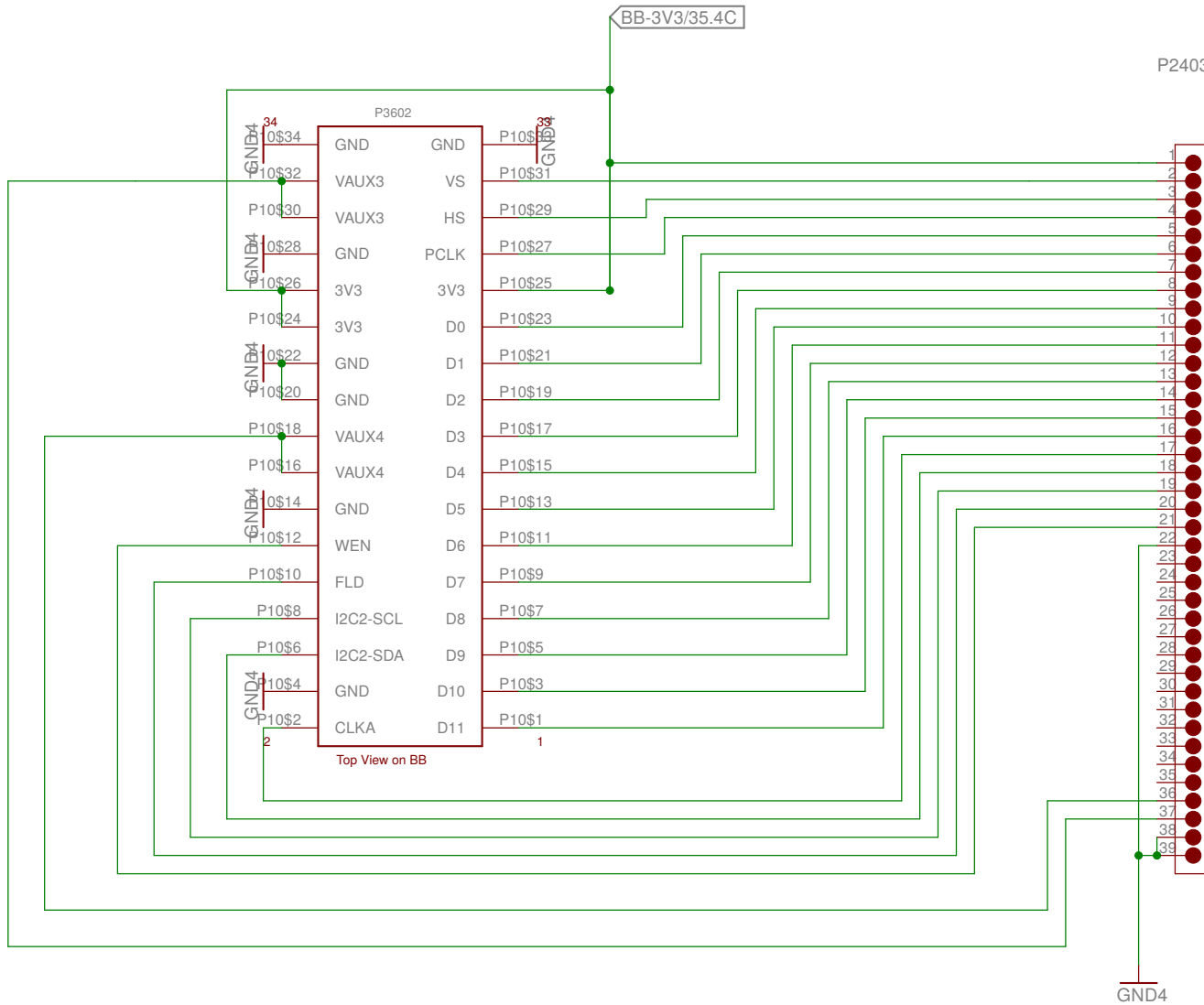
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reverse?
check visually during layout phase

BB-XM Adapter (CAM)

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Molex Jumper cables to connect BB-XM-Adapter to Uppwer board

N3701
15015-0439

CPU

N3702
15015-0439

DISP

N3703
15015-0439

CAM

N3704
N900 case assembly

N3705
N97-CAMERA-HOLE

N3706
headset jack

N3707
STENCIL-TOP

N3708
STENCIL-BOTTOM

No-Solder Components

TITLE: GTA04b7

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1. Buttons
2. OTG port
3. Charger / OTG booster
4. Modem Power
5. Fuel Gauge
6. 3G/4G Modem + SIM
7. Dual SIM Switch
8. Antenna Connections
9. WLAN + Bluetooth + FM
10. Sensors
11. Audio: Codec
12. Audio: Headset & Microphone
13. ECI (remote control)
14. Audio: Handsfree
15. Misc on Lower Board
16. RFID/NFC Reader
17. NFC Controller
18. Hackerbus
19. Infrared
20. B2B connectors lower to upper
21. µSD and Flash Breakout Board
22. B2B connectors upper to lower
23. Keypad
24. Display: Peripherals
25. Display: Panel & Power
26. CPU + PoP RAM/NAND (placeholder)
27. eMMC (placeholder)
28. PMU+Codec (placeholder)
29. BB-XM: twl4030 dummy
30. Camera
31. Control LEDs
32. Fancy LEDs
33. BB-XM: Connector to BB
34. BB-XM: Adapter for CPU
35. BB-XM: Adapter for Display
36. BB-XM: Adapter for Camera
37. Components not soldered
38. Table of Contents

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