

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-jr-2-beautify\_fonts

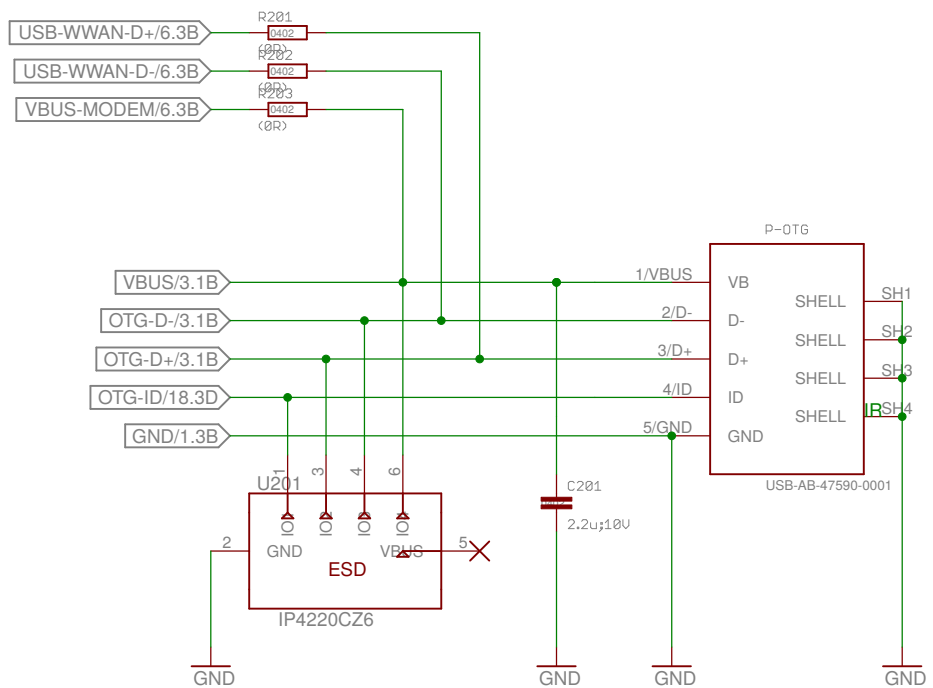
Document Number:

REU:  
V2b

Date: 09.09.15 02:57

Sheet: 1/35

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



## OTG

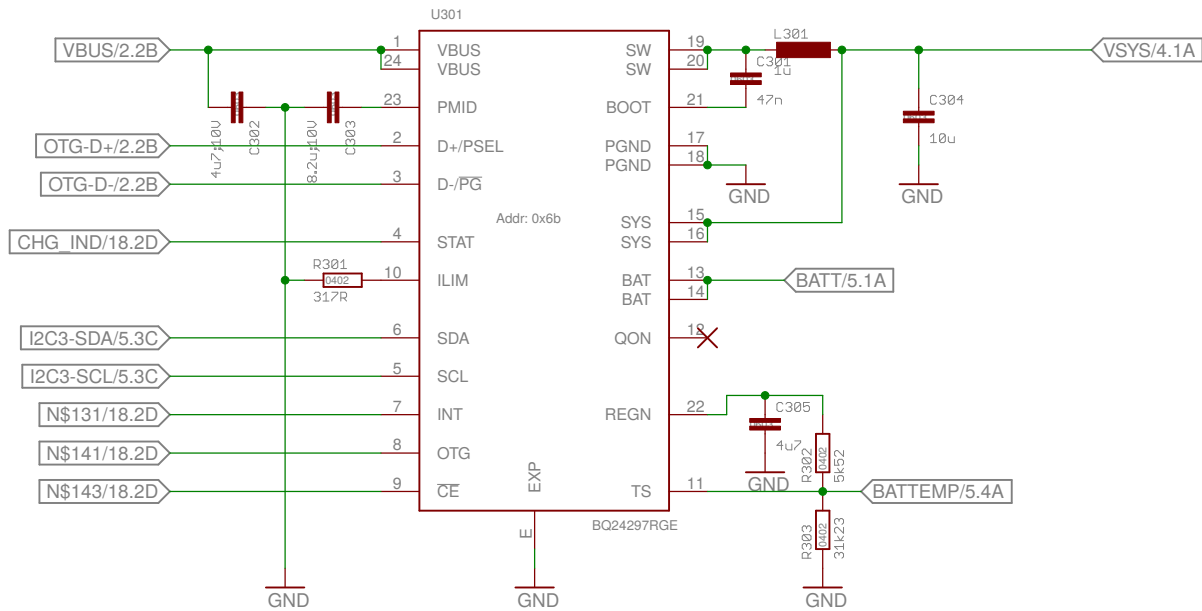
TITLE: GTA04b7-jr-2-beautify\_fonts

Document Number:

REU:  
V2b

Date: 09.09.15 02:57

Sheet: 2/35



## Charger/OTG-Booster

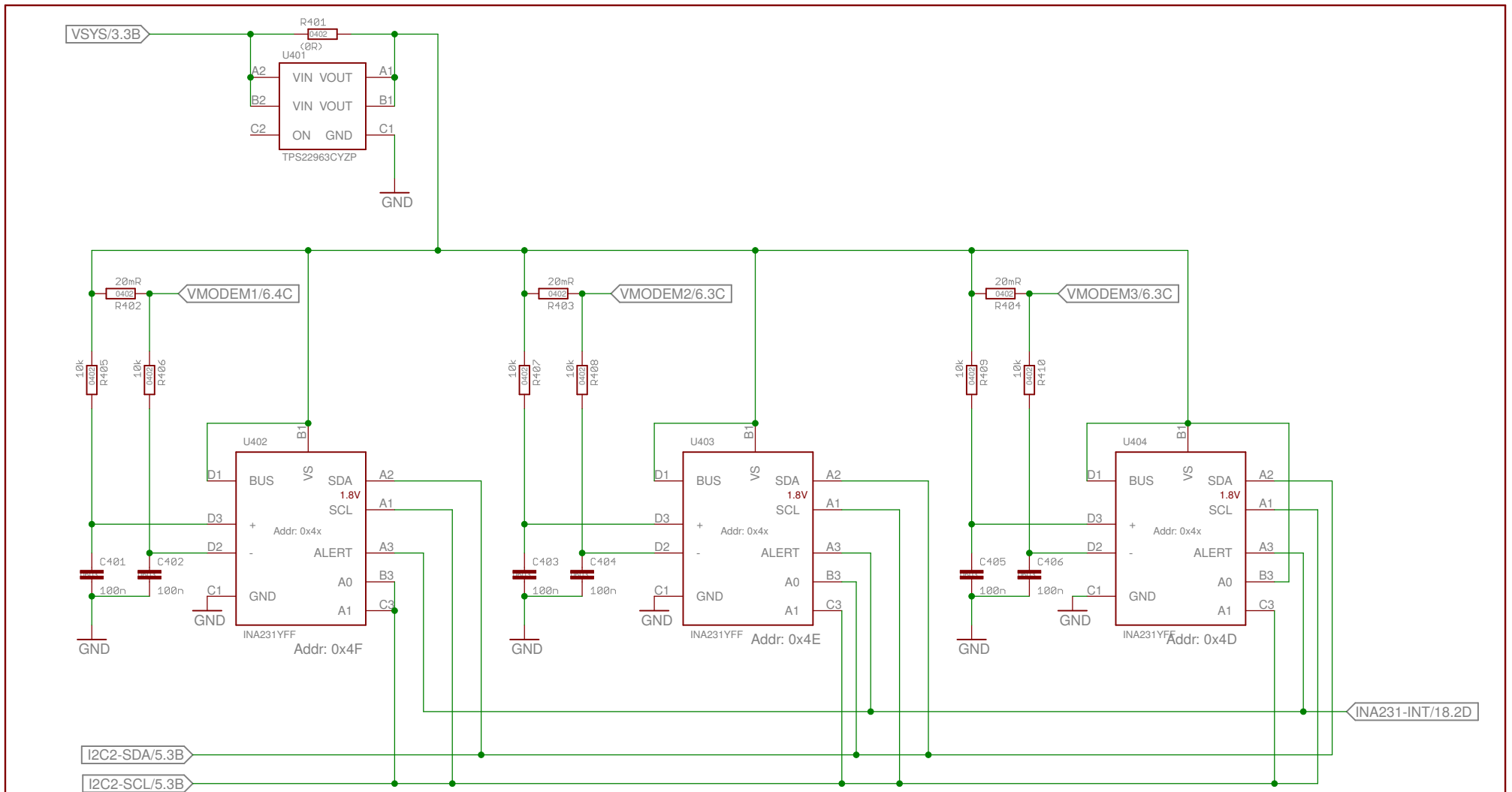
TITLE: GTA04b7-jr-2-beautify\_fonts

Document Number:

REU:  
V2b

Date: 09.09.15 02:57

Sheet: 3/35



## Modem Power

TITLE: GTA04b7-jr-2-beautify\_fonts

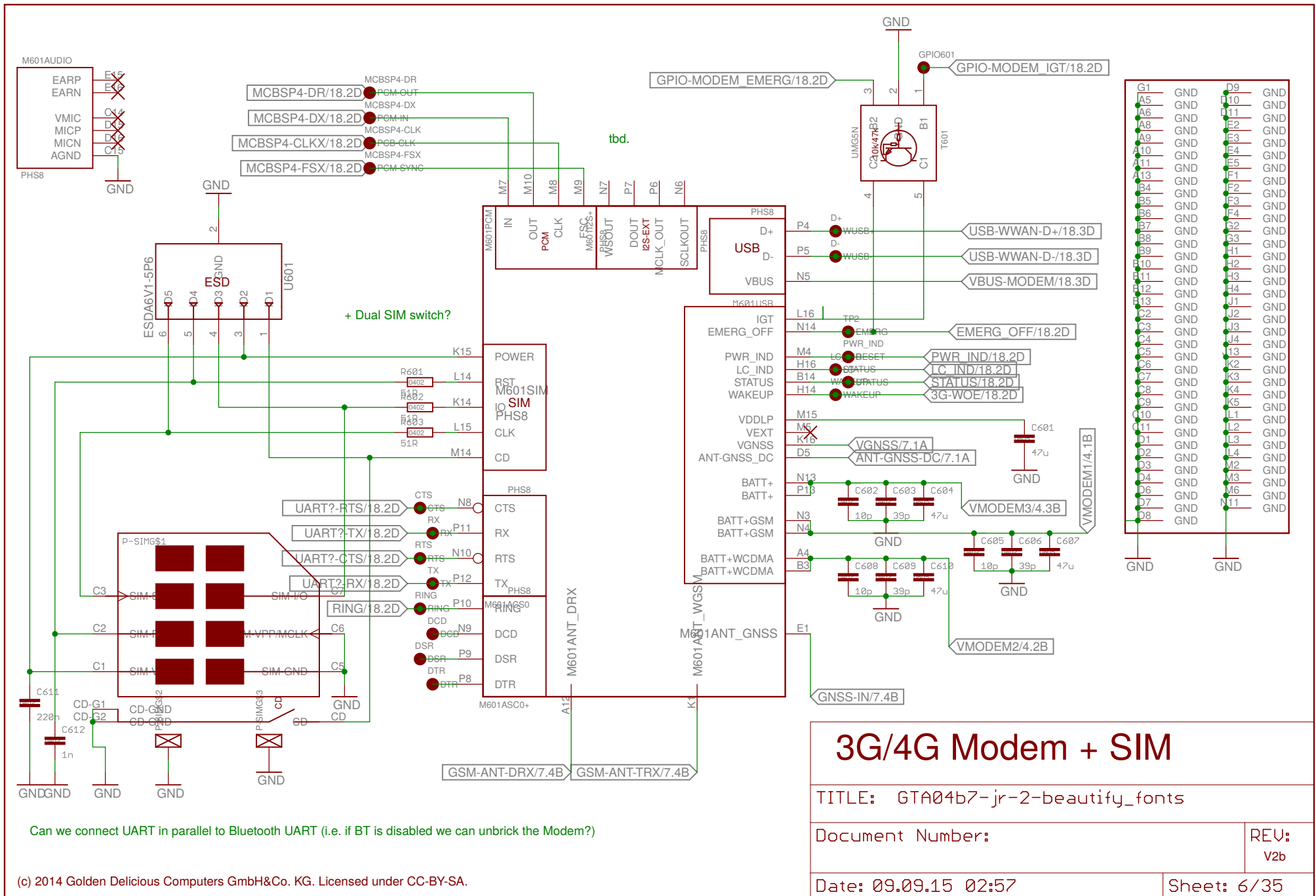
Document Number:

REU:  
v2b

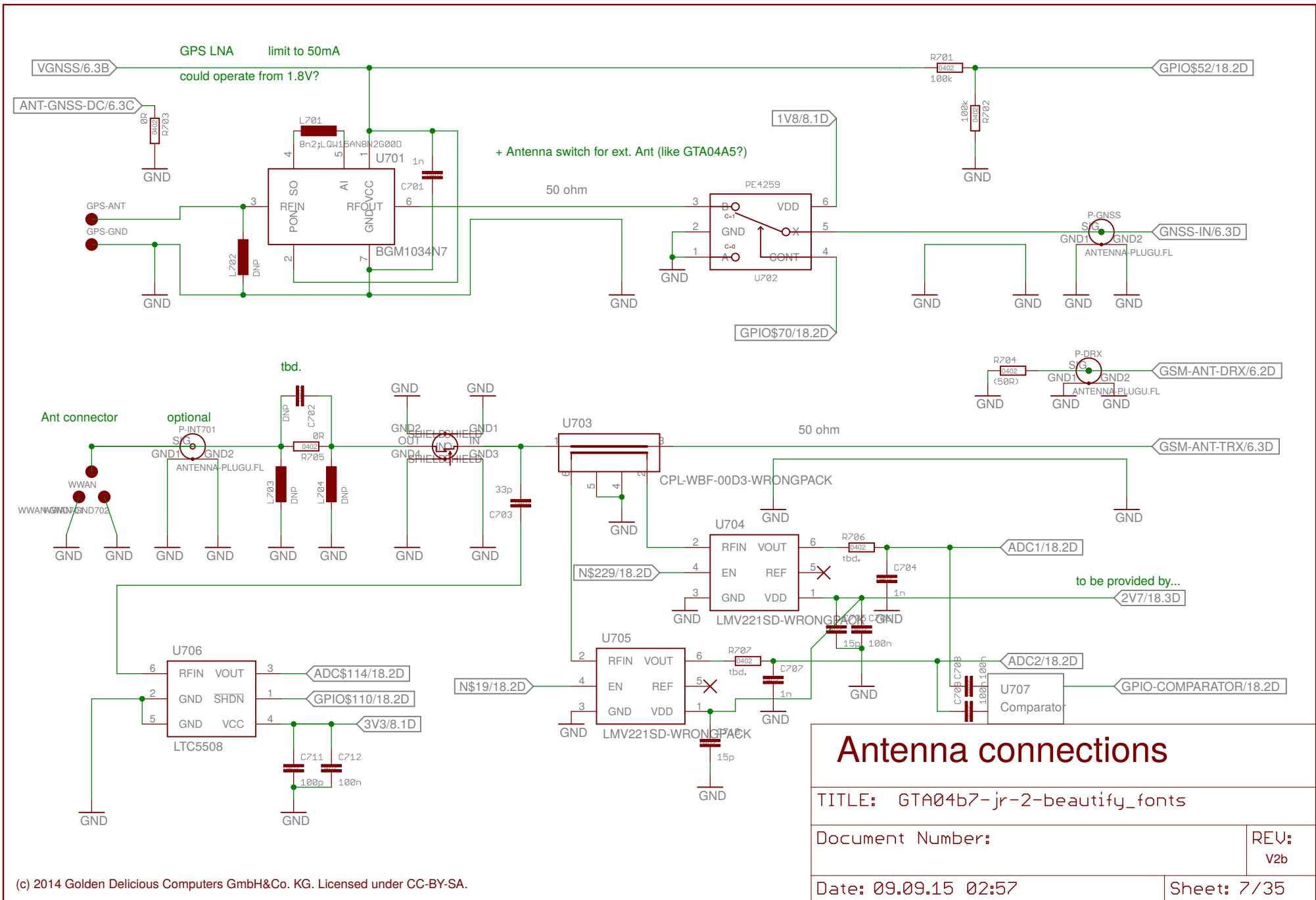
Date: 09.09.15 02:57

Sheet: 4/35





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



# Antenna connections

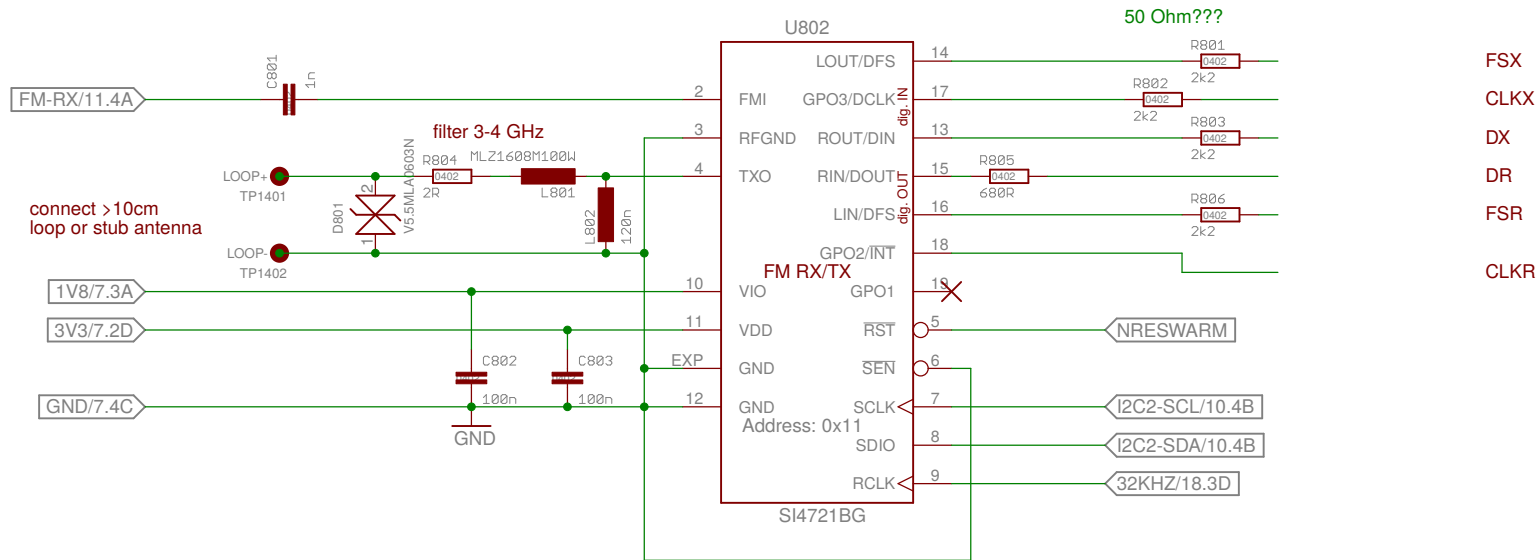
TITLE: GTA04b7-jr-2-beautify\_fonts

Document Number:

REU:  
v2b

Date: 09.09.15 02:57

Sheet: 7/35

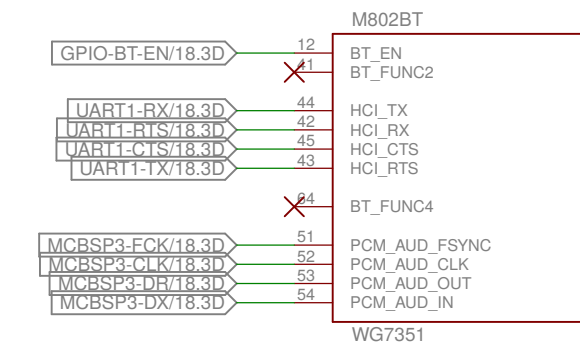
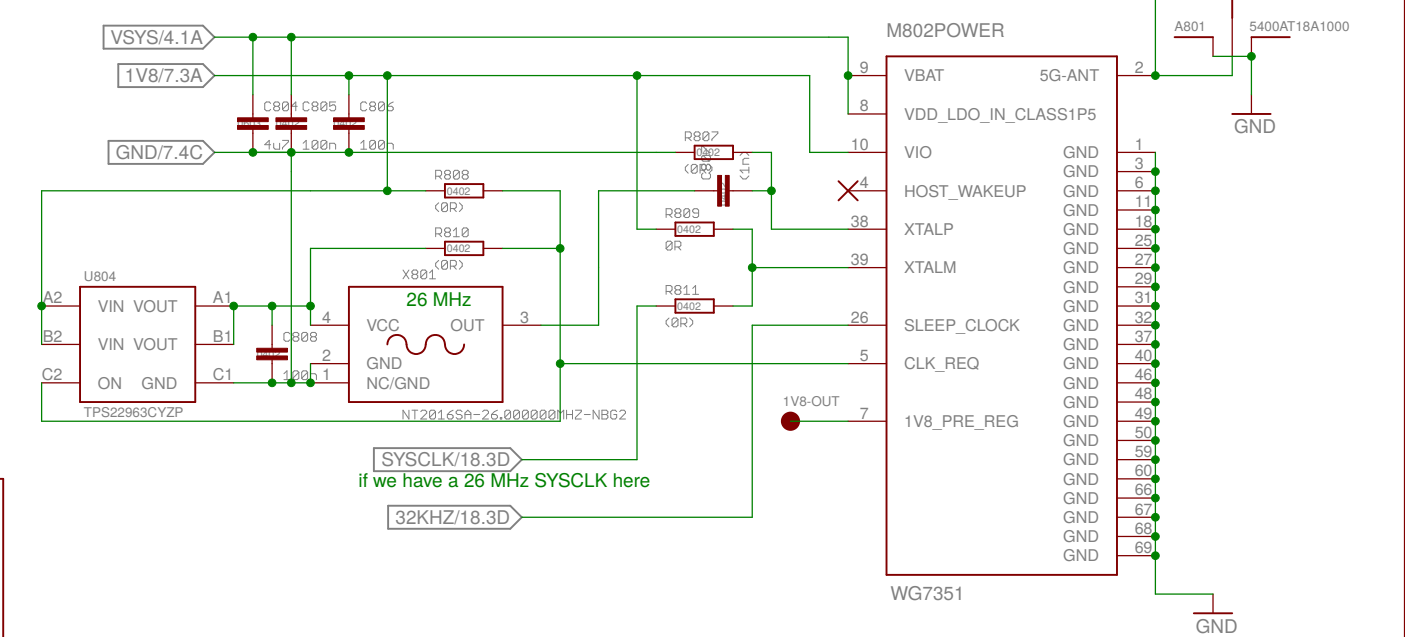
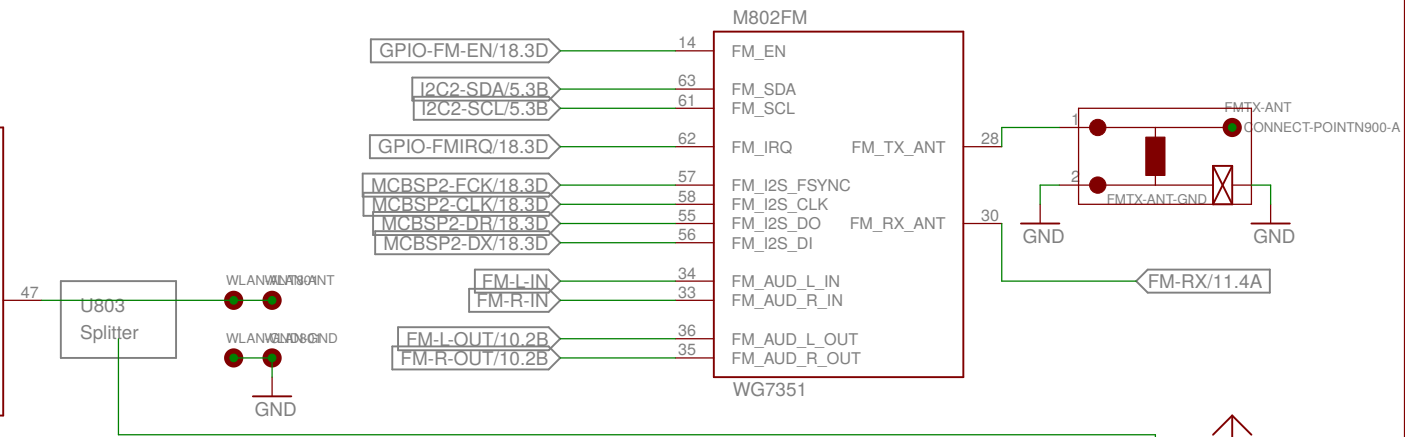
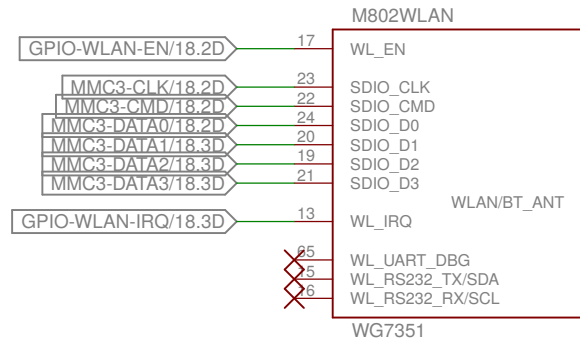


Si4705 is pin compatible (mostly) but RX-only



WiLink5

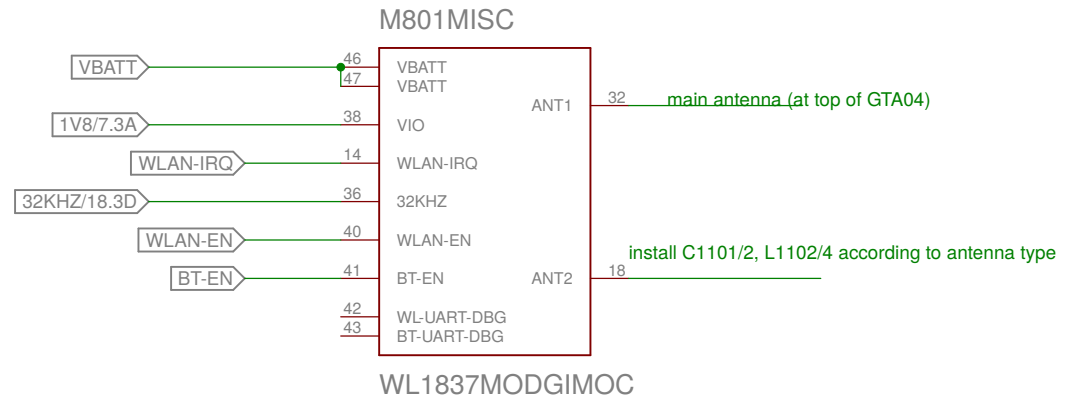
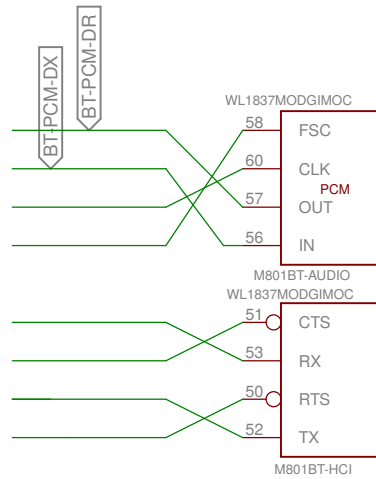
Dämpfungs-RC's?



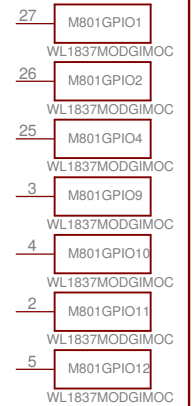
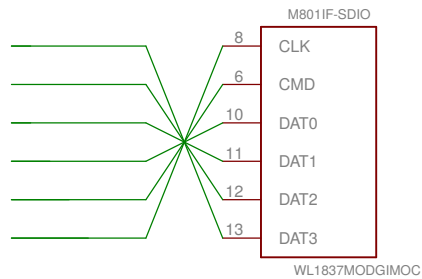
# WLAN & Bluetooth & FM

|                                    |             |
|------------------------------------|-------------|
| TITLE: GTA04b7-jr-2-beautify_fonts |             |
| Document Number:                   | REU:<br>V2b |
| Date: 09.09.15 02:57               | Sheet: 8/35 |

WiLink8



secondary (on the side of GTA04)  
could be 5.8GHz as well



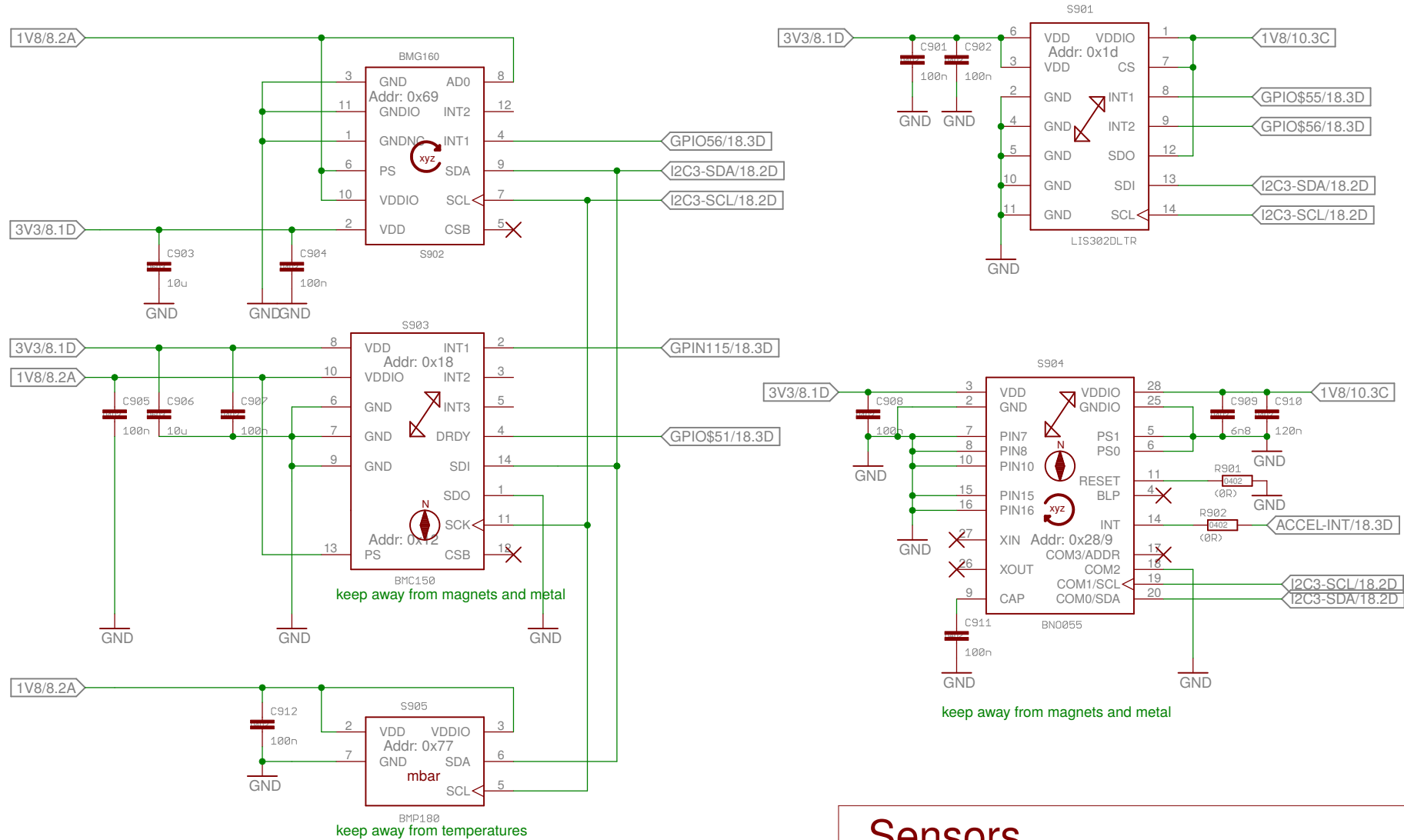
# WLAN & Bluetooth & FM

TITLE: GTA04b7-jr-2-beautify\_fonts

Document Number:

REV:  
V2b





# Sensors

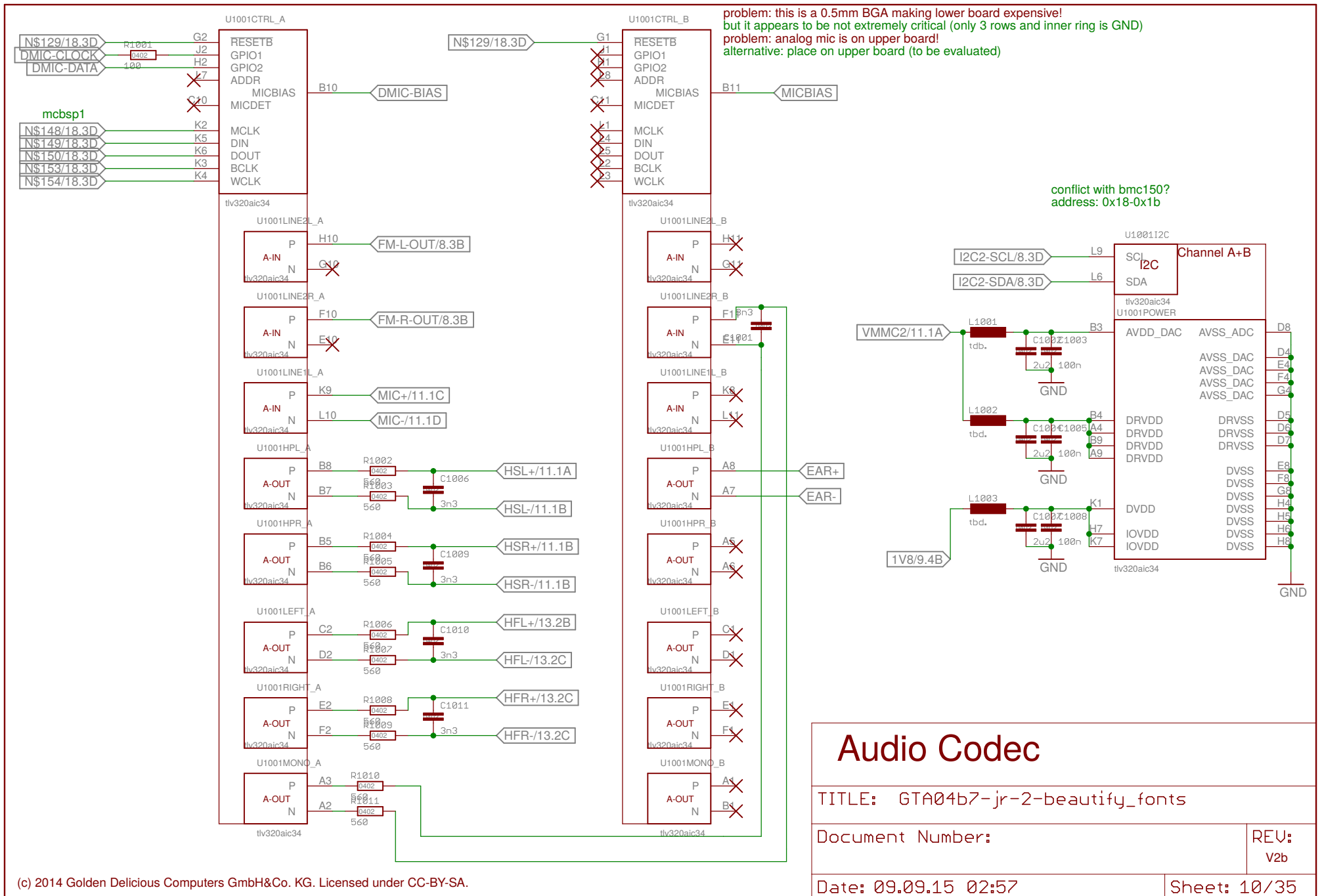
TITLE: GTA04b7-jr-2-beautify\_fonts

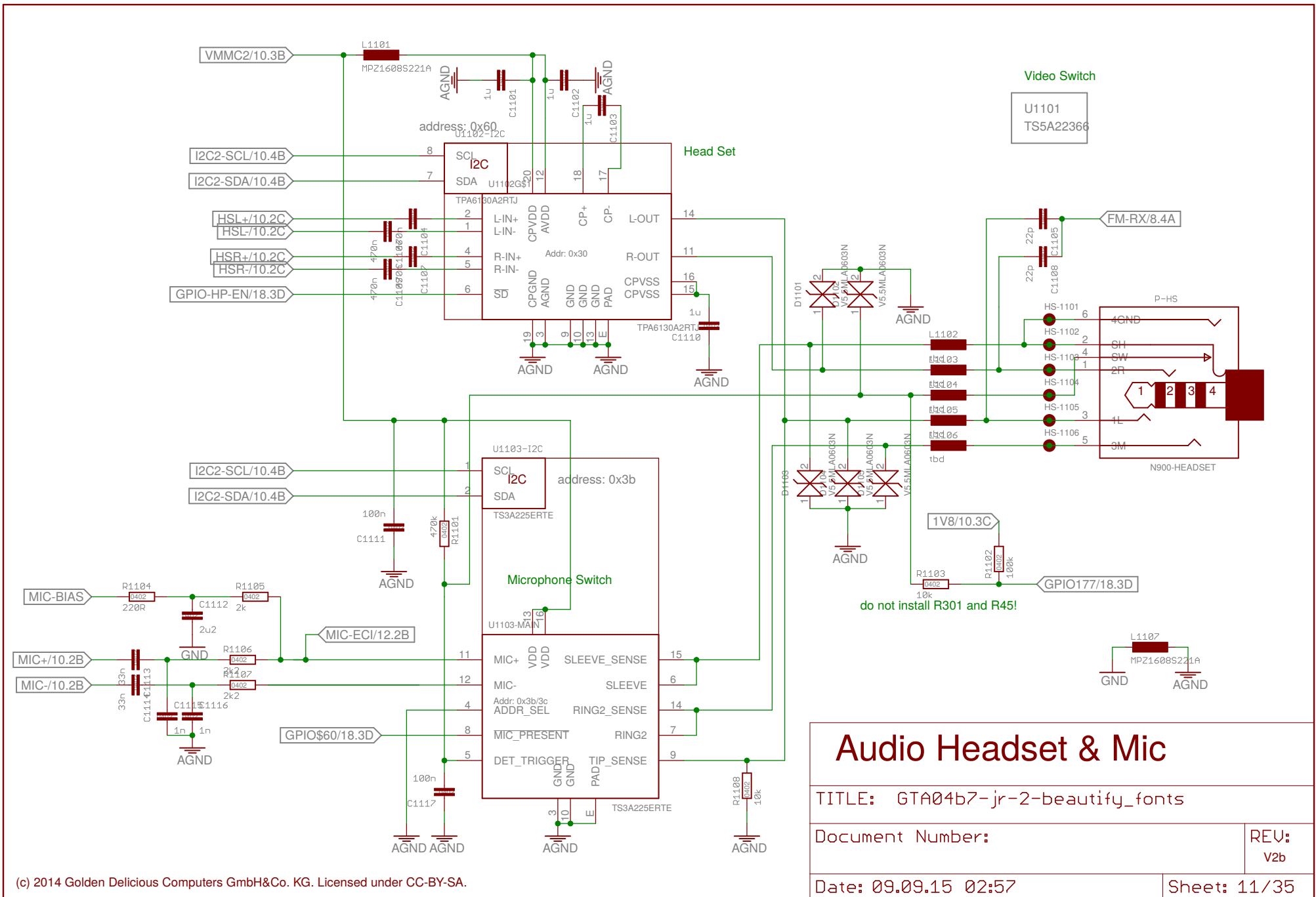
Document Number:

REV:  
v2b

Date: 09.09.15 02:57

Sheet: 9/35





# Audio Headset & Mic

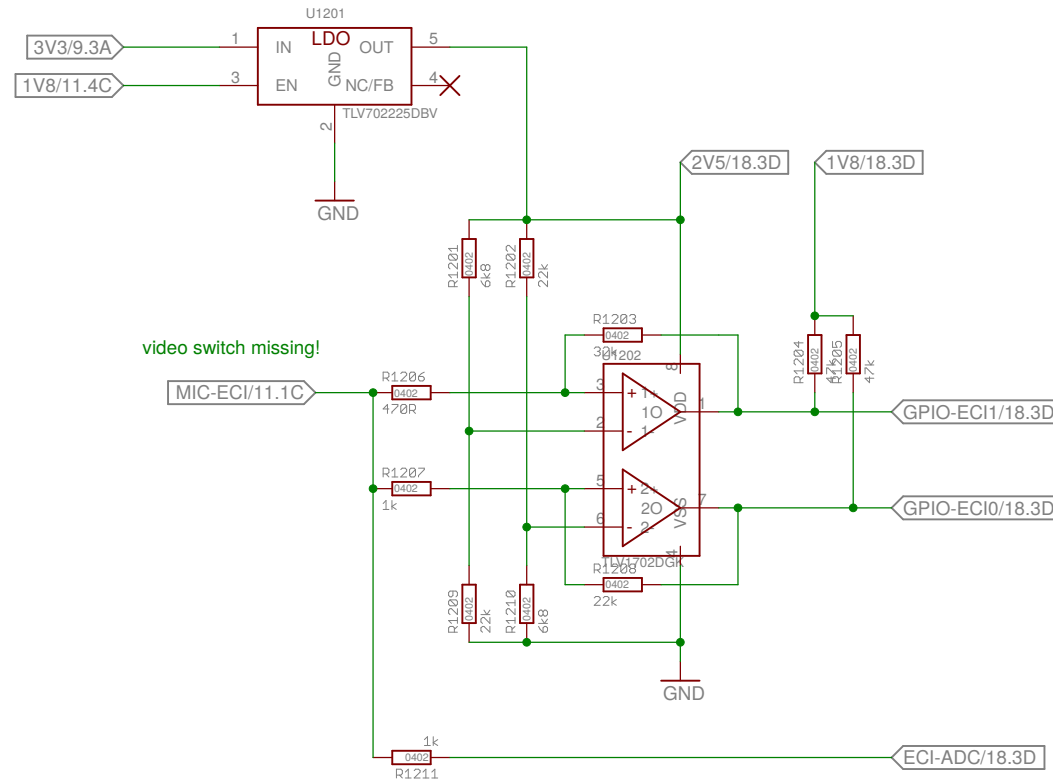
TITLE: GTA04b7-jr-2-beautify\_fonts

Document Number:

REU:  
v2b

Date: 09.09.15 02:57

Sheet: 11/35



# ECI

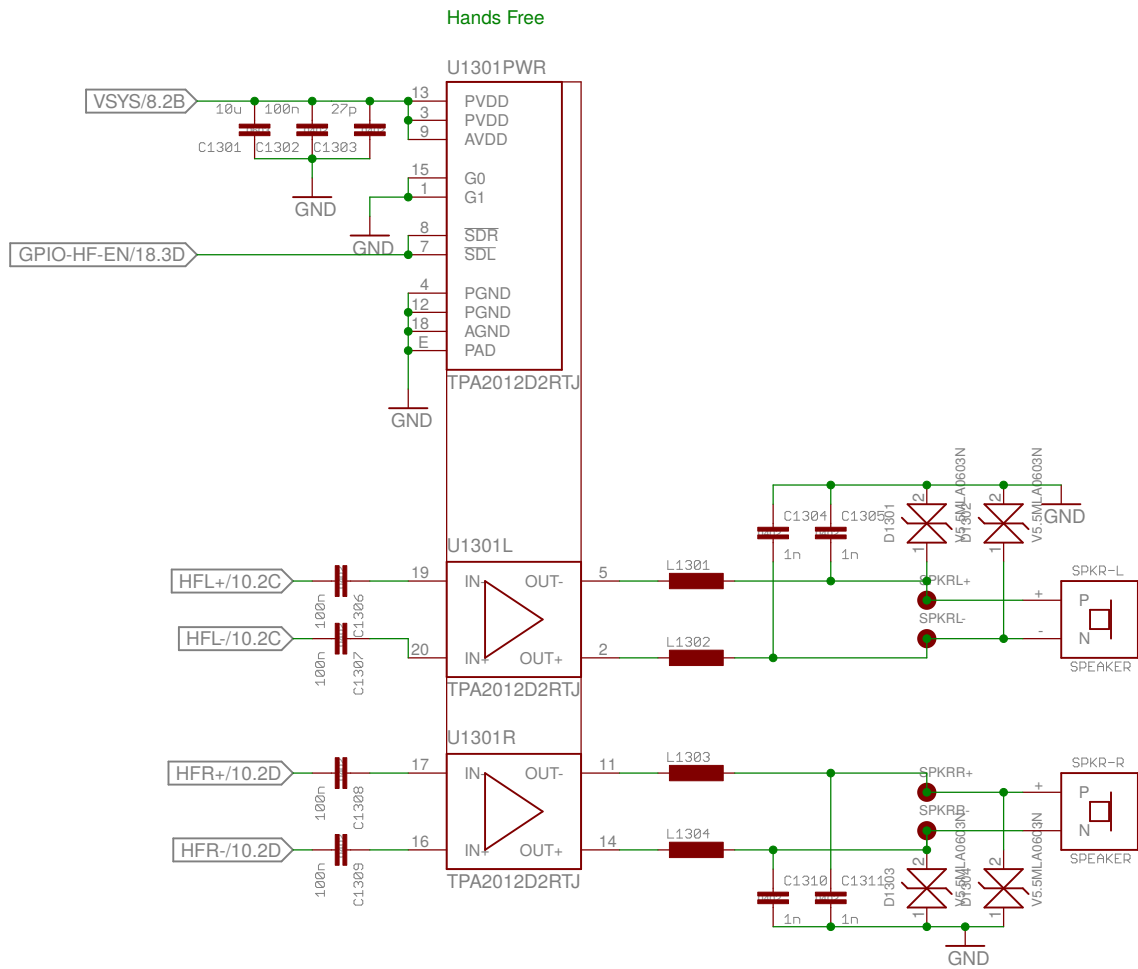
TITLE: GTA04b7-jr-2-beautify\_fonts

Document Number:

REU:  
v2b

Date: 09.09.15 02:57

Sheet: 12/35



# Audio Handsfree

TITLE: GTA04b7-jr-2-beautify\_fonts

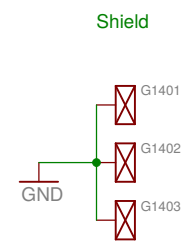
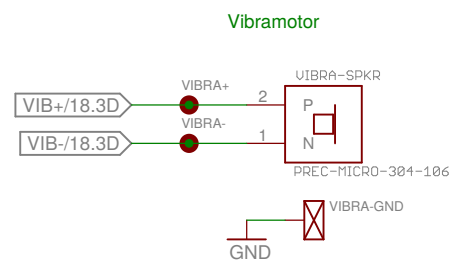
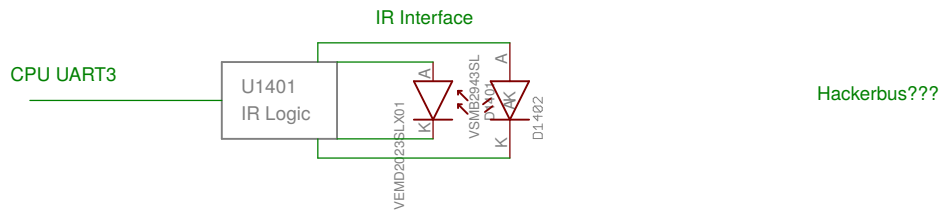
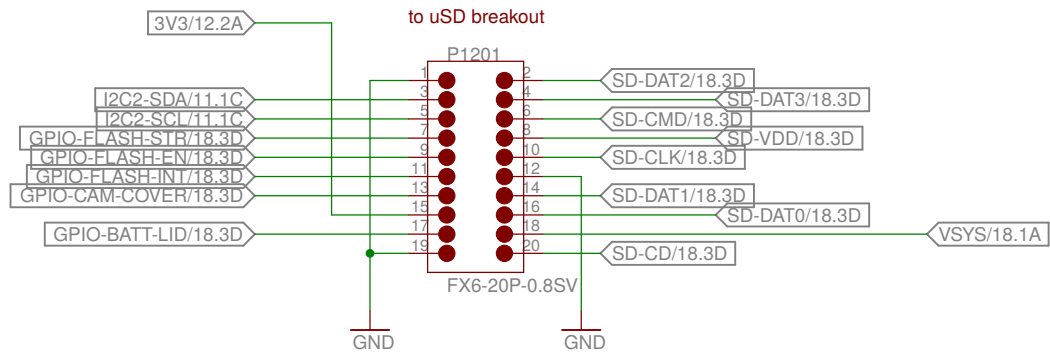
Document Number:

REU:  
V2b

Date: 09.09.15 02:57

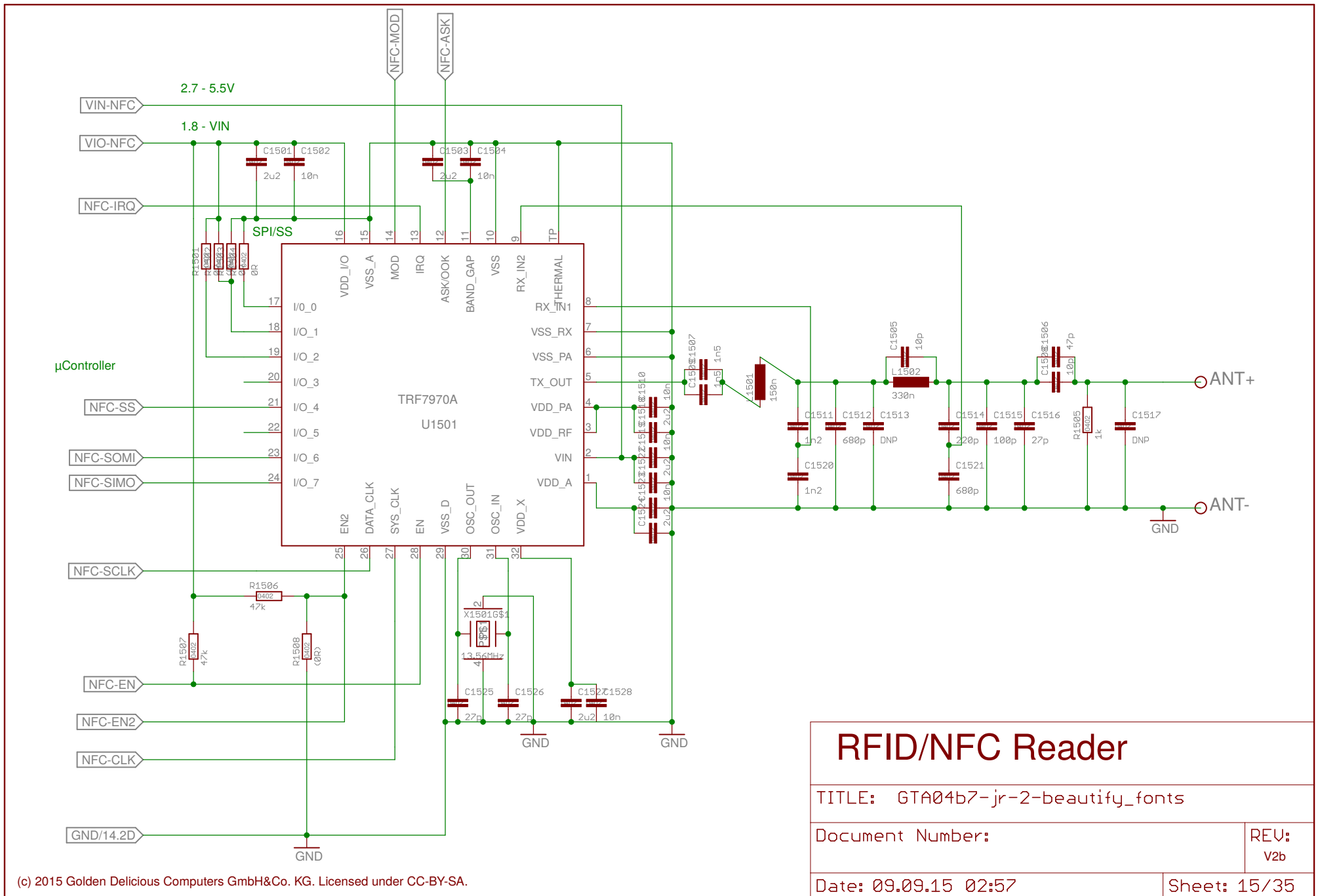
Sheet: 13/35





## Misc (lower)

|                                    |              |
|------------------------------------|--------------|
| TITLE: GTA04b7-jr-2-beautify_fonts |              |
| Document Number:                   | REU:<br>V2b  |
| Date: 09.09.15 02:57               | Sheet: 14/35 |



# Hackerbus

TITLE: GTA04b7-jr-2-beautify\_fonts

Document Number:

REU:  
v2b

Date: 09.09.15 02:57

Sheet: 16/35

# Infrared

TITLE: GTA04b7-jr-2-beautify\_fonts

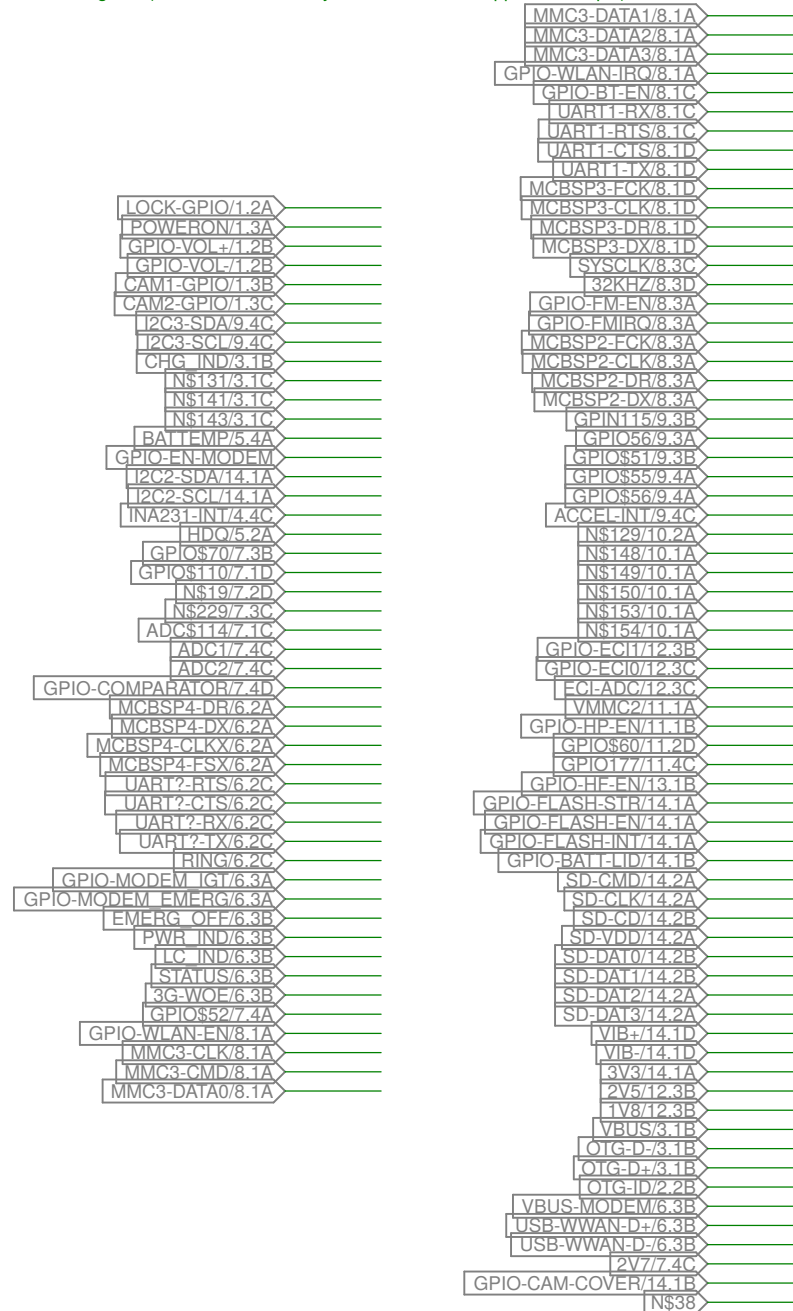
Document Number:

REU:  
v2b

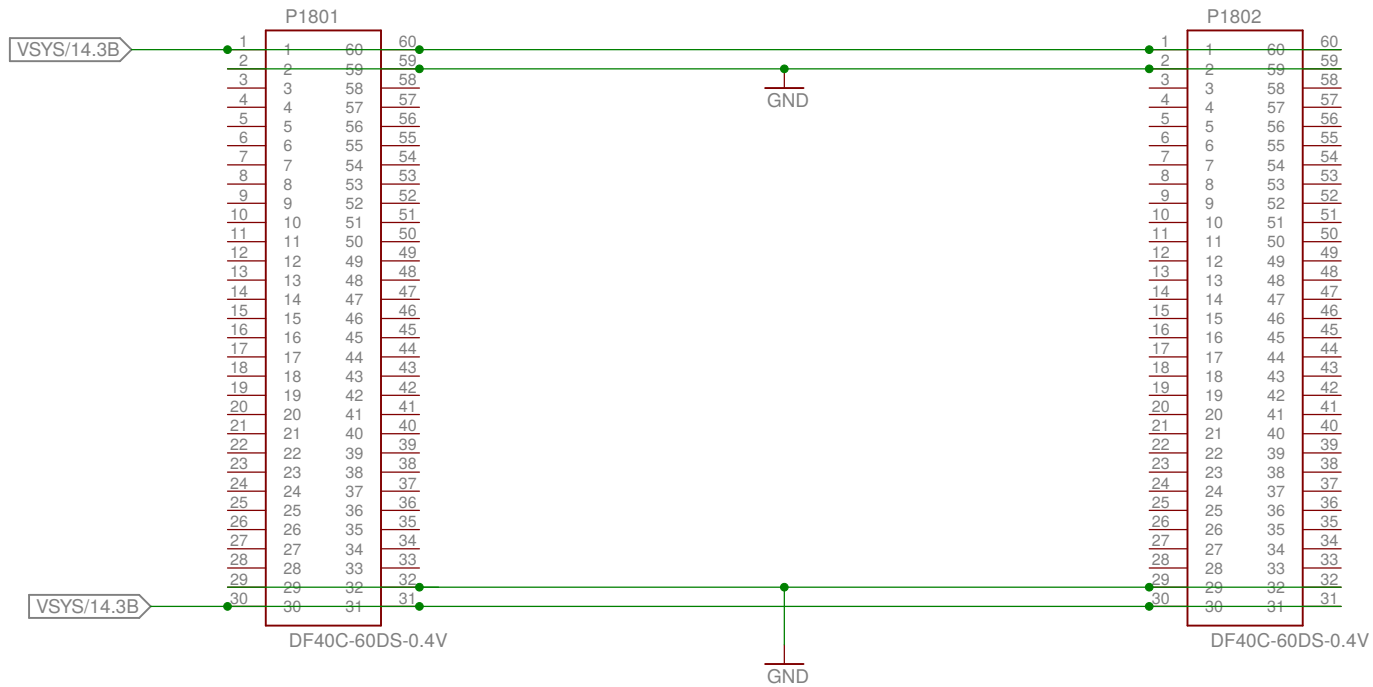
Date: 09.09.15 02:57

Sheet: 17/35

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



Pin assignment must be optimized for final component placement  
we might have to switch to 80 or 100 pin connectors



## B2B to upper board

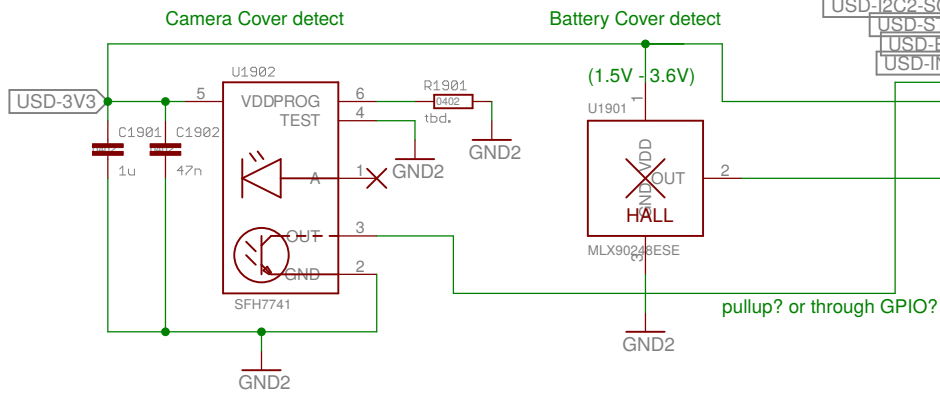
TITLE: GTA04b7-jr-2-beautify\_fonts

Document Number:

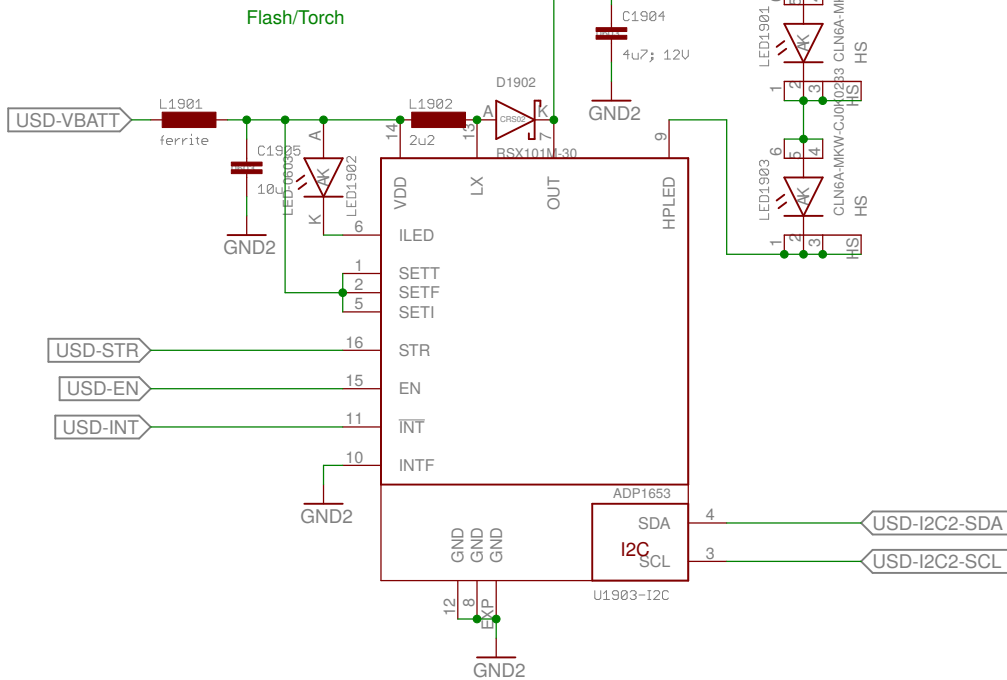
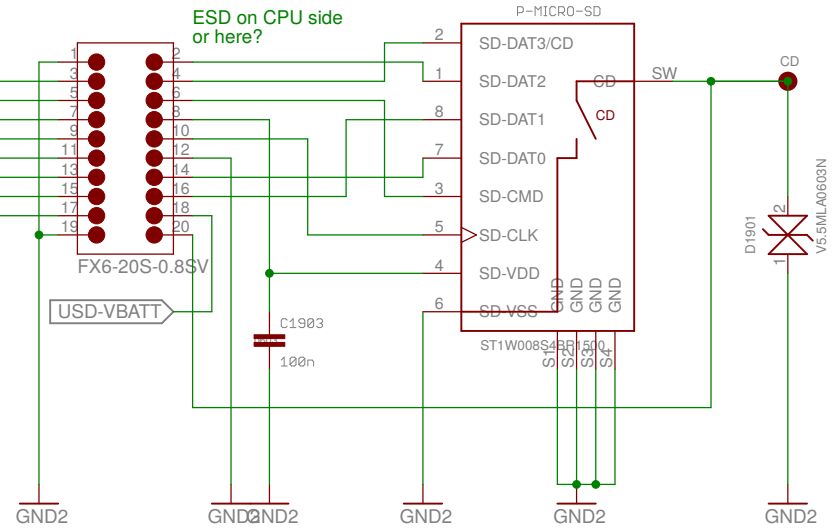
REV:  
V2b

Date: 09.09.15 02:57

Sheet: 18/35



USD-I2C2-SDA  
 USD-I2C2-SCL  
 USD-STR  
 USD-EN  
 USD-INT



# µSD Breakout Board

TITLE: GTA04b7-jr-2-beautify\_fonts

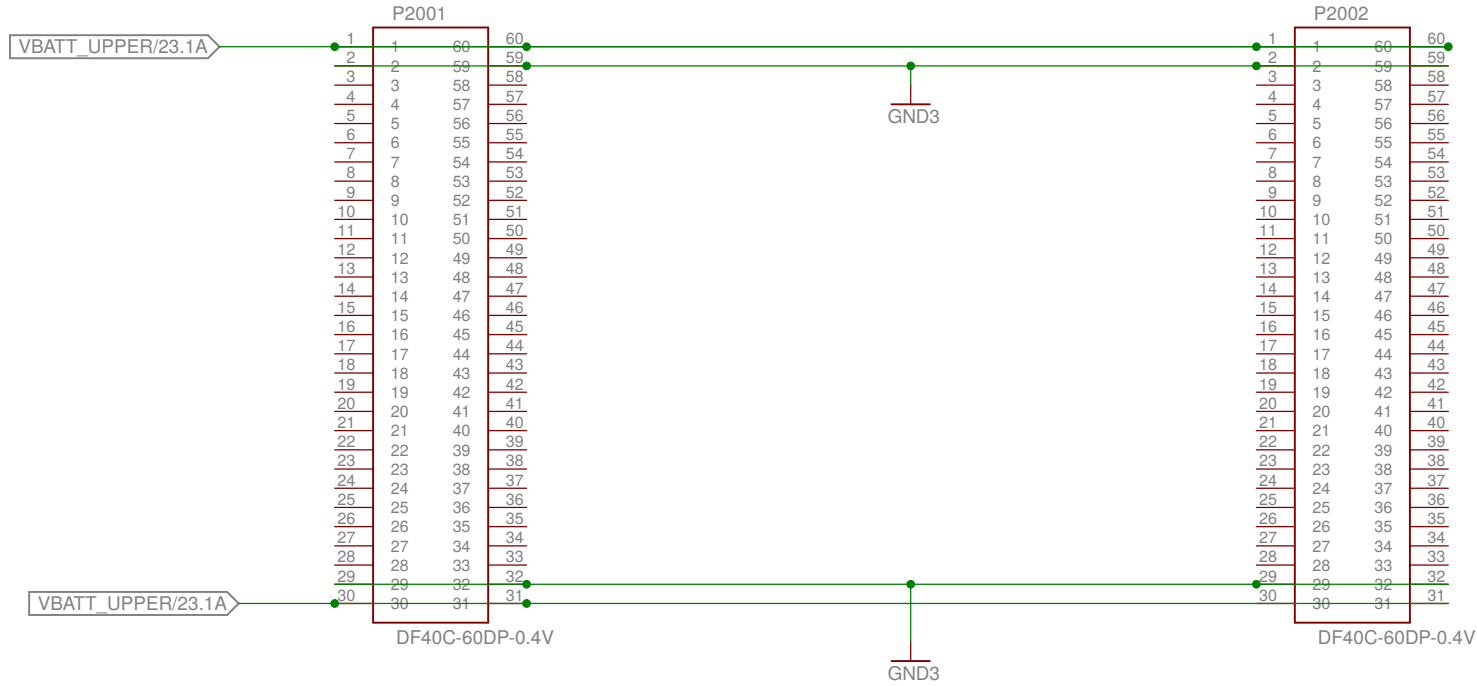
Document Number:

REU:  
v2b

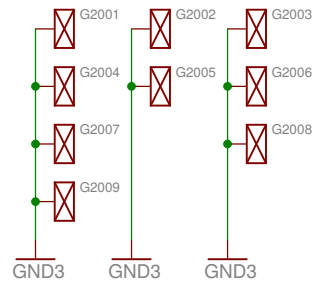
Date: 09.09.15 02:57

Sheet: 19/35

to be adjusted to lower board connector



SHIELD



## B2B to lower board

TITLE: GTA04b7-jr-2-beautify\_fonts

Document Number:

REU:  
v2b

Date: 09.09.15 02:57

Sheet: 20/35



needs final tuning (which button on which position)

VOL+ and VOL- could drive FETs sitting in the matrix

1V8-CPU/22.1A

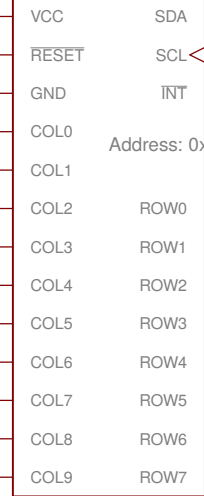
RESET UPPER

C2101

100nF

GND3

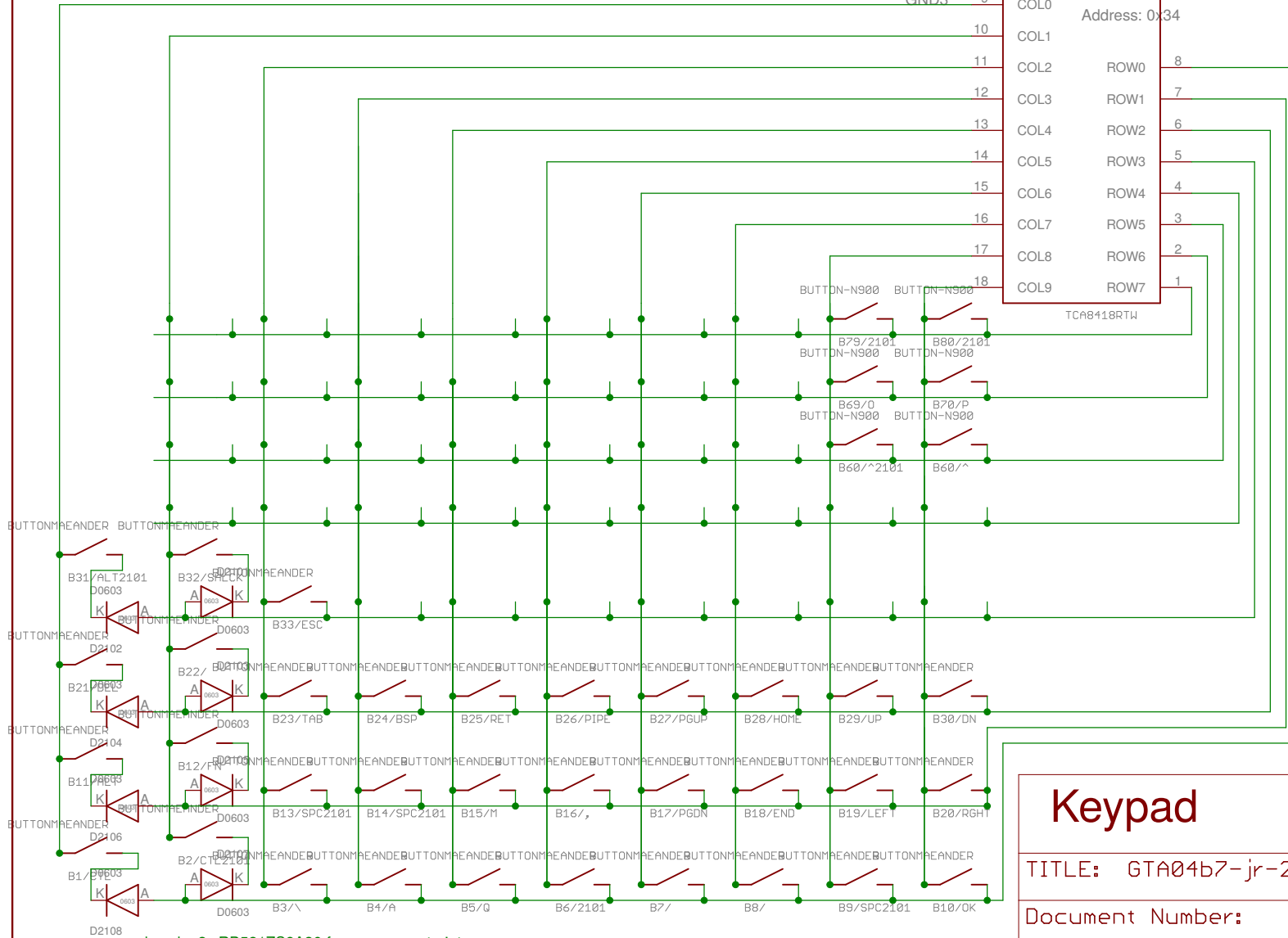
U2101



I2C2-SDA-CPU/22.3B

I2C2-SCL-CPU/22.3B

KEYIRQ\_UPPER



# Keypad

TITLE: GTA04b7-jr-2-beautify\_fonts

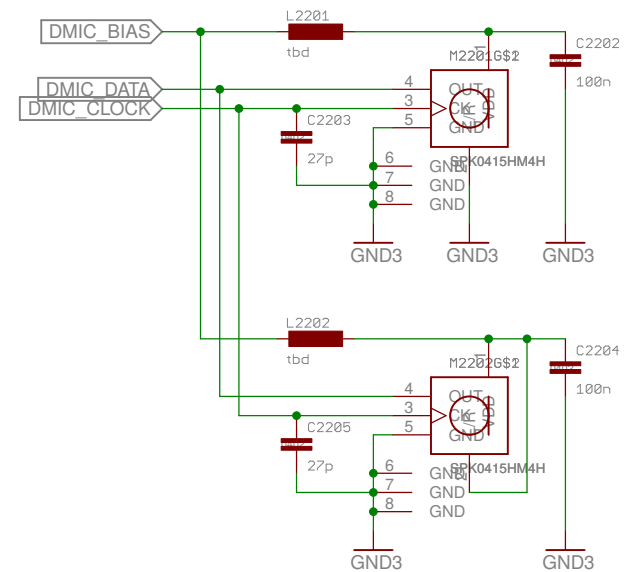
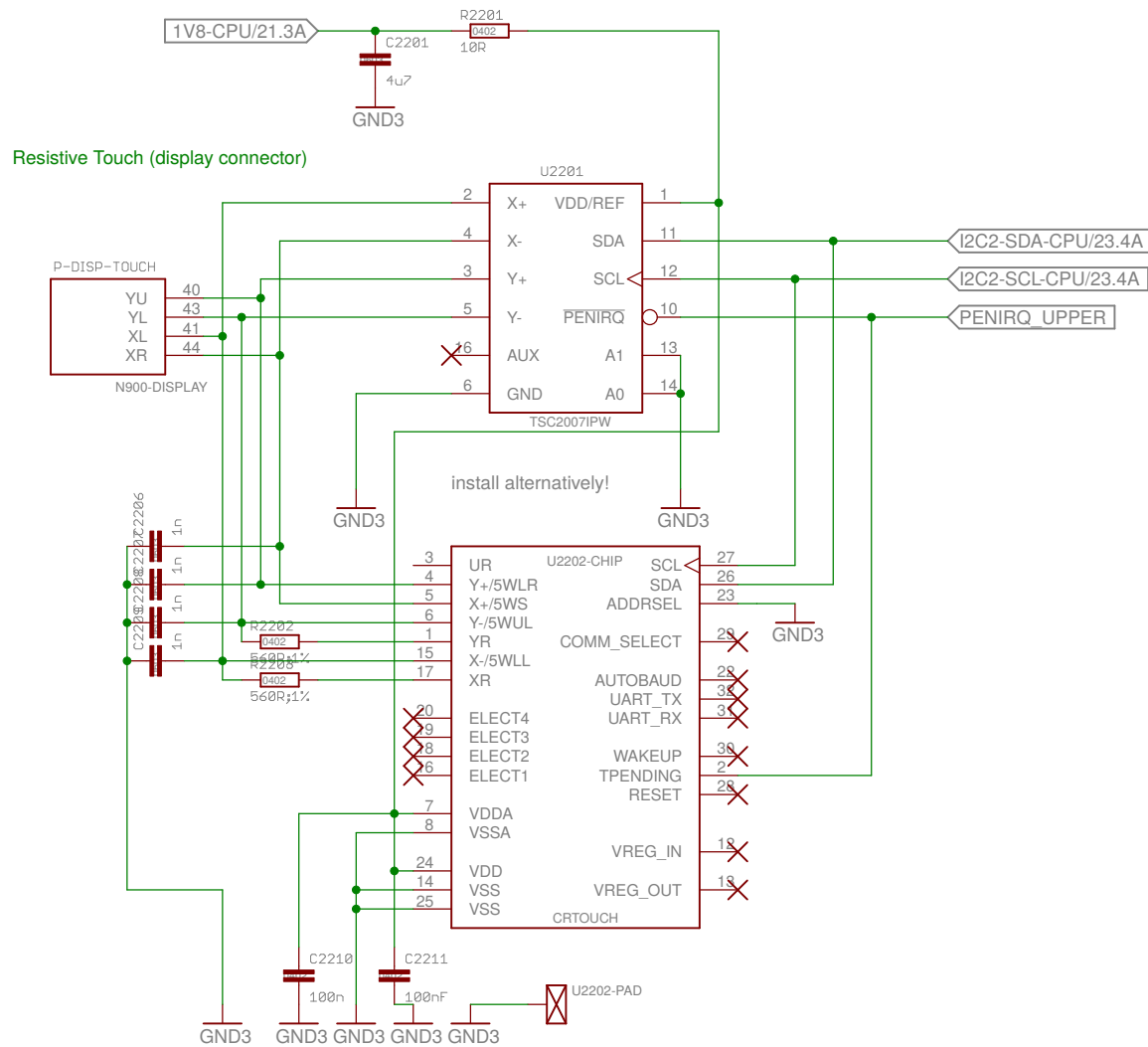
Document Number:

REV: V2b

Date: 09.09.15 02:57

Sheet: 21/35

replace by 2x RB521ZS8A30 for space constraints



## Display-Peripherals

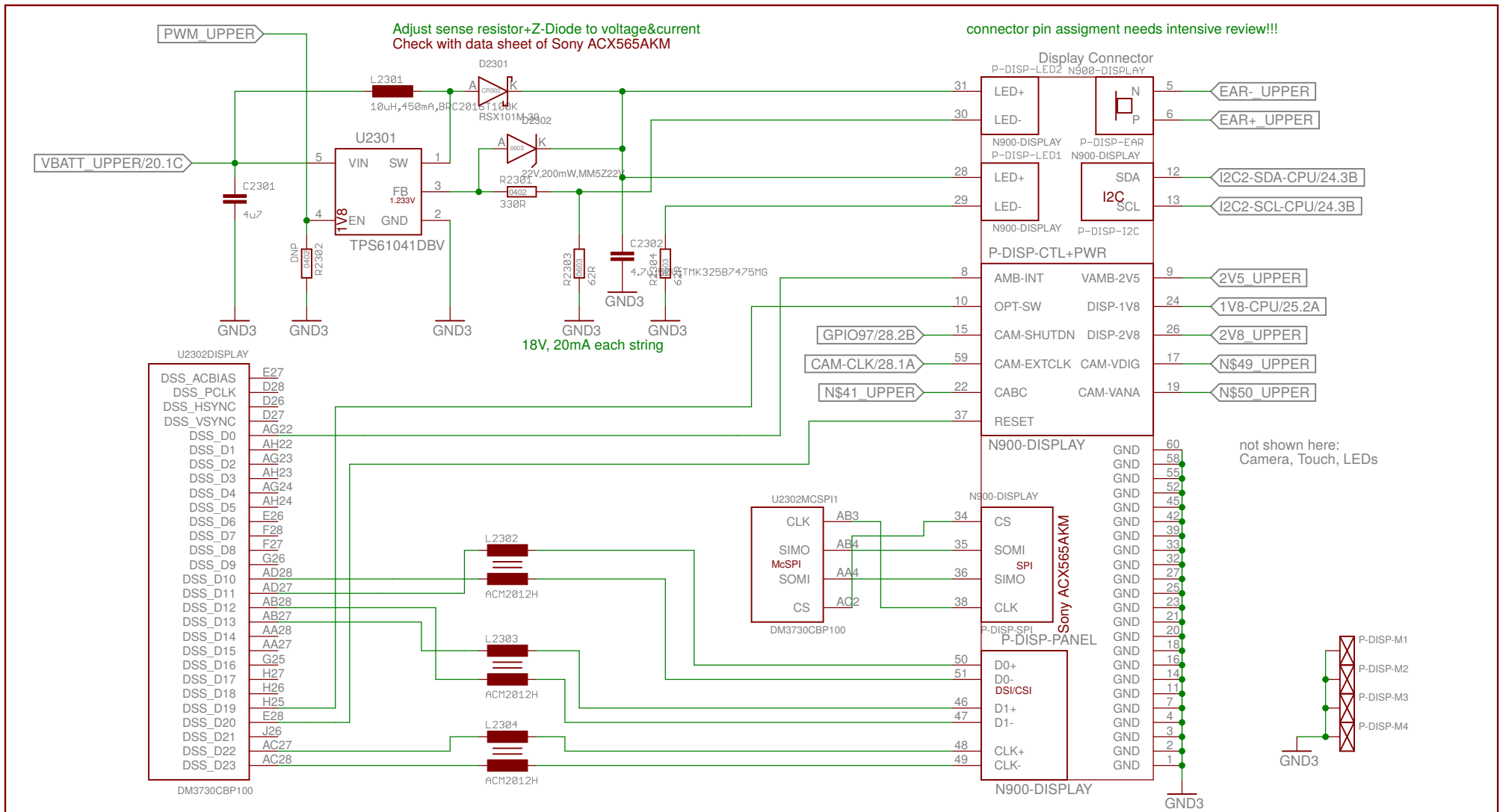
TITLE: GTA04b7-jr-2-beautify\_fonts

Document Number:

REU:  
V2b

Date: 09.09.15 02:57

Sheet: 22/35



# Display-Panel&Power

TITLE: GTA04b7-jr-2-beautify\_fonts

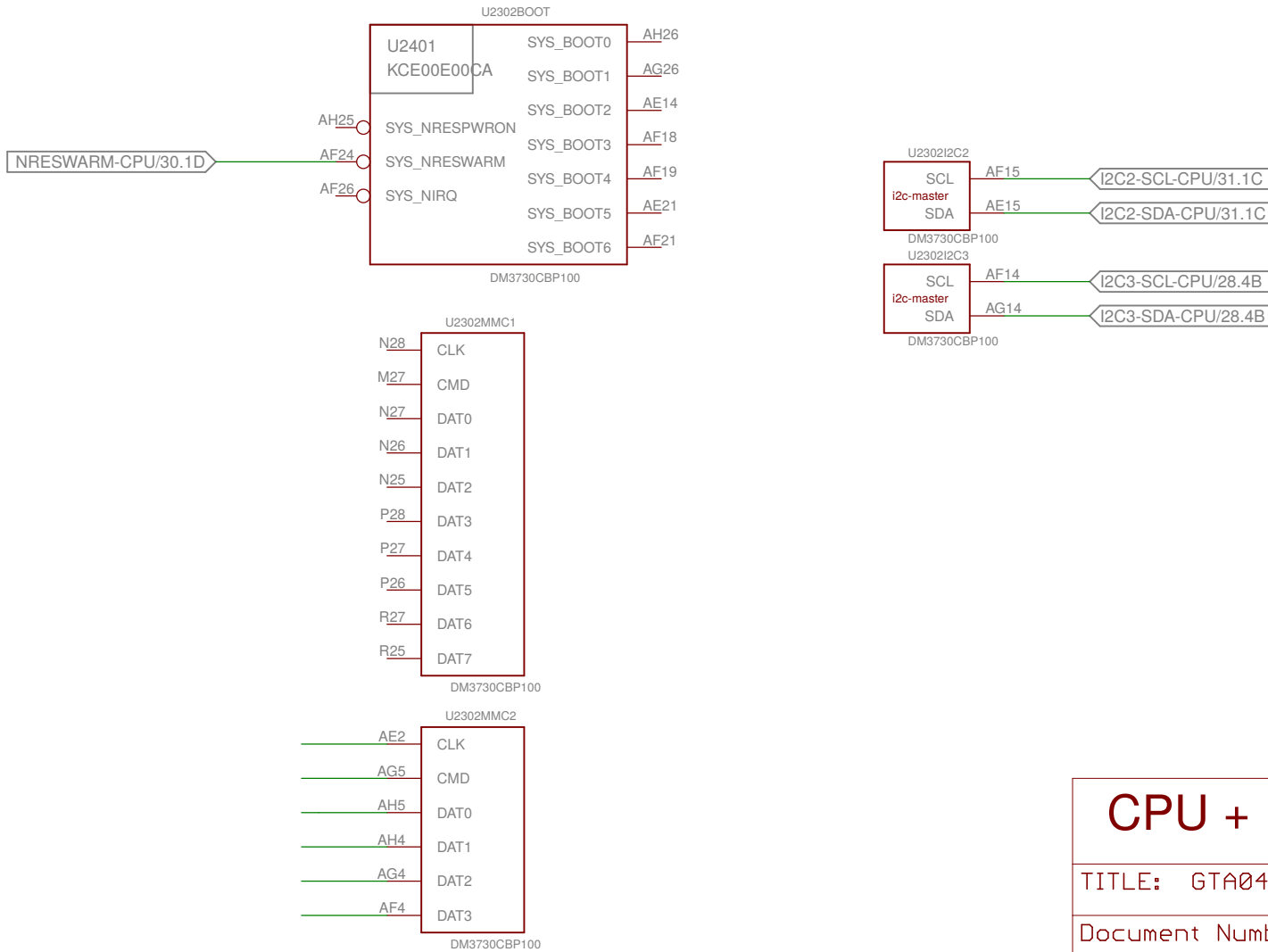
Document Number:

REU:  
v2b

Date: 09.09.15 02:57

Sheet: 23/35

INCOMPLETE in V2



# CPU + PoP RAM/NAND

TITLE: GTA04b7-jr-2-beautify\_fonts

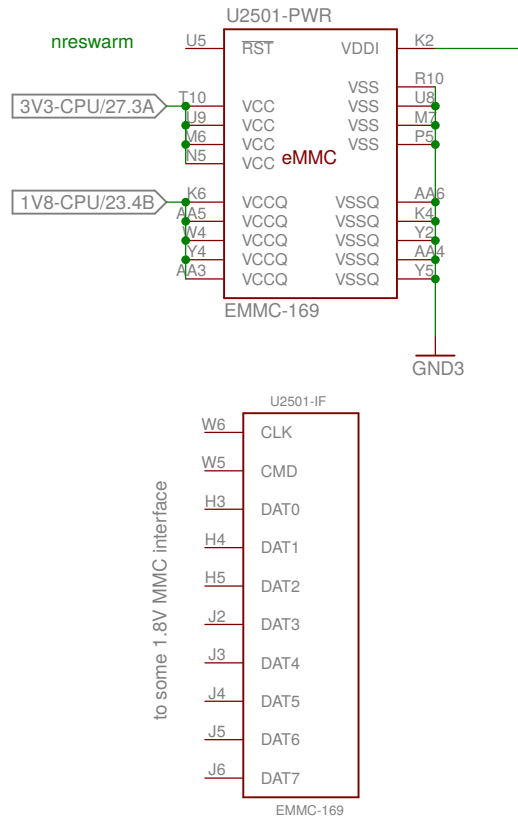
Document Number:

REV:  
V2b

Date: 09.09.15 02:57

Sheet: 24/35

INCOMPLETE in V2



## eMMC

TITLE: GTA04b7-jr-2-beautify\_fonts

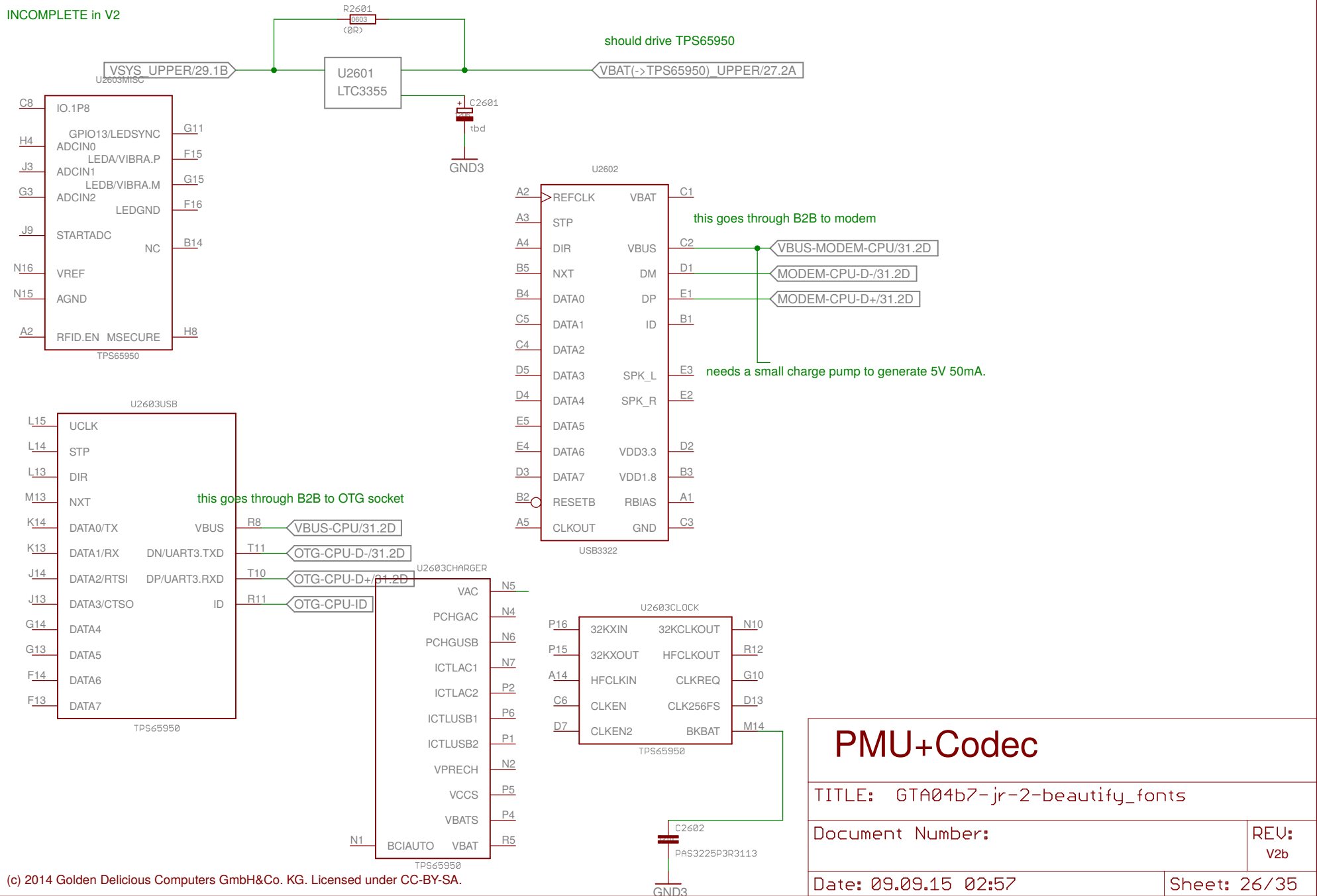
Document Number:

REU:  
V2b

Date: 09.09.15 02:57

Sheet: 25/35

INCOMPLETE in V2



# PMU+Codec

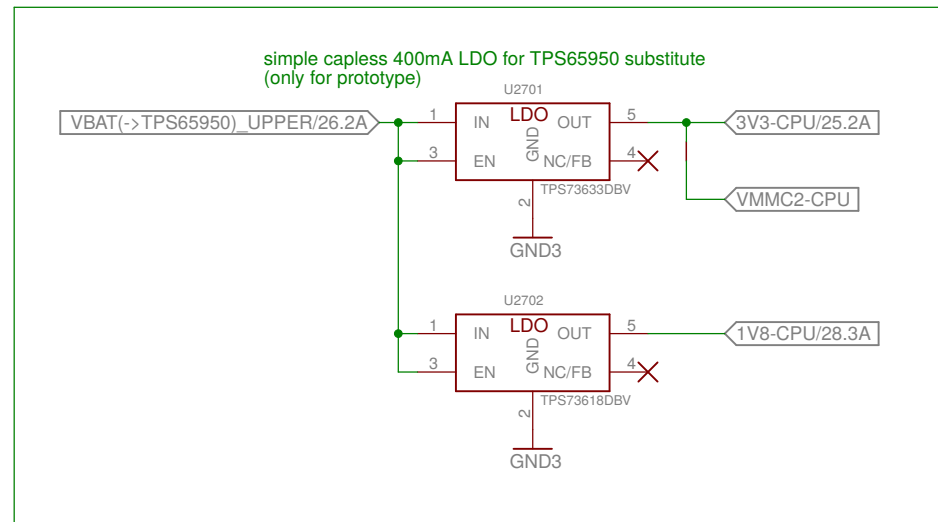
TITLE: GTA04b7-jr-2-beautify\_fonts

Document Number:

REU:  
V2b

Date: 09.09.15 02:57

Sheet: 26/35



## BB-XM Dummy (TWL4030)

TITLE: GTA04b7-jr-2-beautify\_fonts

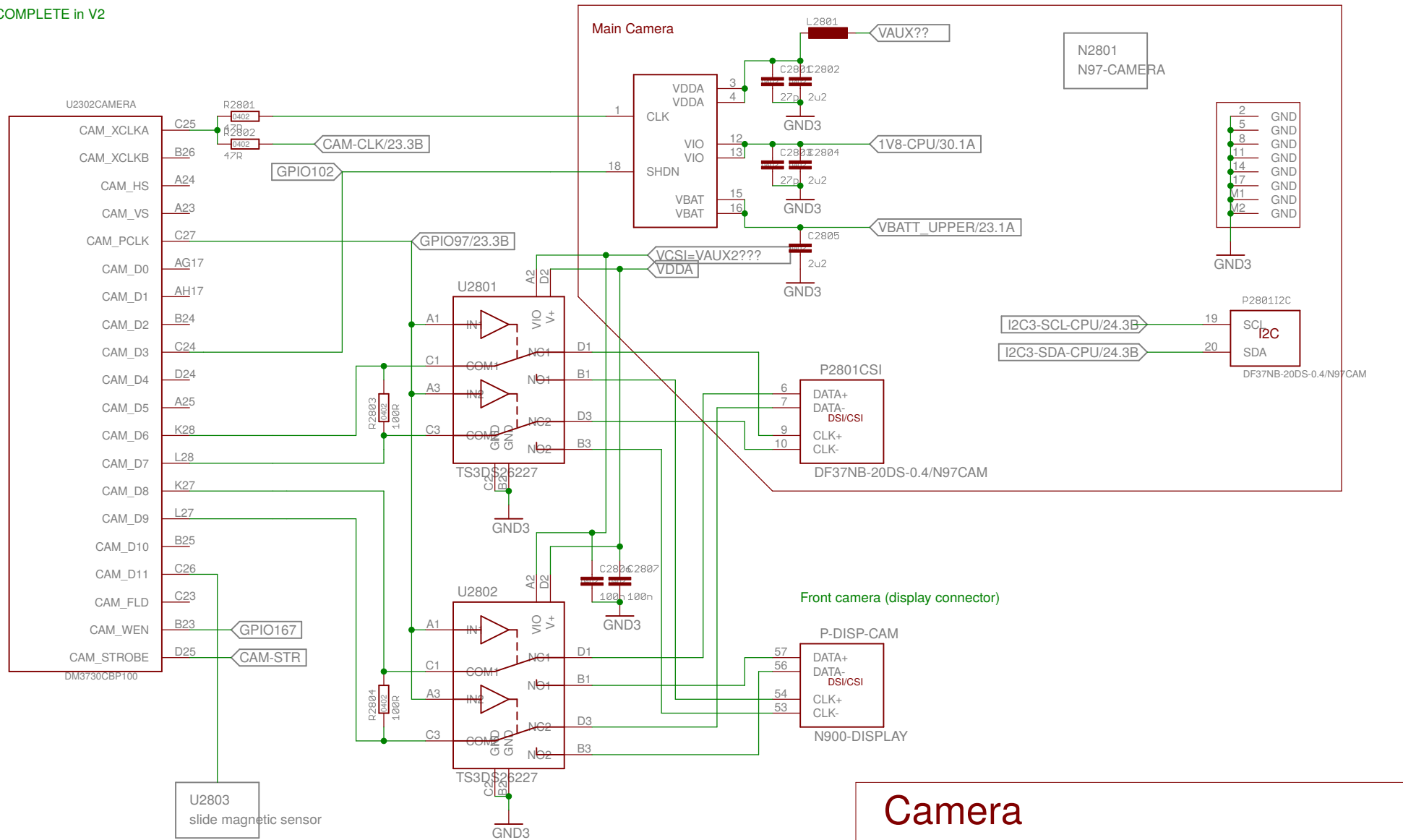
Document Number:

REU:  
V2b

Date: 09.09.15 02:57

Sheet: 27/35

INCOMPLETE in V2



# Camera

TITLE: GTA04b7-jr-2-beautify\_fonts

Document Number:

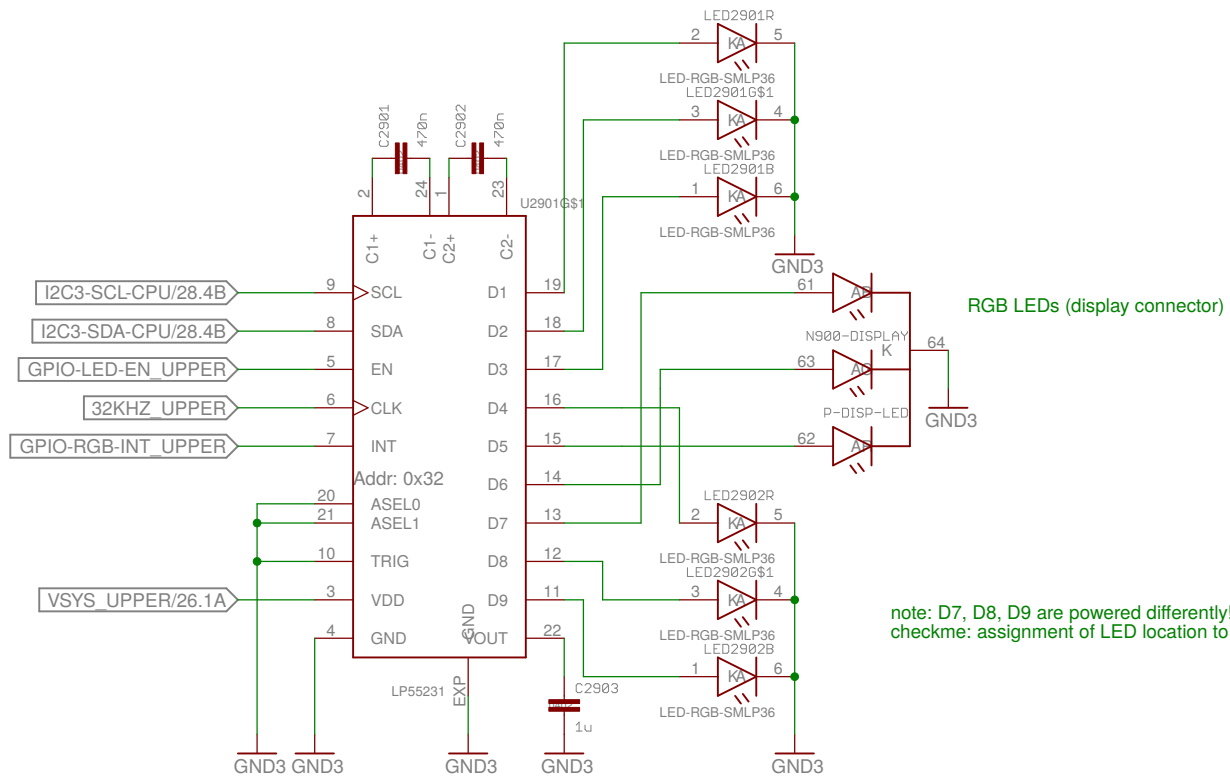
REU:  
v2b

Date: 09.09.15 02:57

Sheet: 28/35



### AUX and Display LEDs



note: D7, D8, D9 are powered differently!  
checkme: assignment of LED location to output number

## LEDs

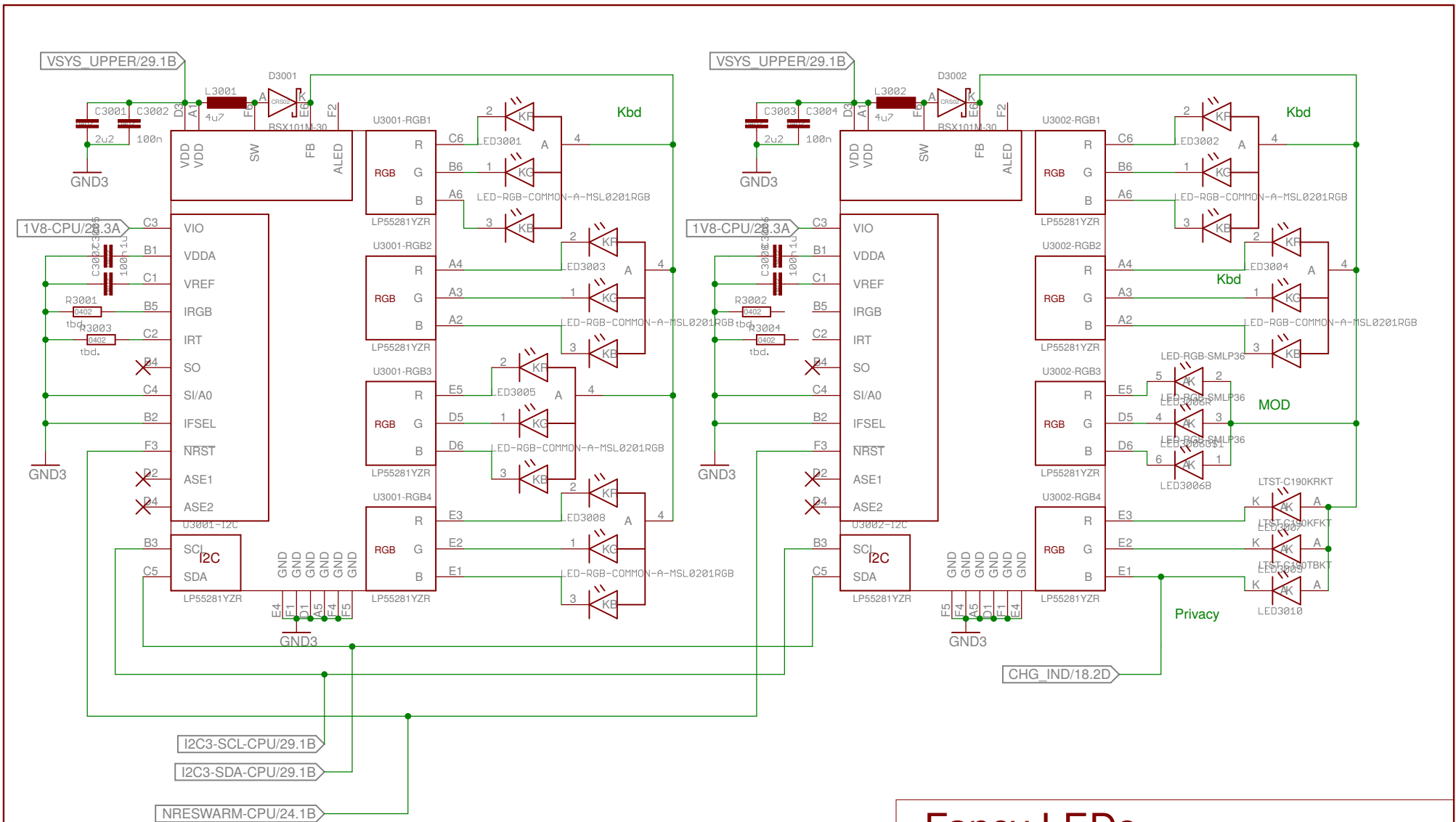
TITLE: GTA04b7-jr-2-beautify\_fonts

Document Number:

REU:  
v2b

Date: 09.09.15 02:57

Sheet: 29/35



## Fancy LEDs

TITLE: GTA04b7-jr-2-beautify\_fonts

Document Number:

REU:  
v2b

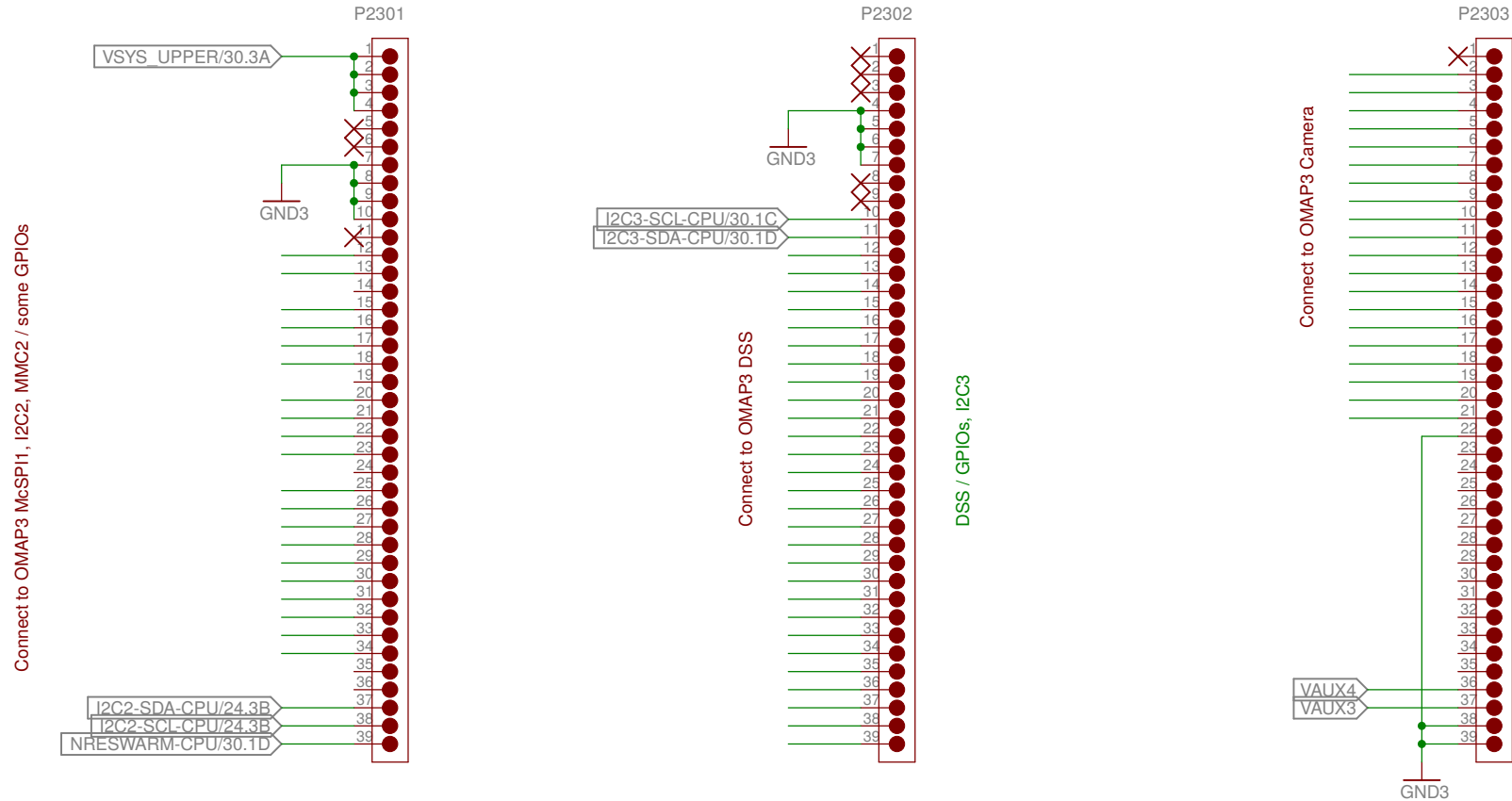
Date: 09.09.15 02:57

Sheet: 30/35

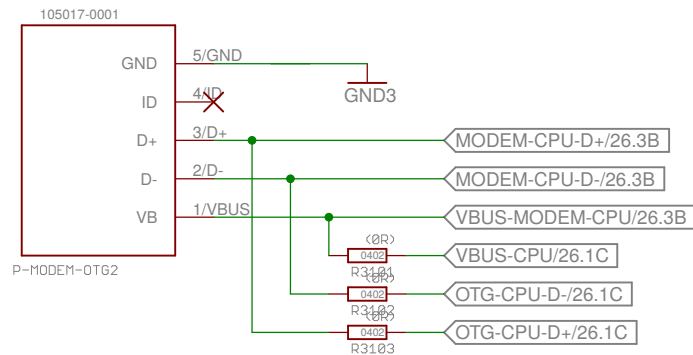
These connectors allow to "emulate" the DM3730 by connecting a BB-XM

INCOMPLETE  
prototype only

connect to respective CPU-pads



connect to BB  
by some Micro-USB cable



# Connector to BB

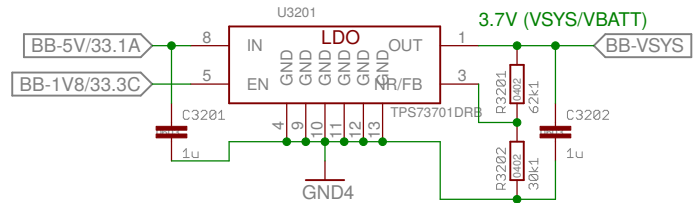
TITLE: GTA04b7-jr-2-beautify\_fonts

Document Number:

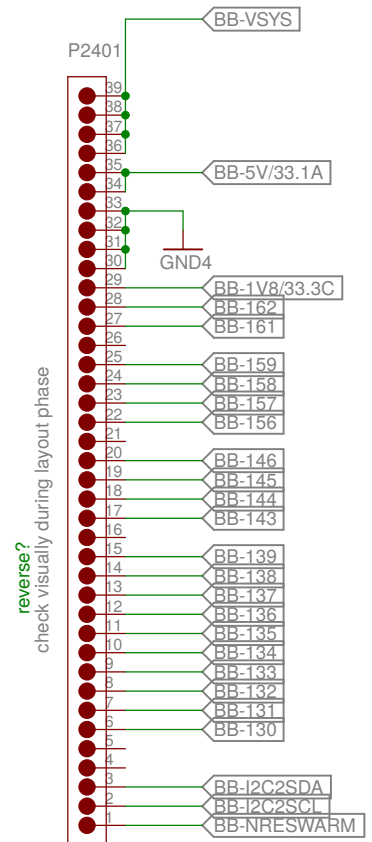
REU:  
v2b

Date: 09.09.15 02:57

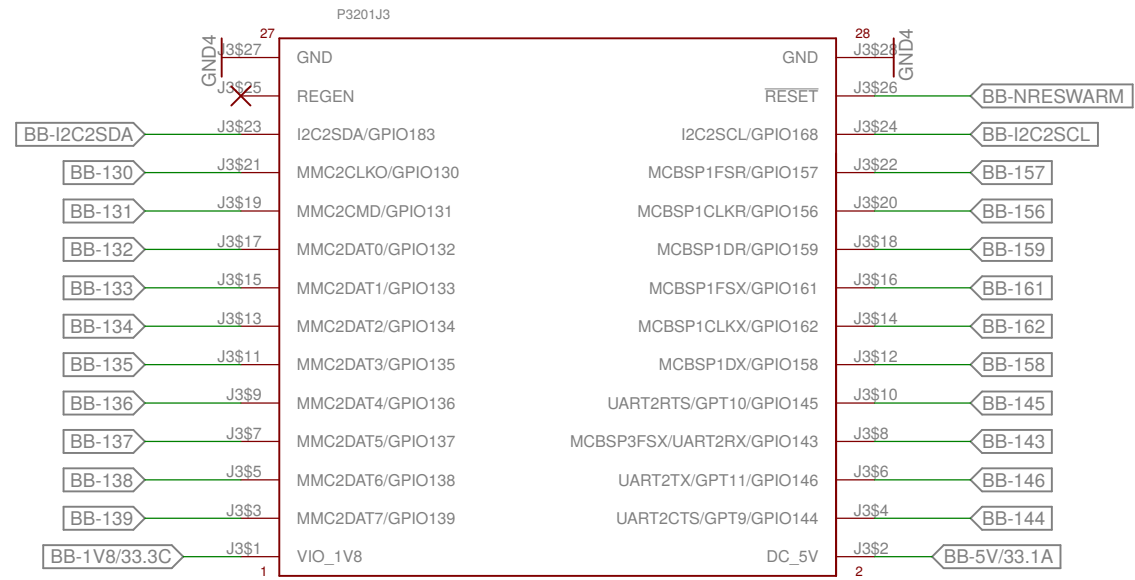
Sheet: 31/35



Ersetzen durch 2A buck converter



reverse?  
check visually during layout phase

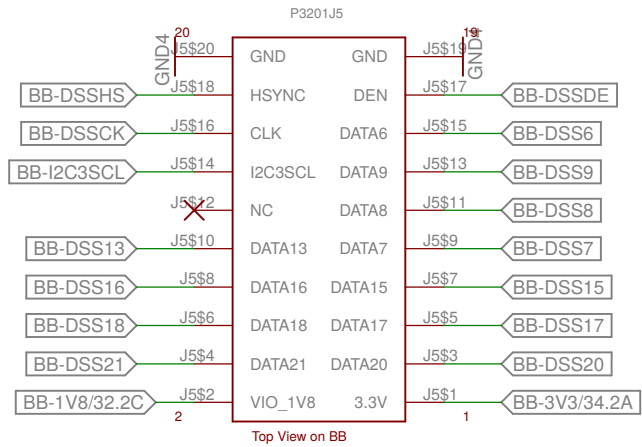
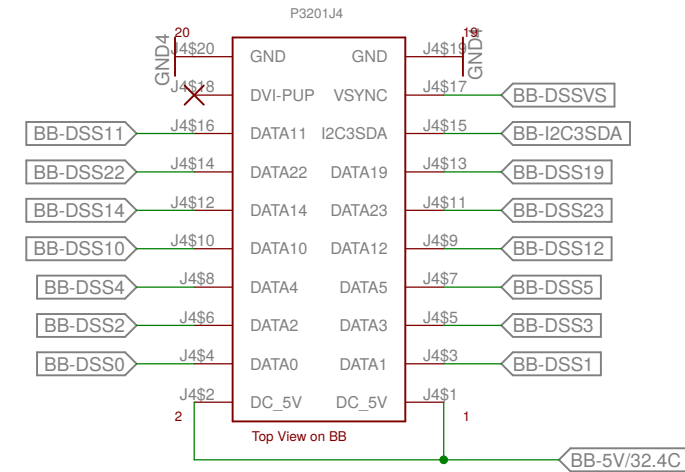
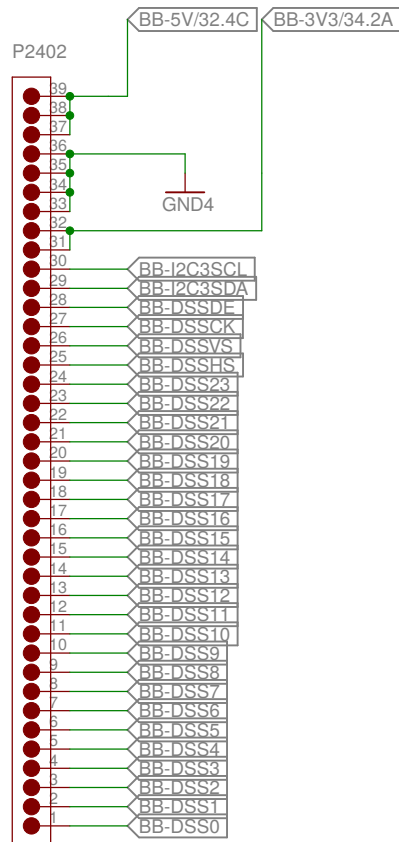


Top View on BB

# BB-XM Adapter (CPU)

|                                    |              |
|------------------------------------|--------------|
| TITLE: GTA04b7-jr-2-beautify_fonts |              |
| Document Number:                   | REU:<br>v2b  |
| Date: 09.09.15 02:57               | Sheet: 32/35 |

reverse?  
check visually during layout phase



# BB-XM Adapter (DISP)

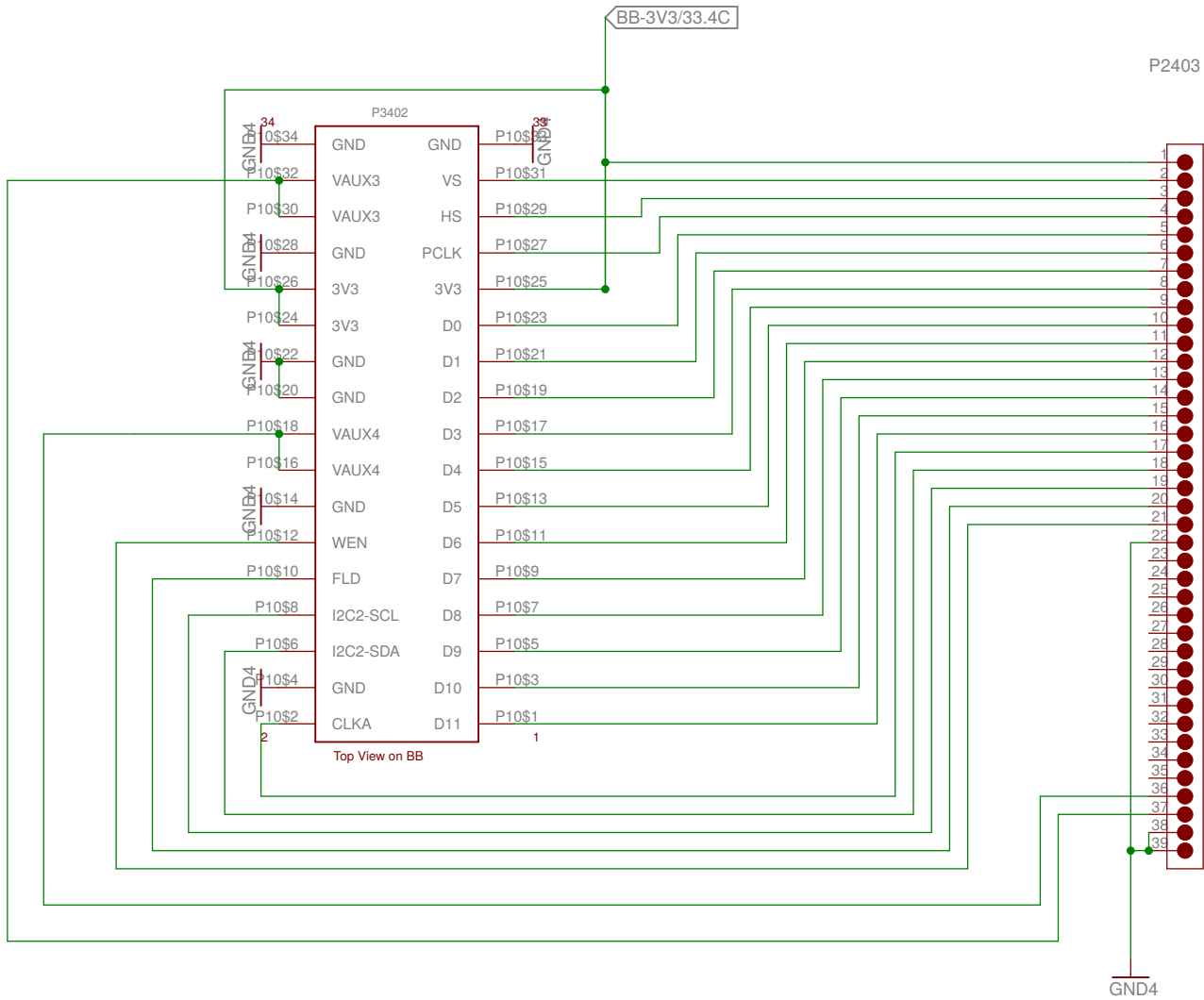
TITLE: GTA04b7-jr-2-beautify\_fonts

Document Number:

REU:  
v2b

Date: 09.09.15 02:57

Sheet: 33/35



reverse?  
check visually during layout phase

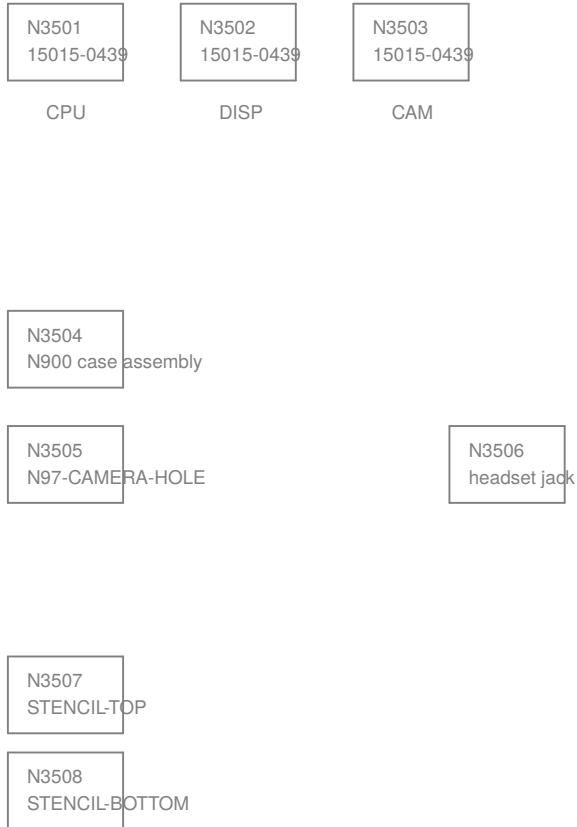
# BB-XM Adapter (CAM)

TITLE: GTA04b7-jr-2-beautify\_fonts

|                  |             |
|------------------|-------------|
| Document Number: | REU:<br>v2b |
|------------------|-------------|

|                      |              |
|----------------------|--------------|
| Date: 09.09.15 02:57 | Sheet: 34/35 |
|----------------------|--------------|

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



## No-Solder Components

TITLE: GTA04b7-jr-2-beautify\_fonts

Document Number:

REU:  
V2b

Date: 09.09.15 02:57

Sheet: 35/35