

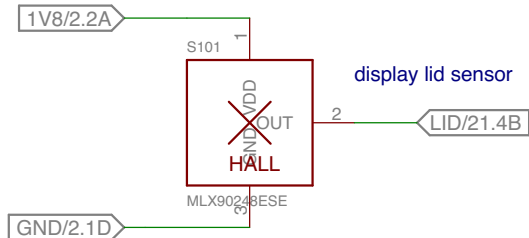
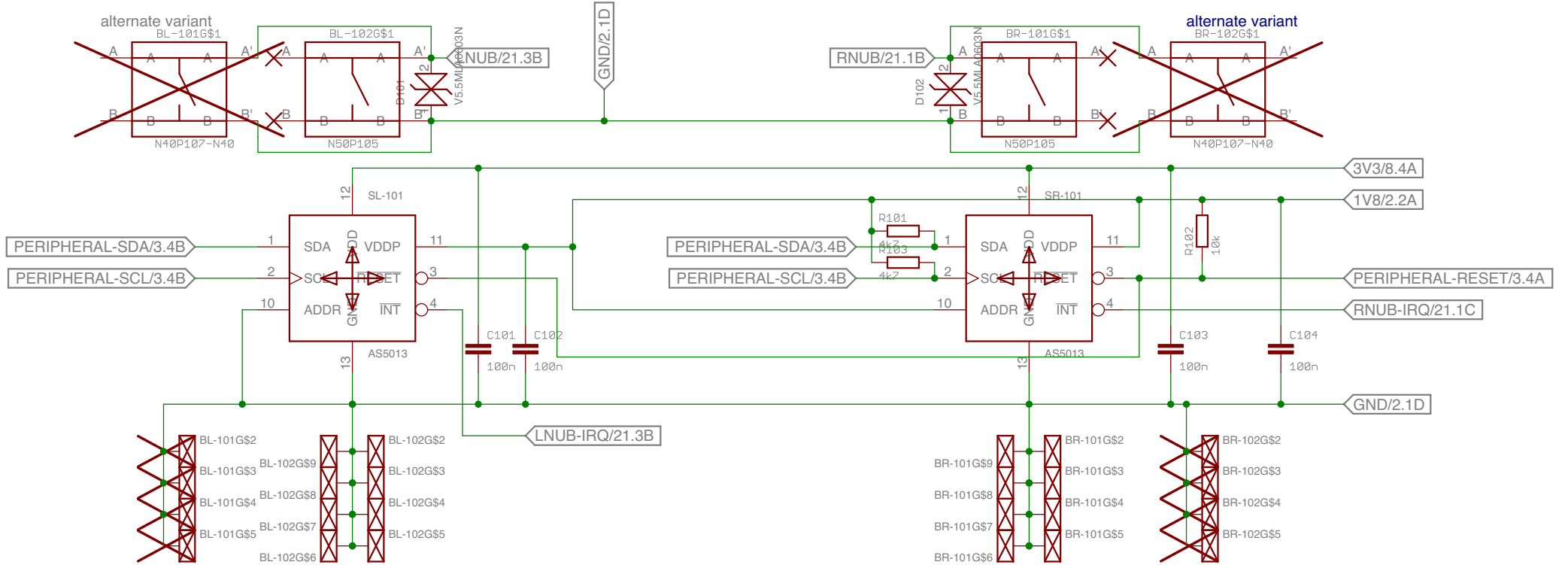
N101
DragonFly-Main-V5.1

N102
PYRA-CASE

LEFT Nub

~~NL-101
NUB-FIN-N50~~

~~NR-101
NUB-FIN-N50~~



Nubs

TITLE: DragonFly

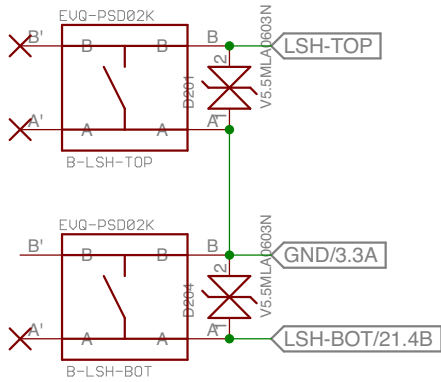
Document Number:

REV:

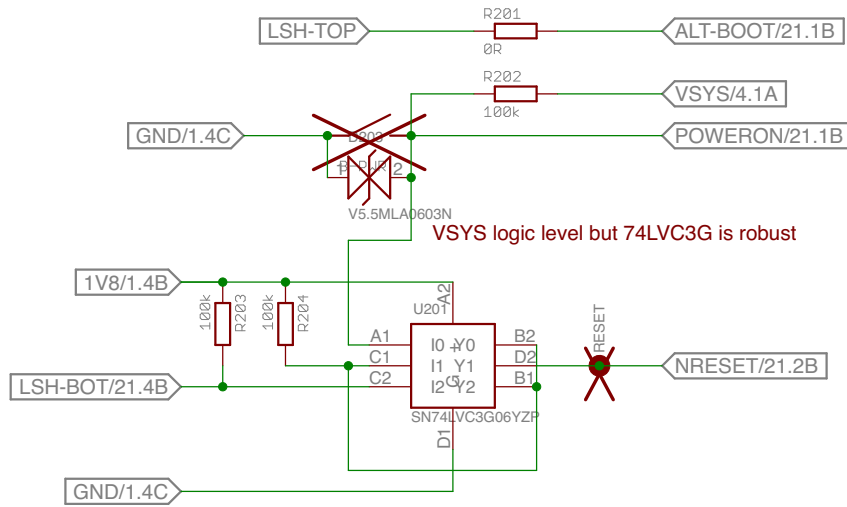
Date: nicht gespeichert!

Sheet: 1/51

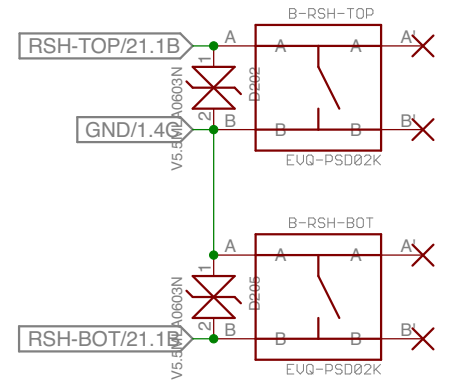
shoulder buttons



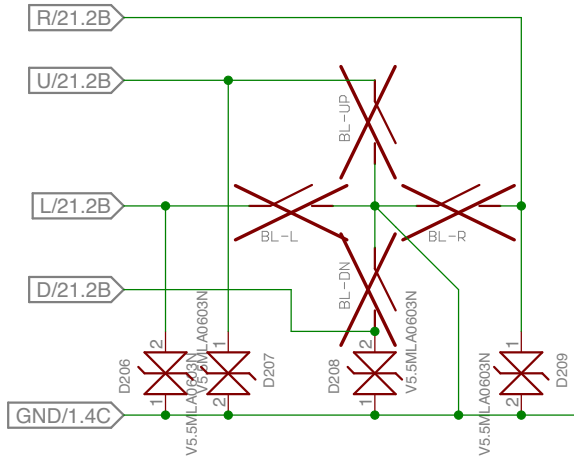
Reset and Power-On



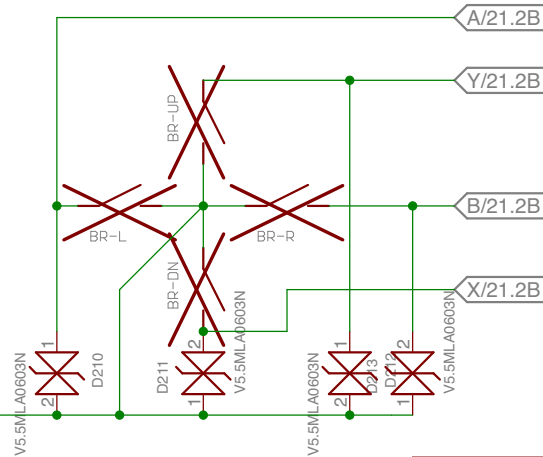
simultaneously press left-bottom shoulder button and power-on button to reset/reboot the CPU



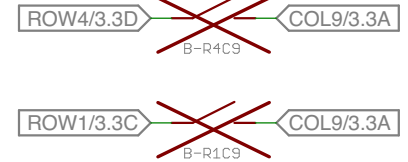
UDLR



ABXY



MN



Buttons

TITLE: DragonFly

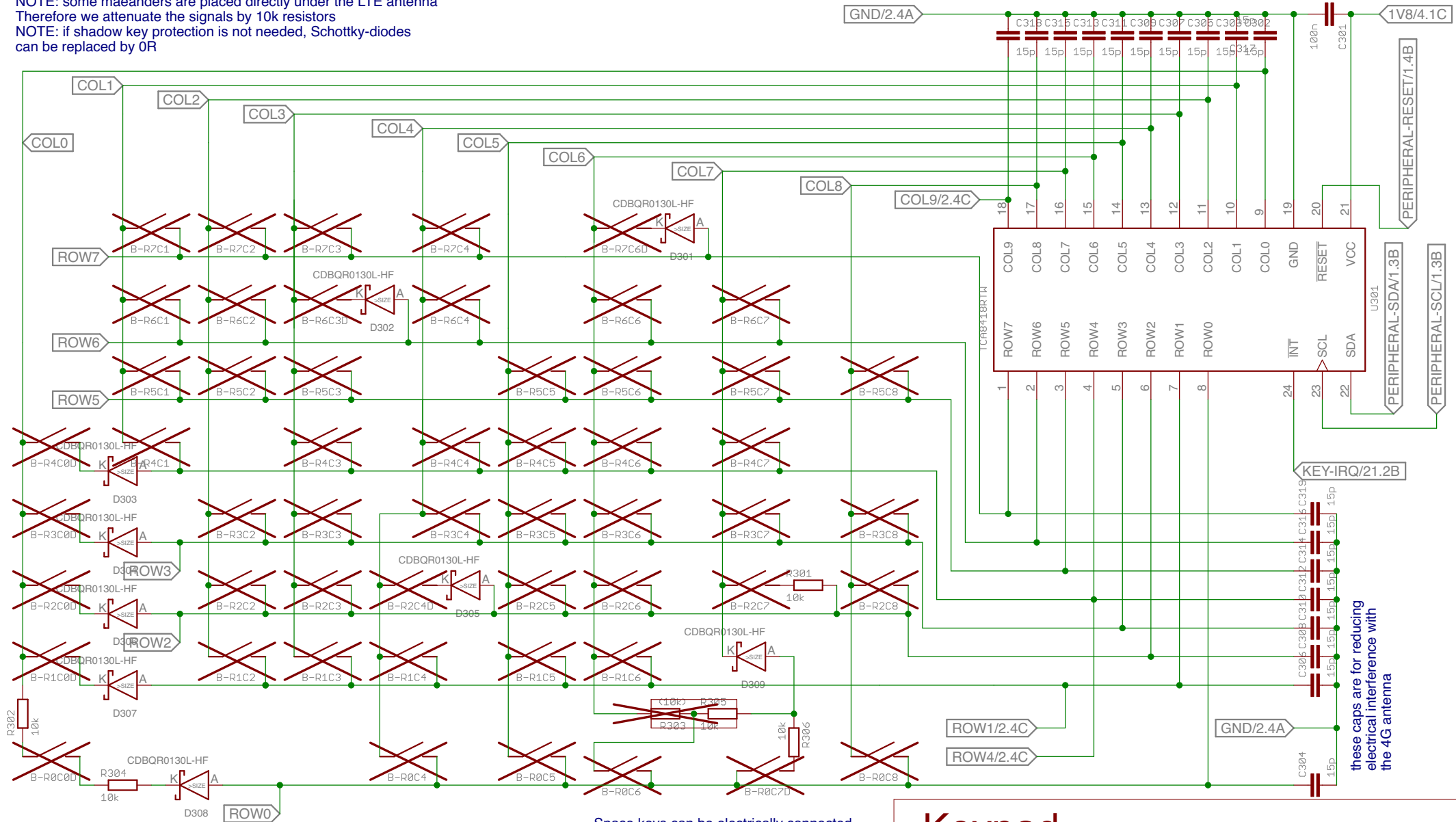
Document Number:

REV:

Date: nicht gespeichert!

Sheet: 2/51

NOTE: some meanders are placed directly under the LTE antenna
 Therefore we attenuate the signals by 10k resistors
 NOTE: if shadow key protection is not needed, Schottky-diodes
 can be replaced by 0R



Space keys can be electrically connected

N301
PYRA-KEYMAT

Keypad

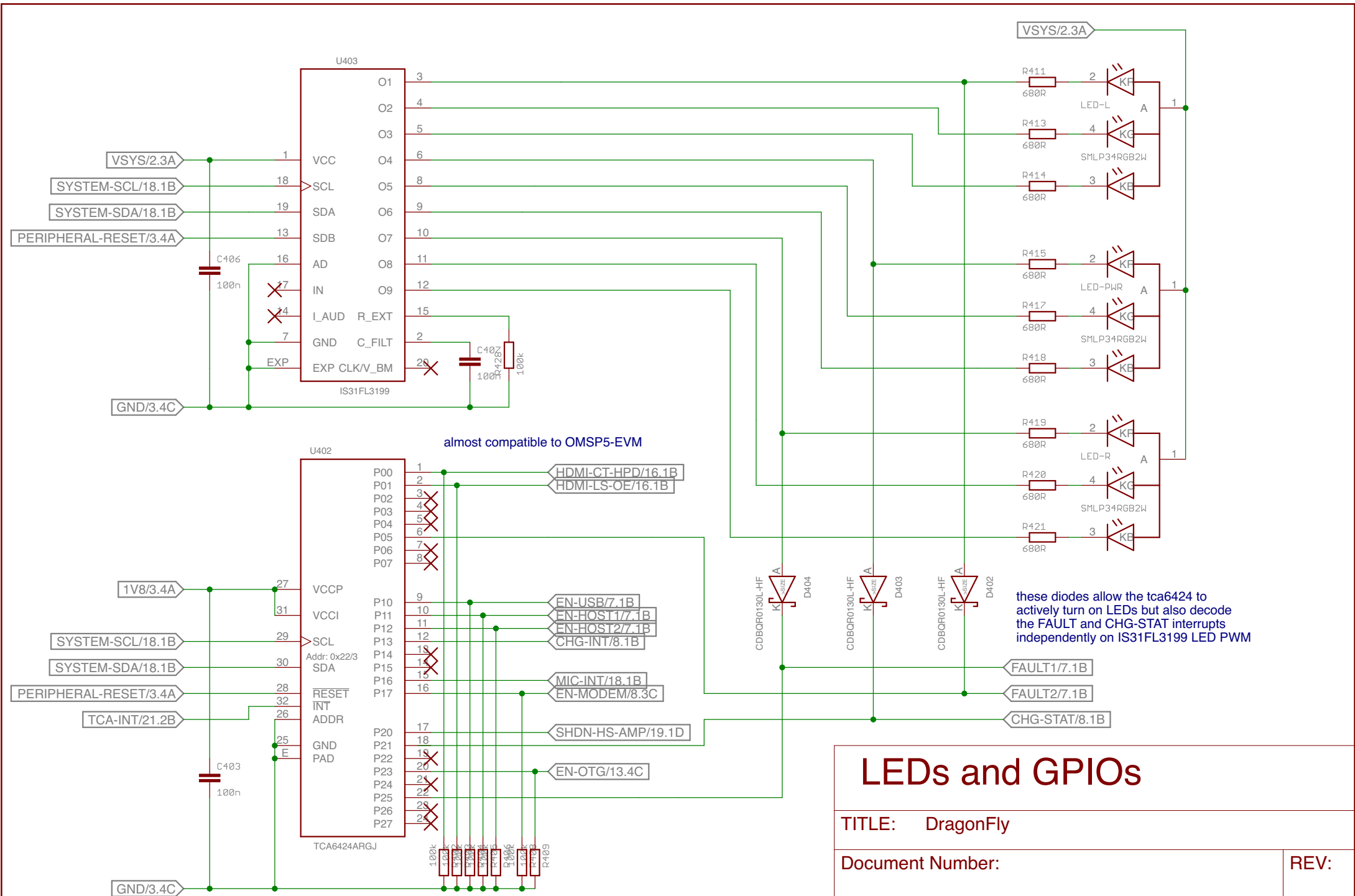
TITLE: DragonFly

Document Number:

REV:

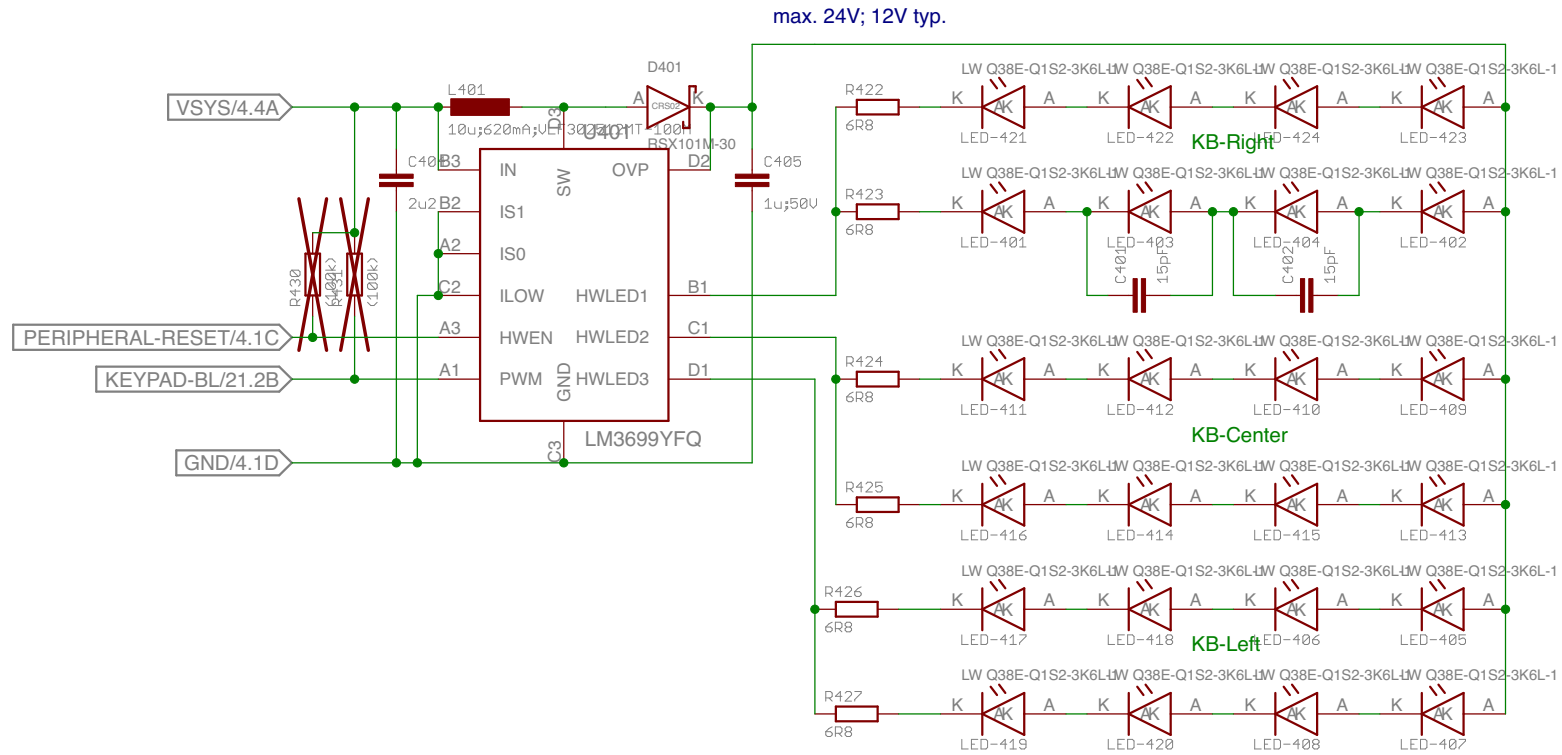
Date: nicht gespeichert!

Sheet: 3/51



LEDs and GPIOs

TITLE: DragonFly	
Document Number:	REV:
Date: nicht gespeichert!	Sheet: 4/51



Keyboard Backlight

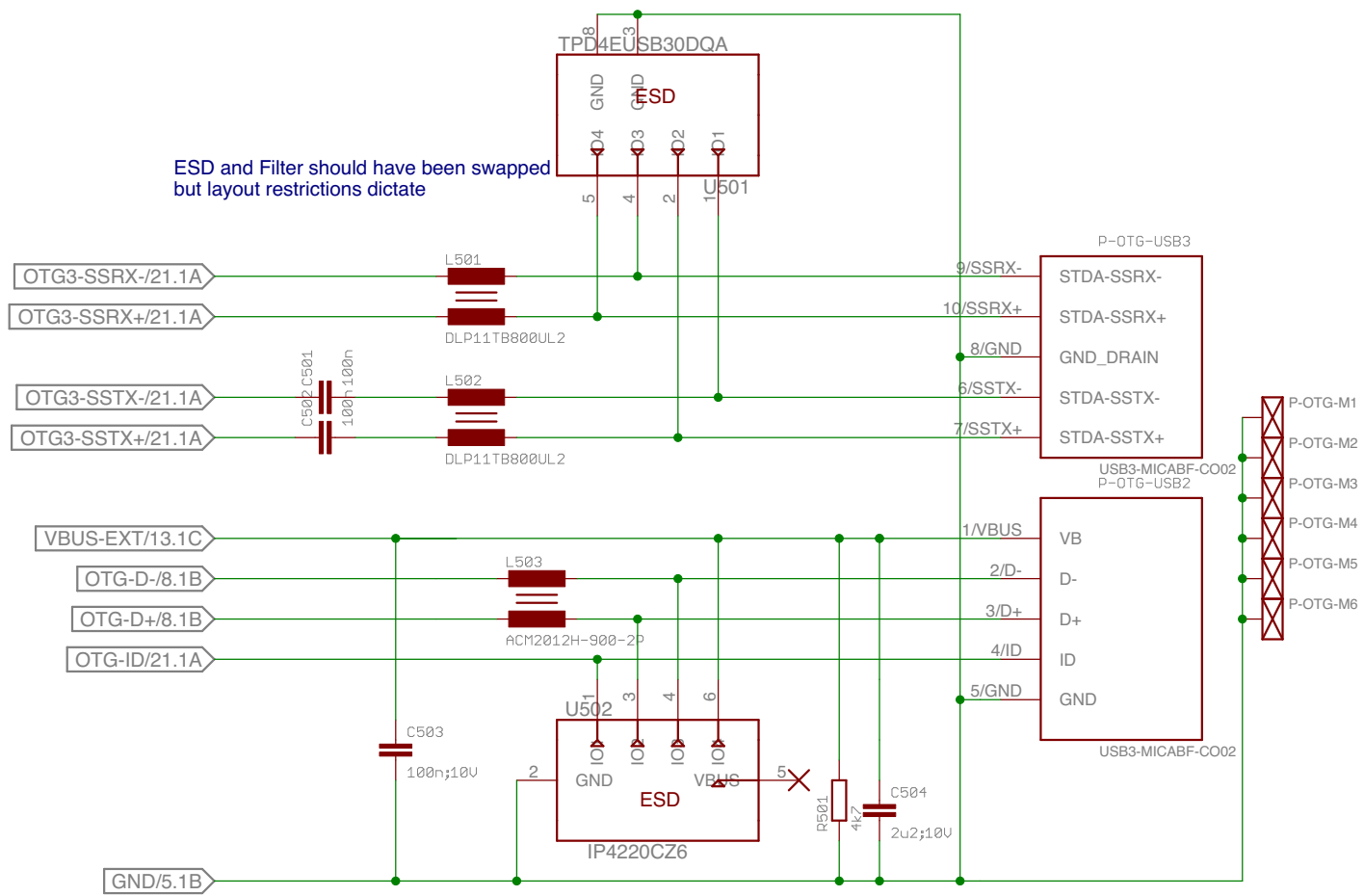
TITLE: DragonFly

Document Number:

REV:

Date: nicht gespeichert!

Sheet: 5/51

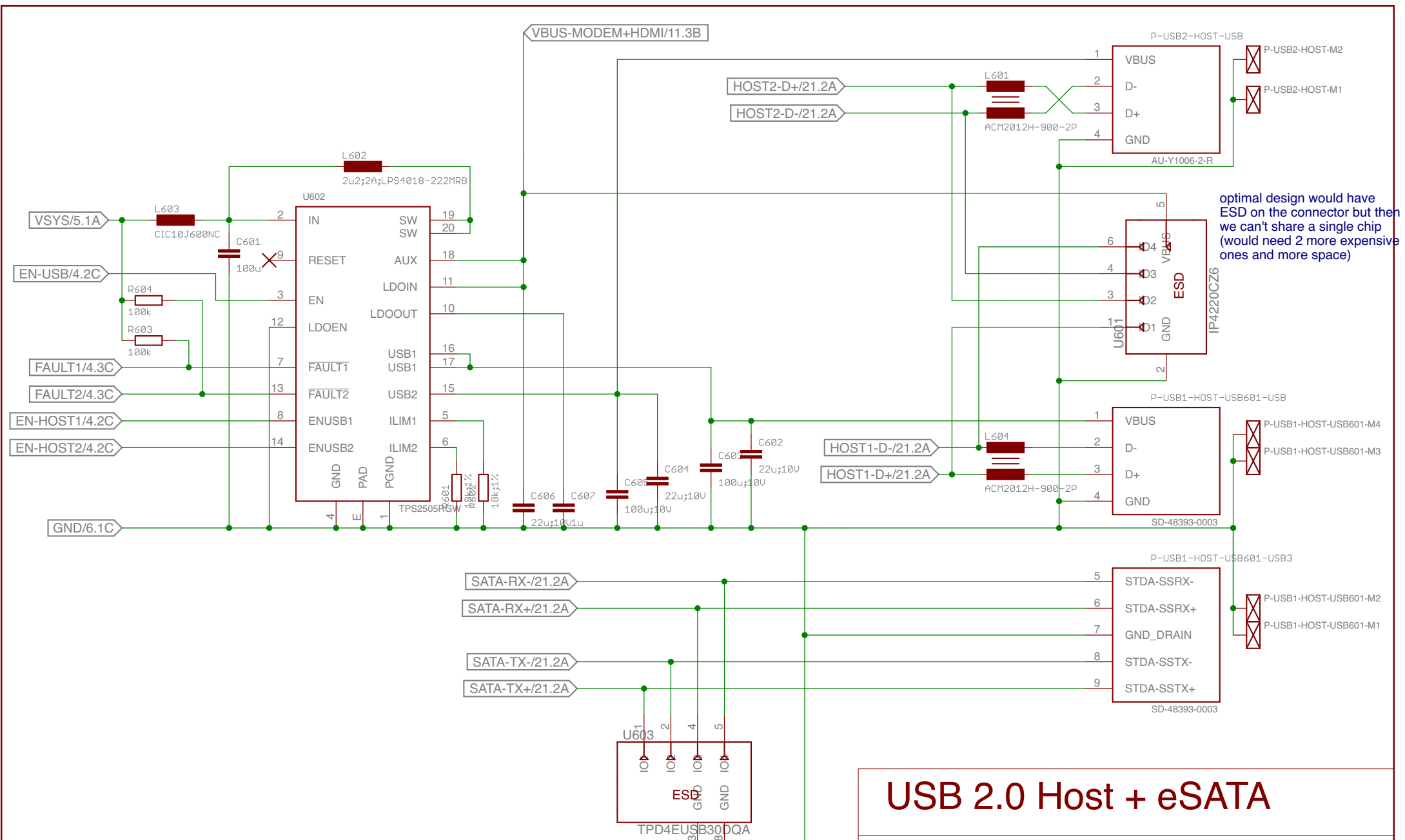


ESD and Filter should have been swapped but layout restrictions dictate

VBUS not connected to avoid false states in OTG mode

USB-3.0 OTG

TITLE: DragonFly	
Document Number:	REV:
Date: nicht gespeichert!	Sheet: 6/51

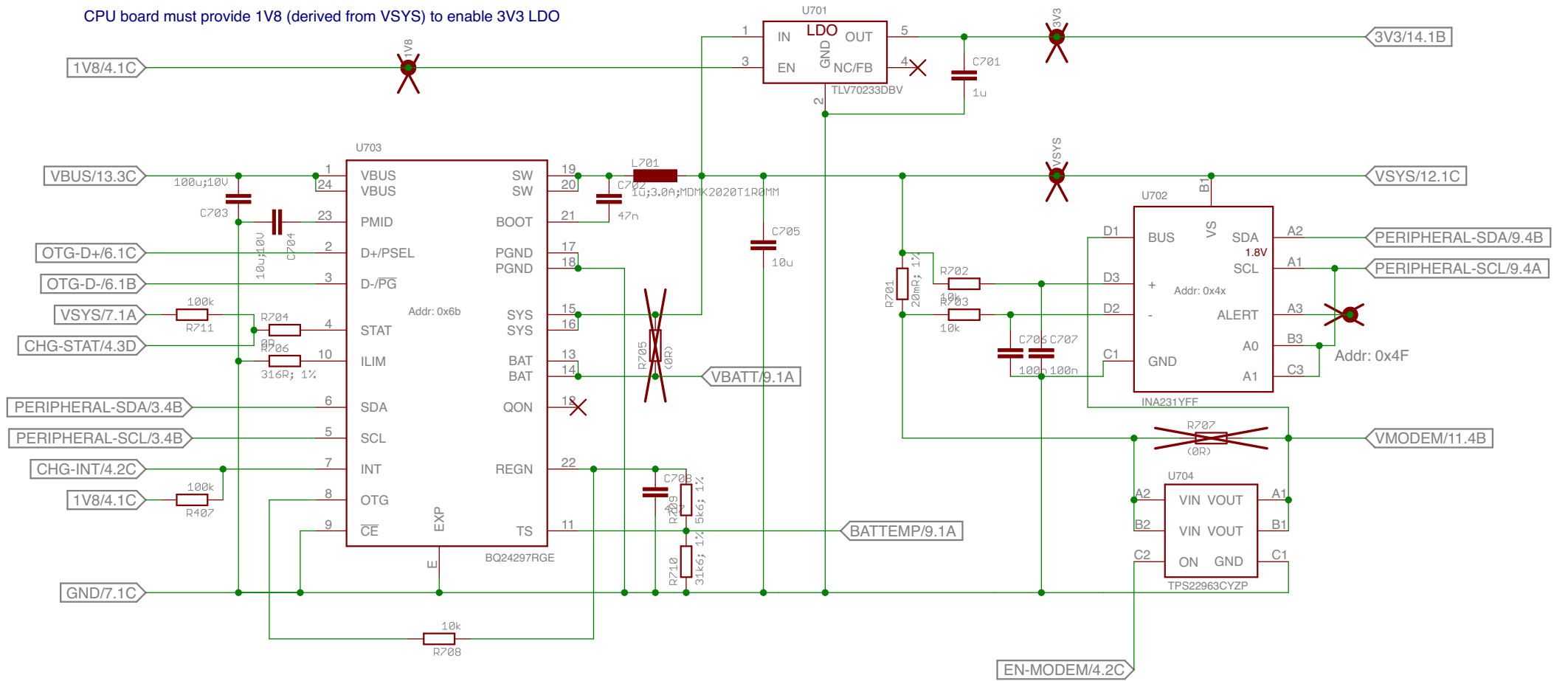


optimal design would have ESD on the connector but then we can't share a single chip (would need 2 more expensive ones and more space)

USB 2.0 Host + eSATA

TITLE: DragonFly	
Document Number:	REV:
Date: nicht gespeichert!	Sheet: 7/51

CPU board must provide 1V8 (derived from VSYS) to enable 3V3 LDO



Charger/OTG/Power

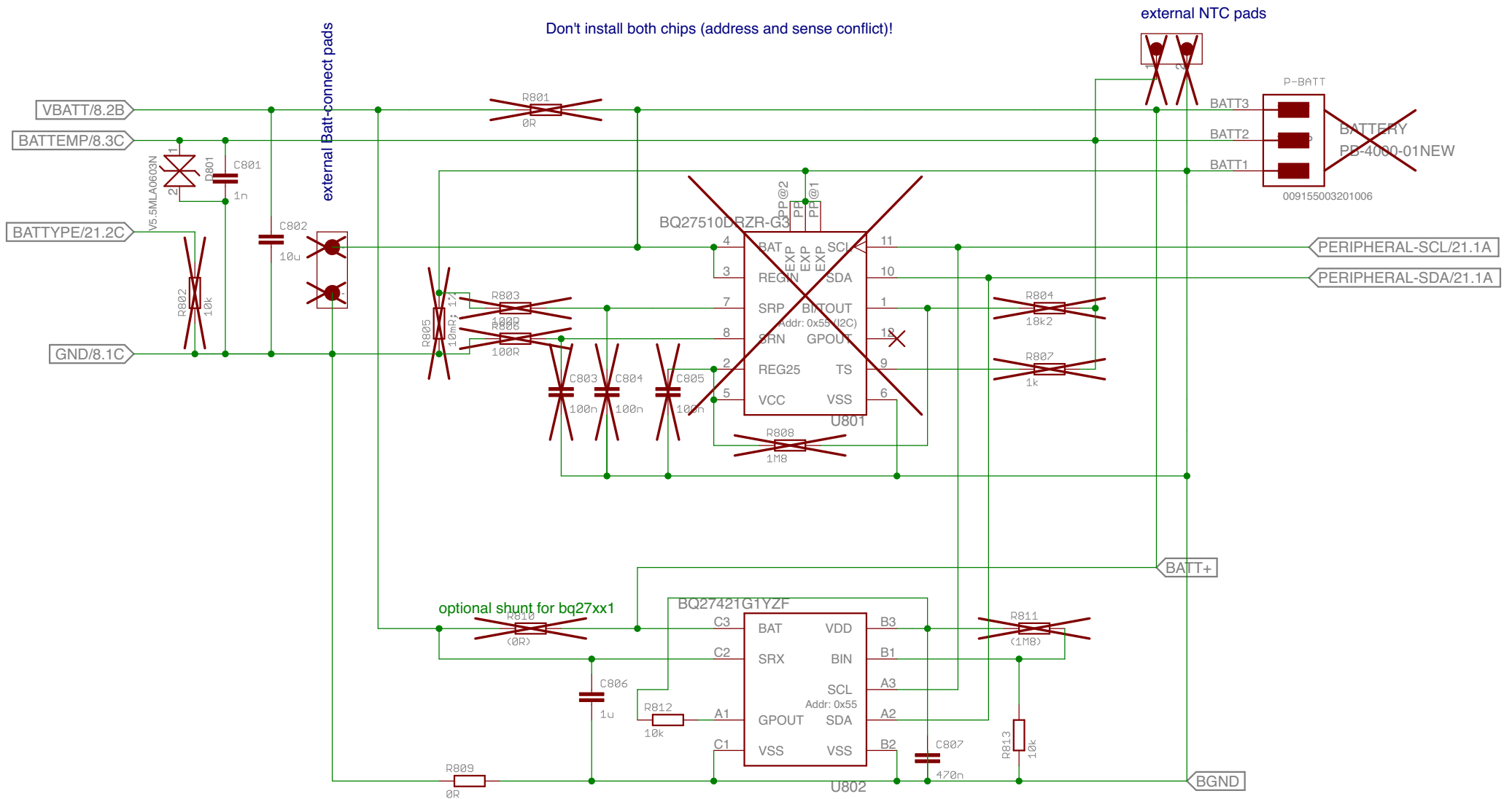
TITLE: DragonFly

Document Number:

REV:

Date: nicht gespeichert!

Sheet: 8/51



Battery Fuel Gauge

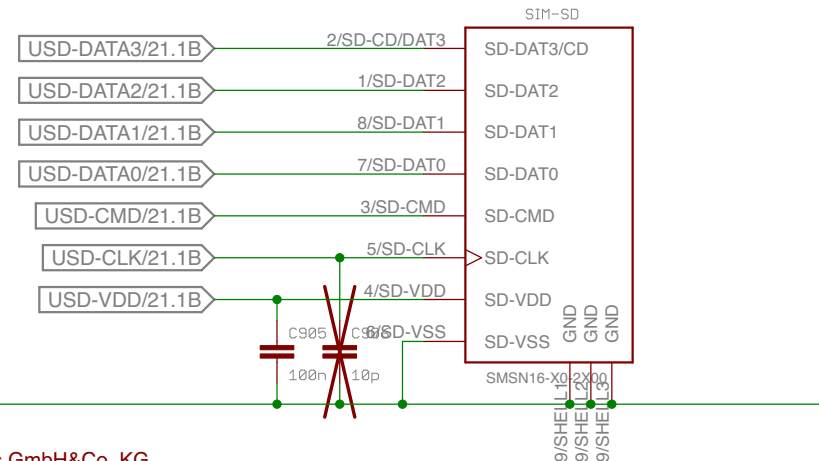
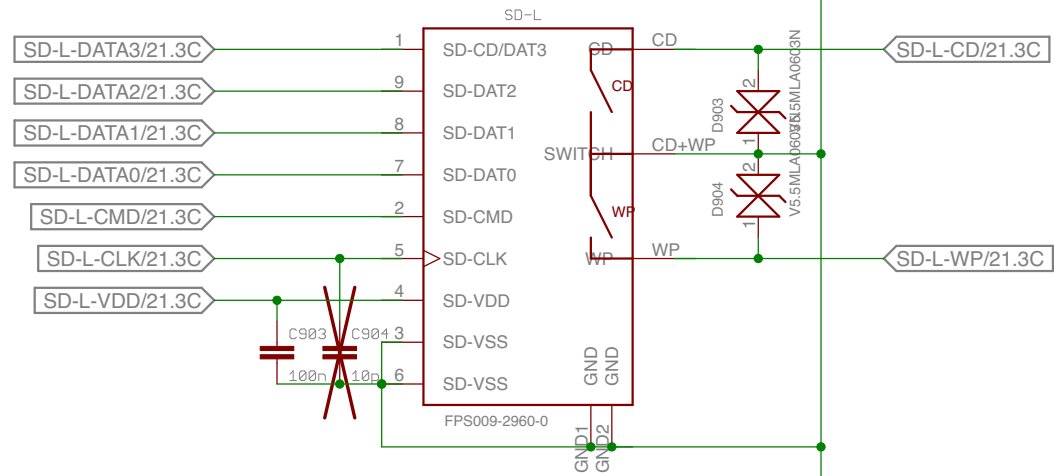
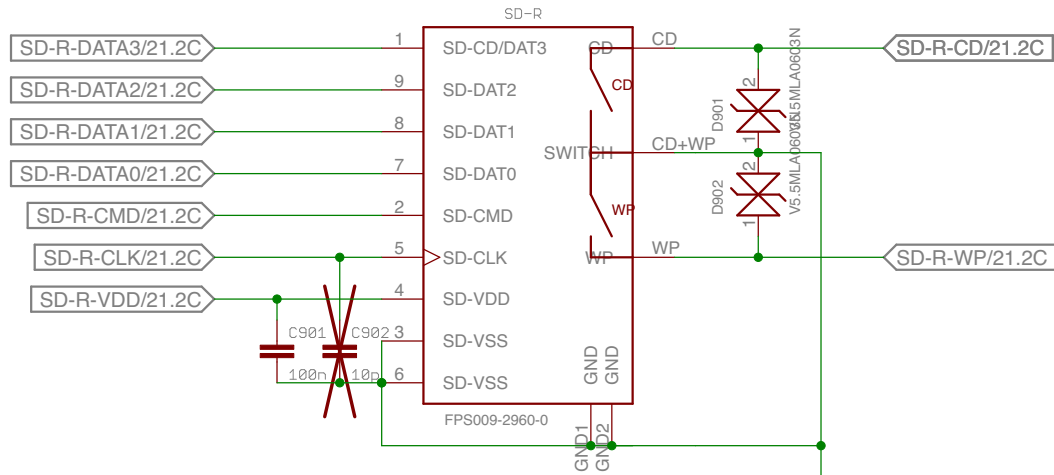
TITLE: DragonFly

Document Number:

REV:

Date: nicht gespeichert!

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GND/9.1B

SD-Slots

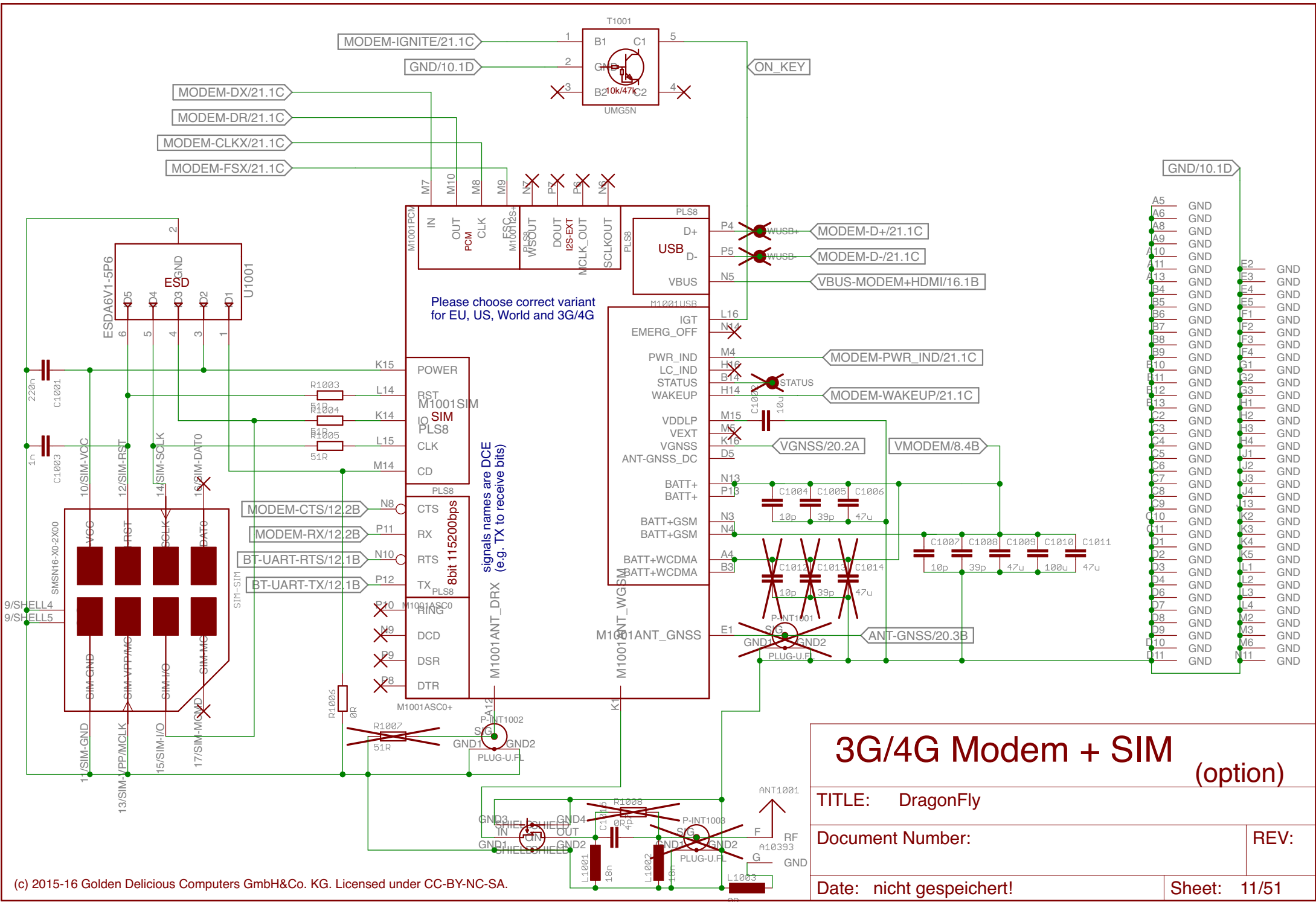
TITLE: DragonFly

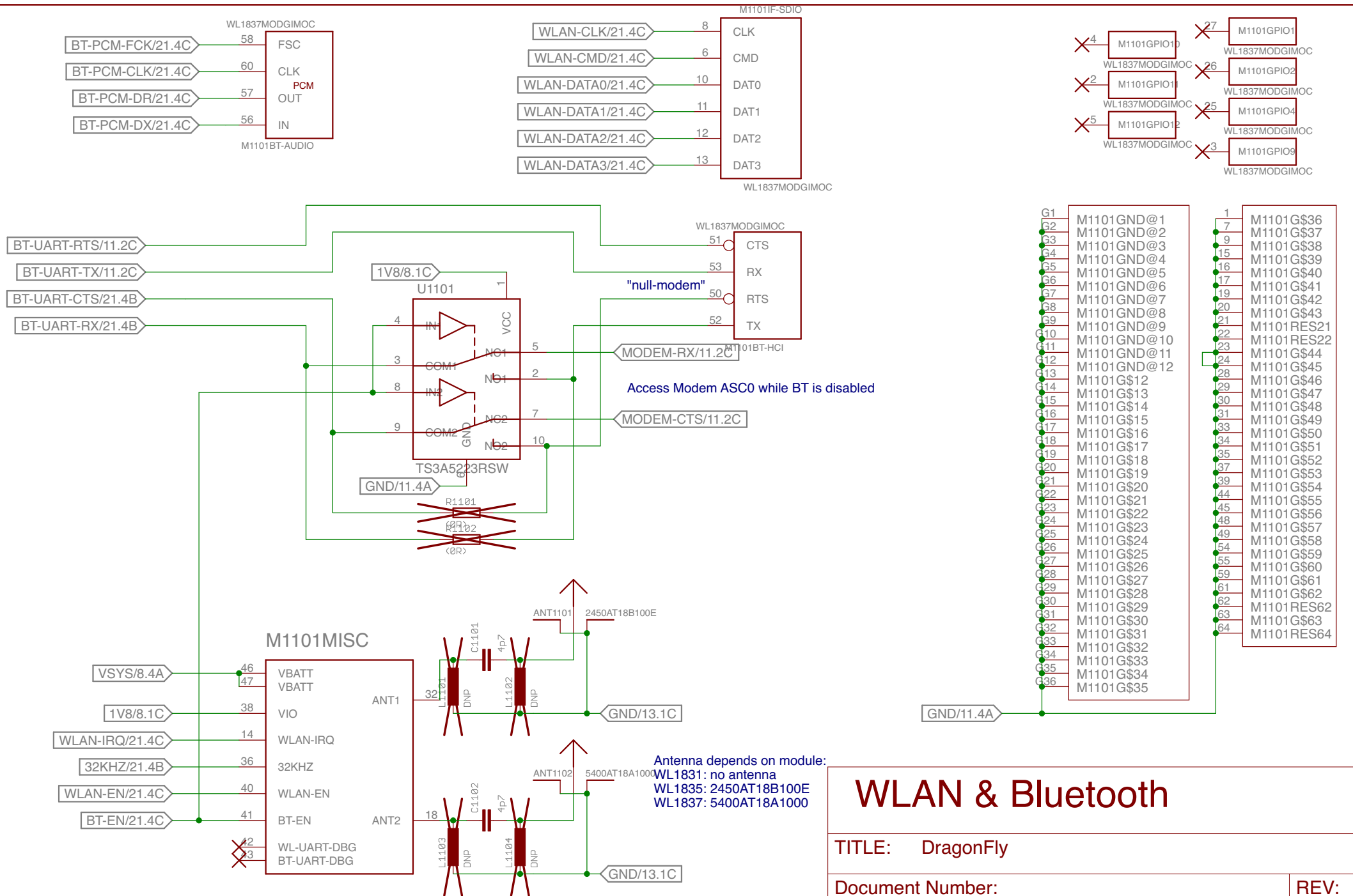
Document Number:

REV:

Date: nicht gespeichert!

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Access Modem ASC0 while BT is disabled

Antenna depends on module:
 WL1831: no antenna
 WL1835: 2450AT18B100E
 WL1837: 5400AT18A1000

WLAN & Bluetooth

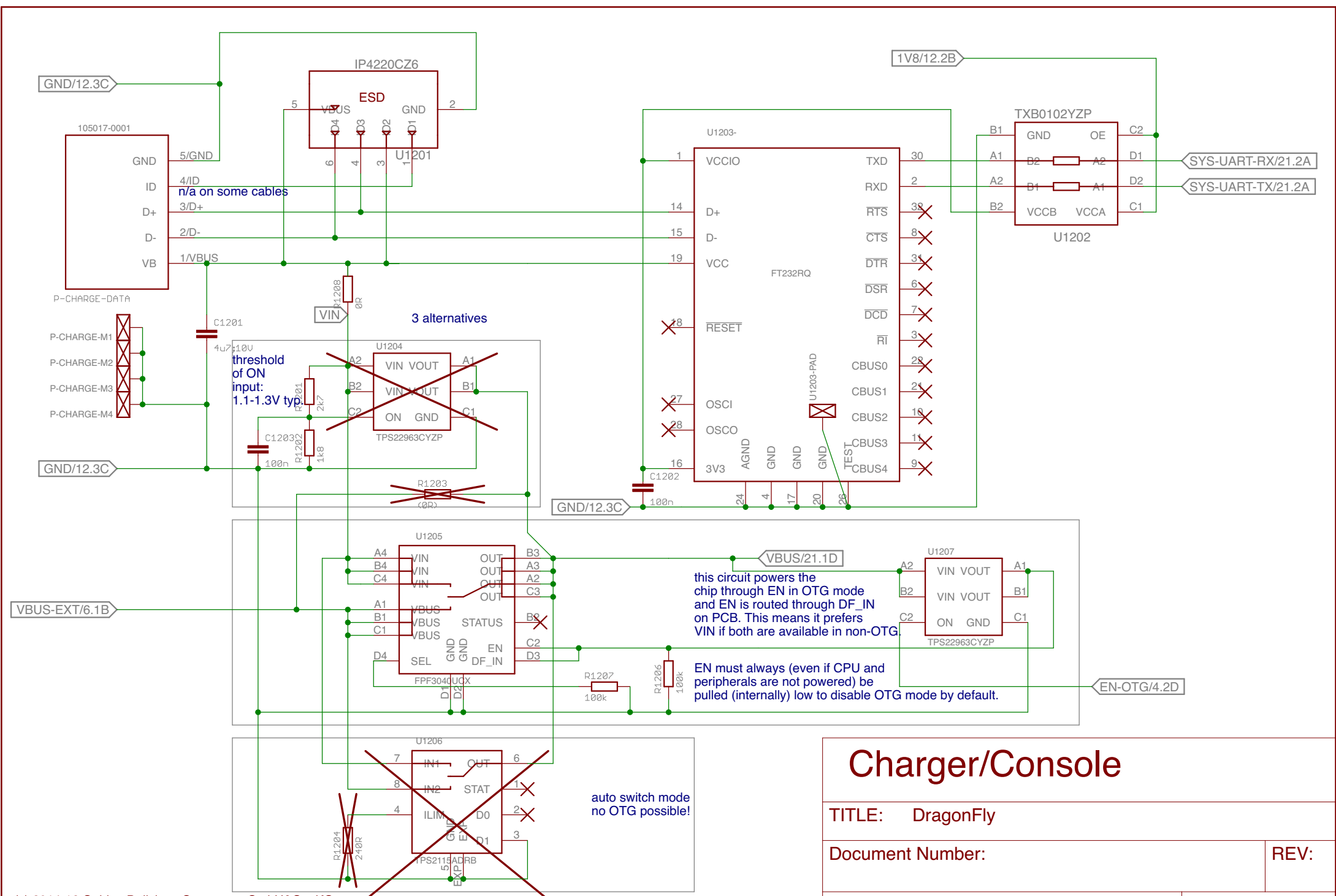
TITLE: DragonFly

Document Number:

REV:
V2b

Date: nicht gespeichert!

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3 alternatives

threshold of ON input: 1.1-1.3V typ.

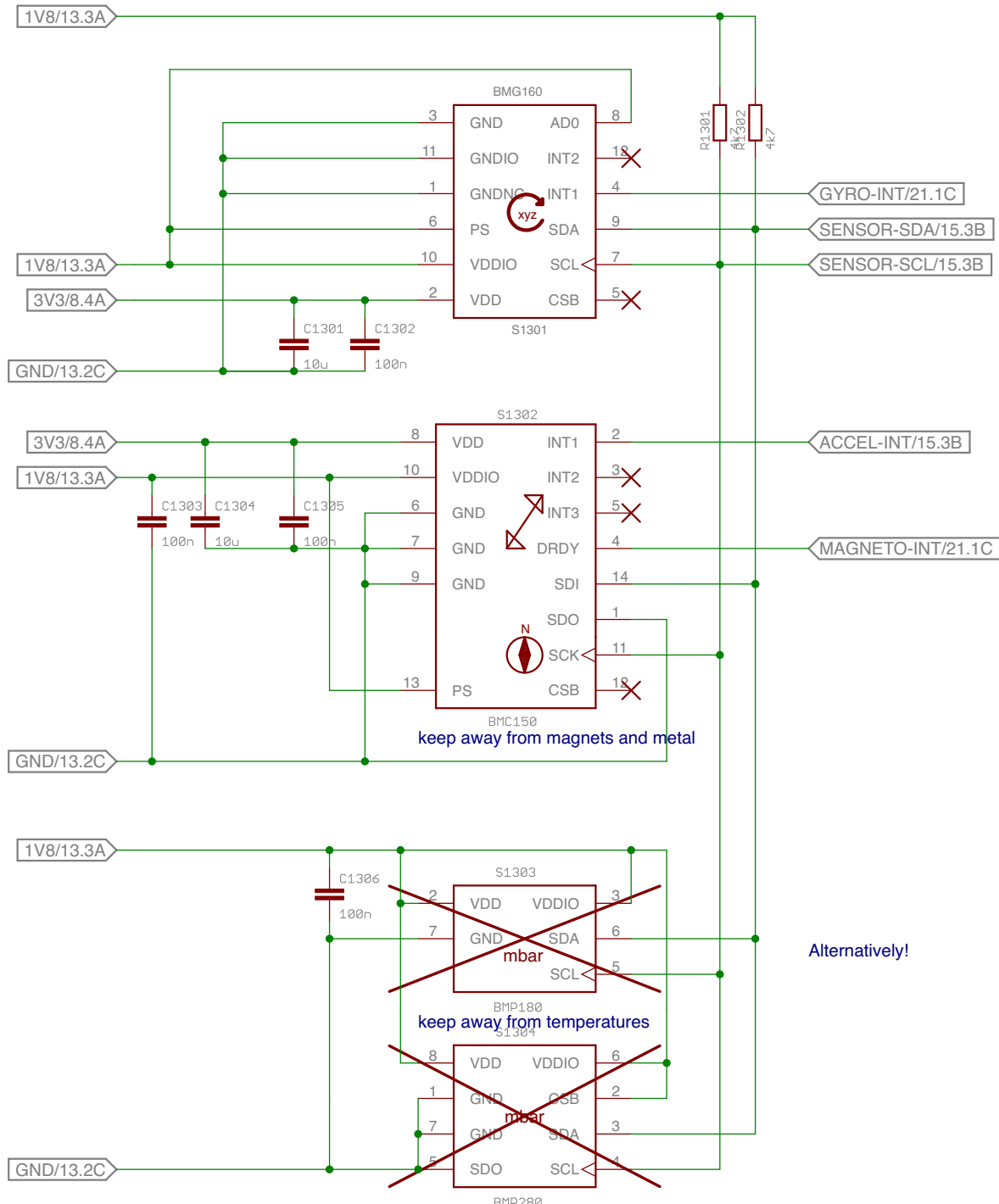
this circuit powers the chip through EN in OTG mode and EN is routed through DF_IN on PCB. This means it prefers VIN if both are available in non-OTG.

EN must always (even if CPU and peripherals are not powered) be pulled (internally) low to disable OTG mode by default.

auto switch mode no OTG possible!

Charger/Console

TITLE: DragonFly	
Document Number:	REV:
Date: nicht gespeichert!	Sheet: 13/51



Sensors

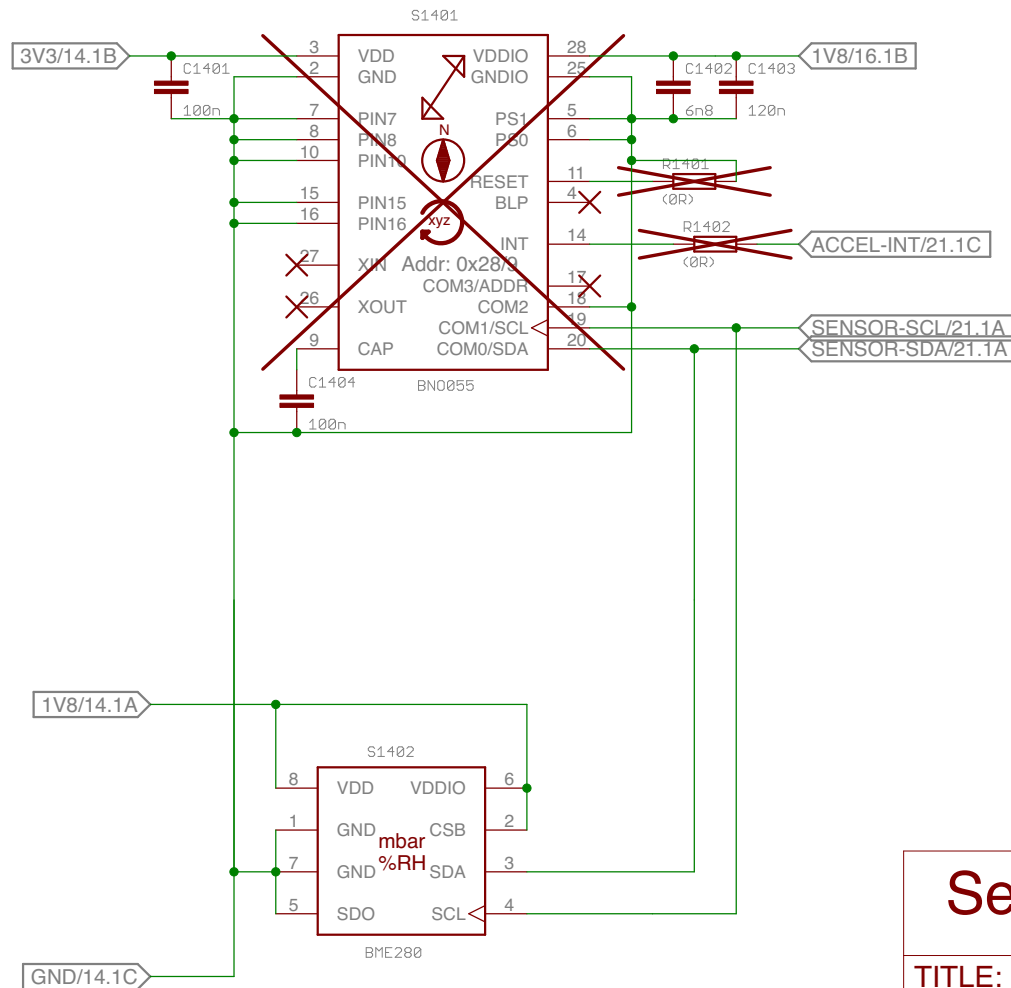
TITLE: DragonFly

Document Number:

REV:

Date: nicht gespeichert!

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Sensors (integrated)

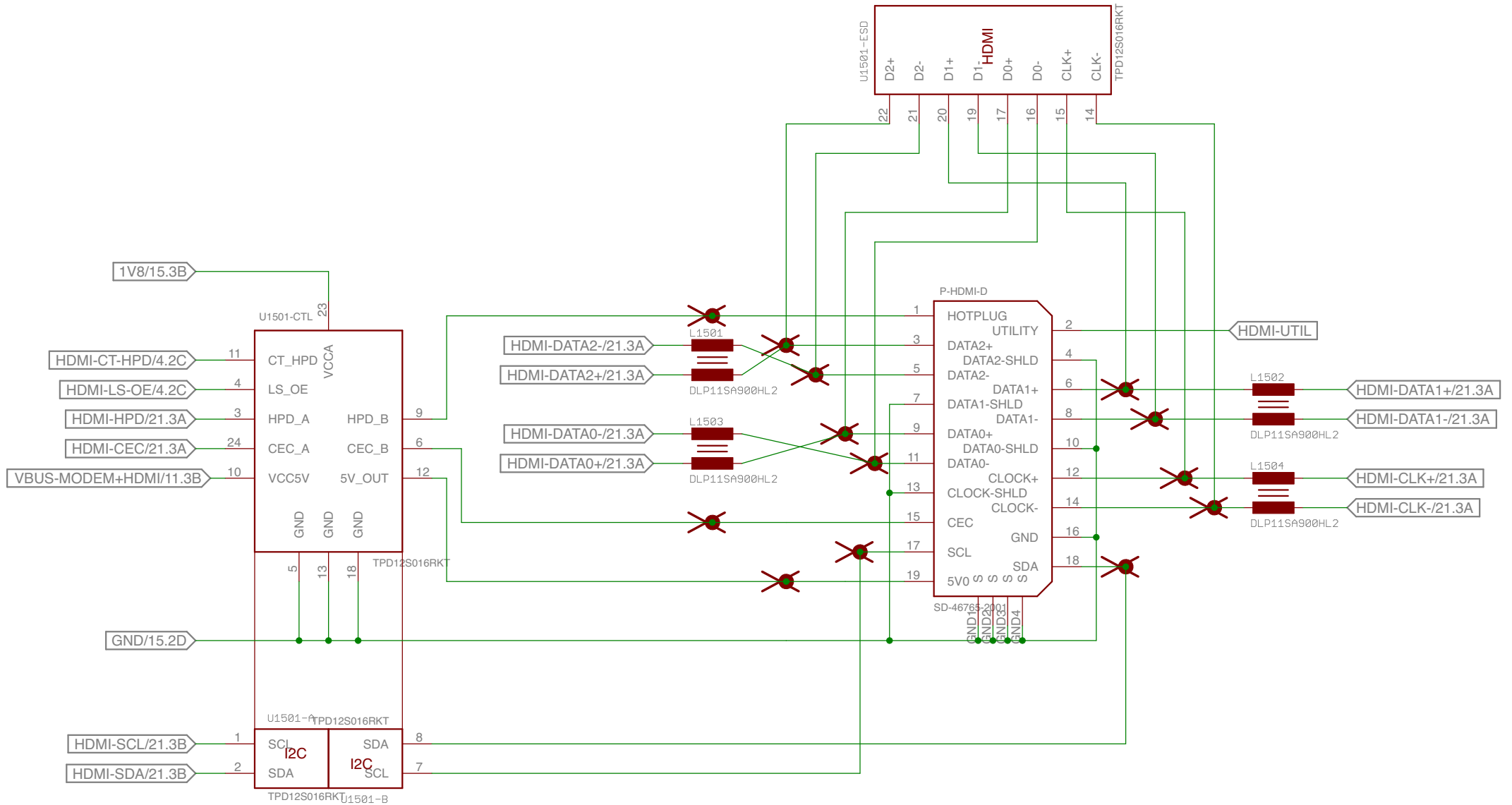
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Document Number:

REV:

Date: nicht gespeichert!

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HDMI

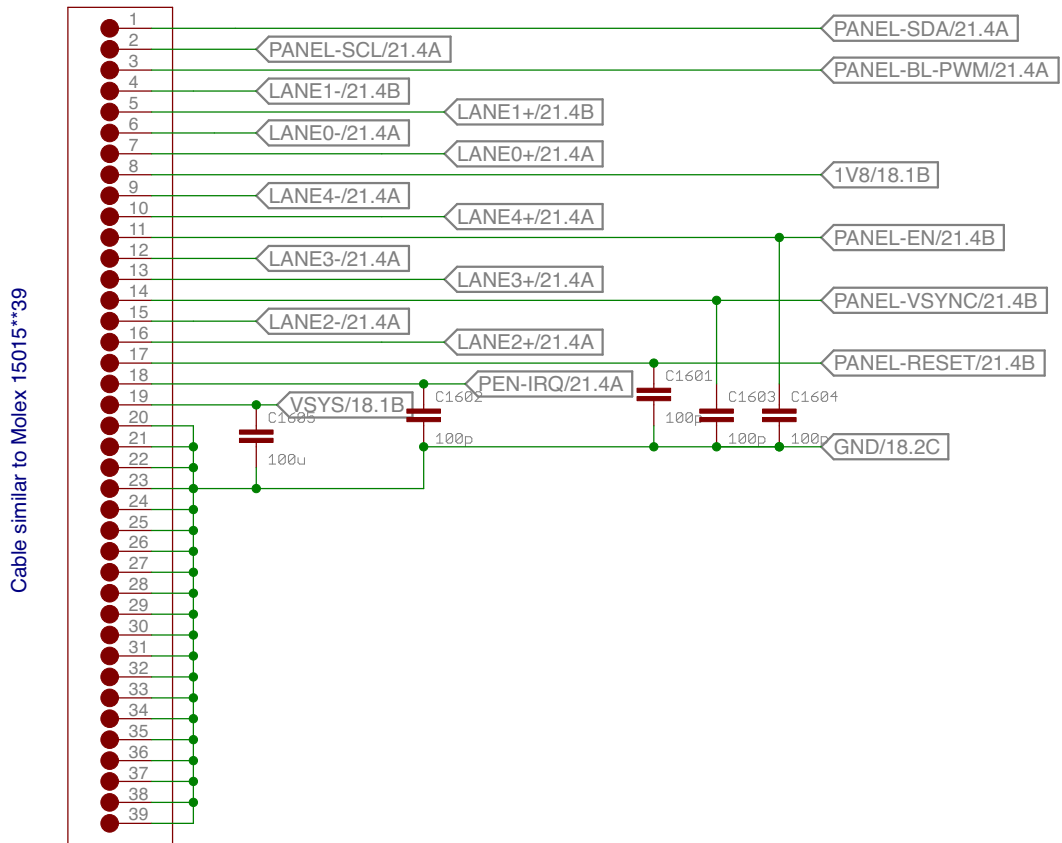
TITLE: DragonFly

Document Number:

REV:

Date: nicht gespeichert!

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Cable similar to Molex 15015**39

FH26-39S-0.3SHW(05)

Panel variant detect is done by checking if PANEL-EN or PANEL-RESET have 18k Pullups or Pulldowns installed or are floating on connected panel board.

Panels:
 EN=f R=f: no or 4.x panels (no distinction)
 EN=PU R=PD: BOE+SSD
 EN=PU R=PU: BOE w/o SSD
 EN=PD R=PD: Full-HD
 ...

Display Connector

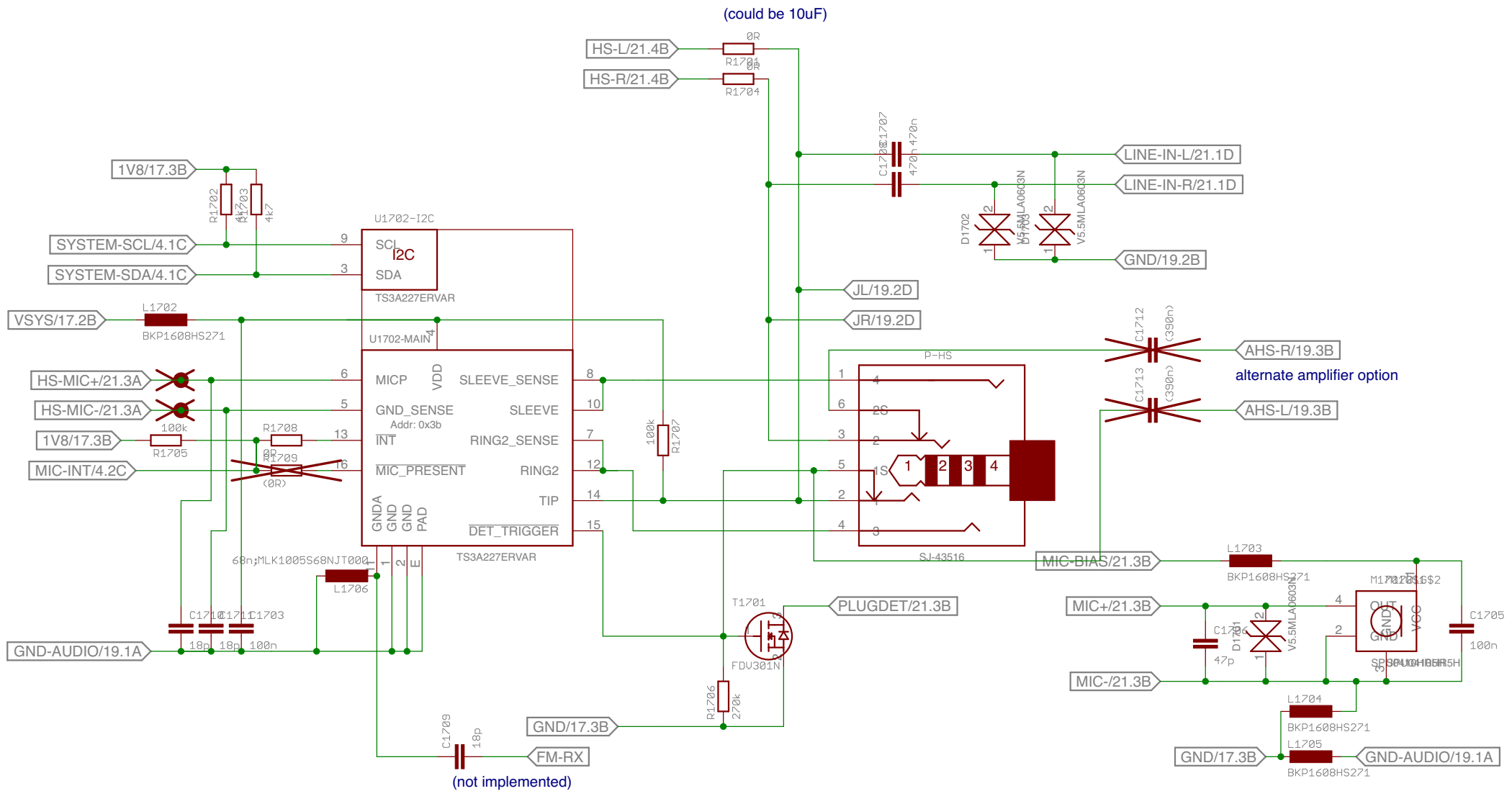
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Document Number:

REV:

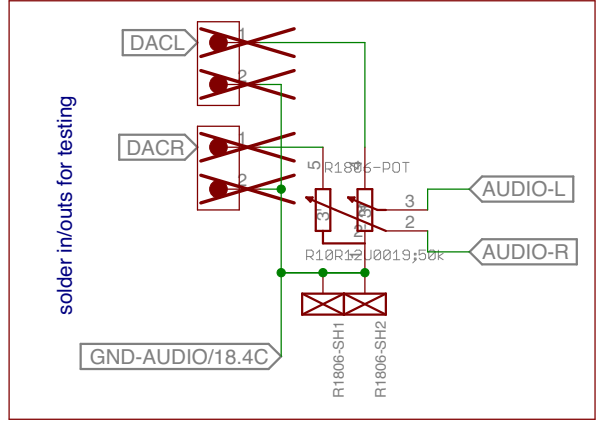
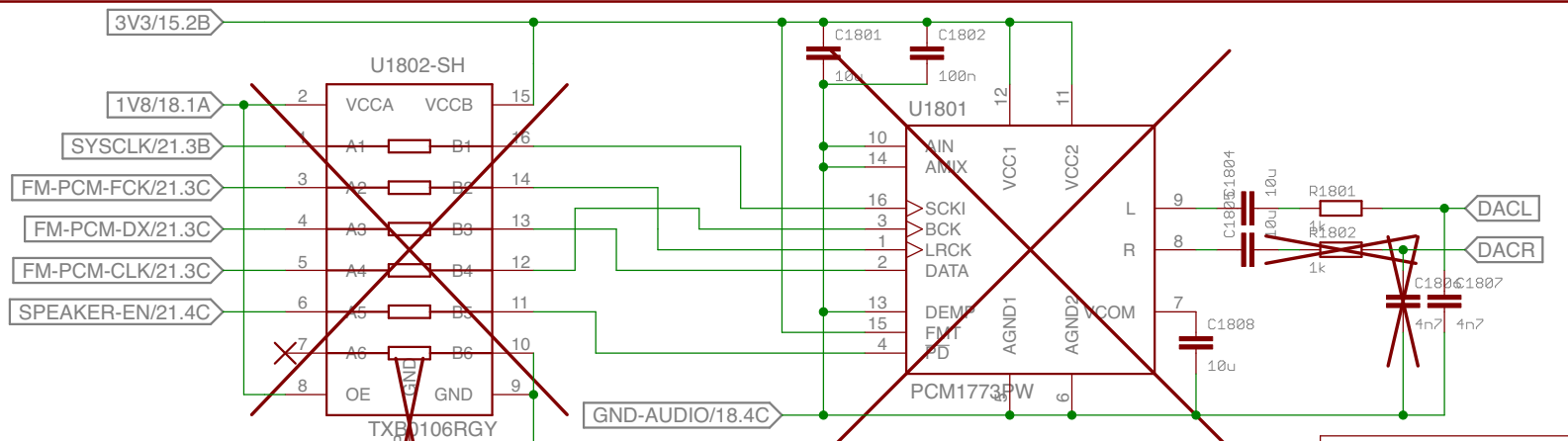
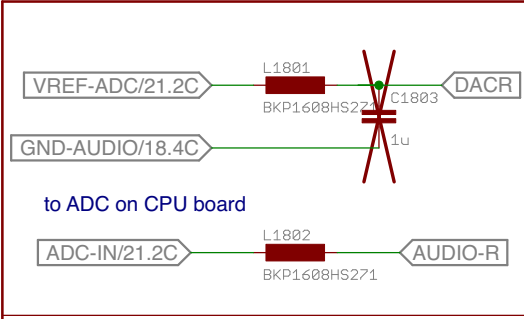
Date: nicht gespeichert!

Sheet: 17/51

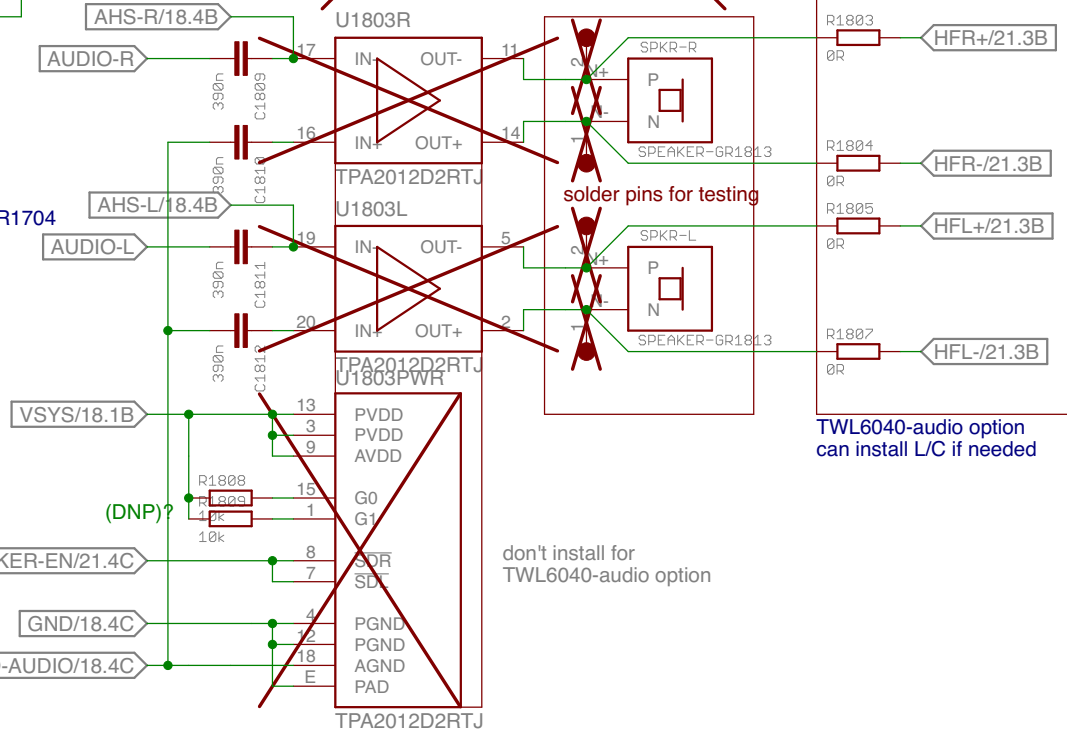


Audio Headset

TITLE: DragonFly	
Document Number:	REV:
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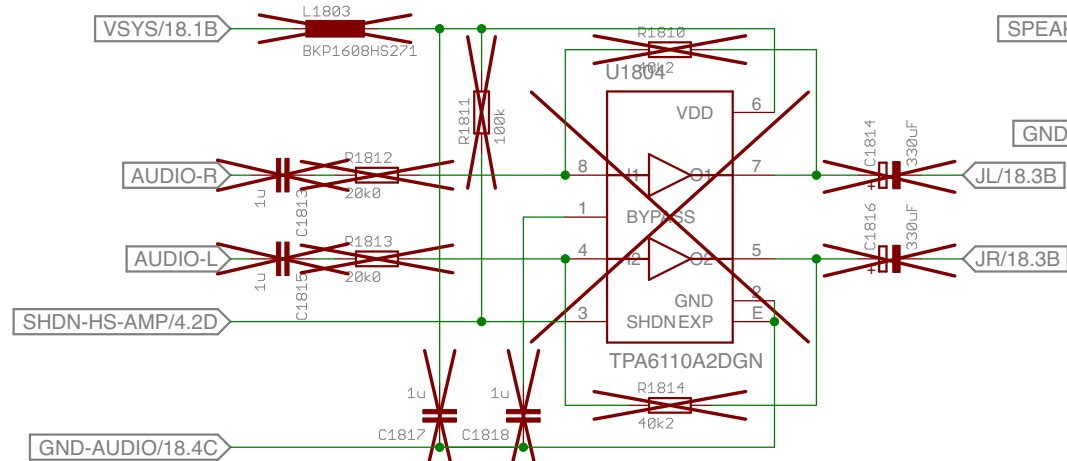


- twl6040 mode:
 + L1801, L1802
 + C1803
 - R1801, R1802
 - C1806, C1807
 + R1803, R1804, R1805, R1807, R1701, R1704
 - C1814, C1815
 - U1803 (if possible - or keep disabled!)
- in twl6040 mode unused:
 - U1801, U1802, U1804
 - C1801, C1802
 - C1809, C1810, C1811, C1812
 - C1813, C1815, C1817, C1818
 - L1803
 - R1808, R1809
 - R1812, R1813, R1811, R1810, R1814



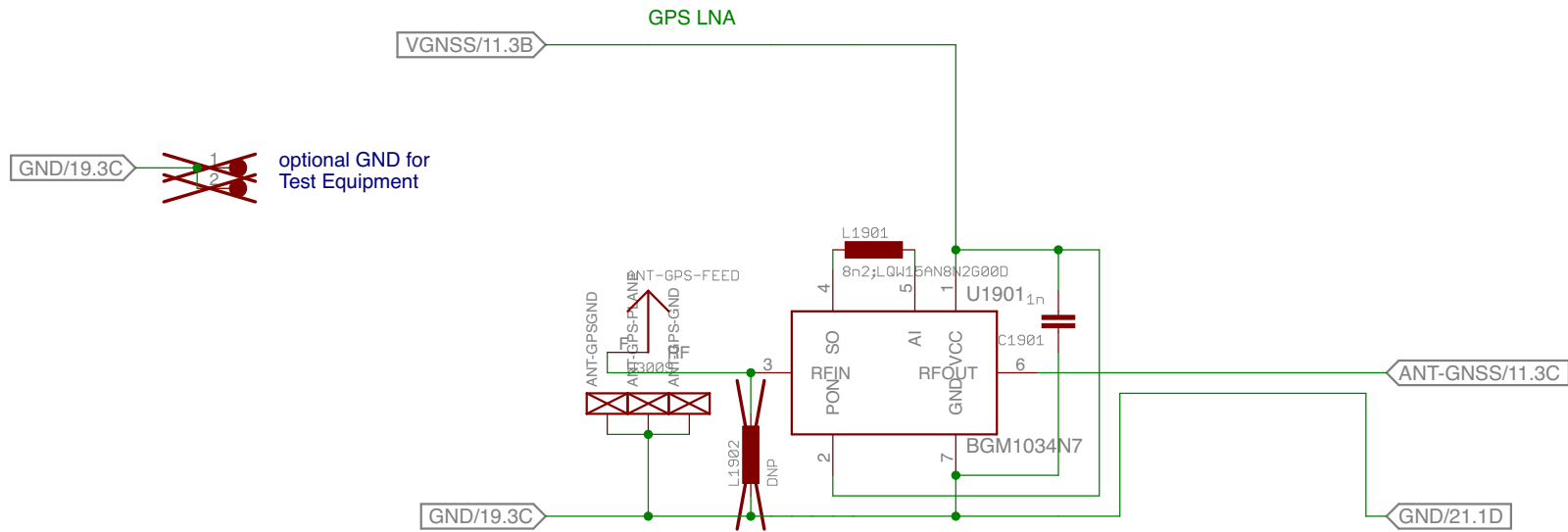
TLW6040-audio option can install L/C if needed

don't install for TWL6040-audio option



Audio Out

TITLE: DragonFly	
Document Number:	REV:
Date: nicht gespeichert!	Sheet: 19/51



F1901
FIDUCIAL-1.0MM

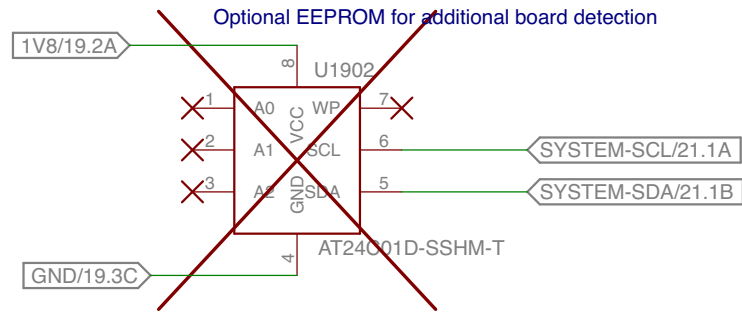
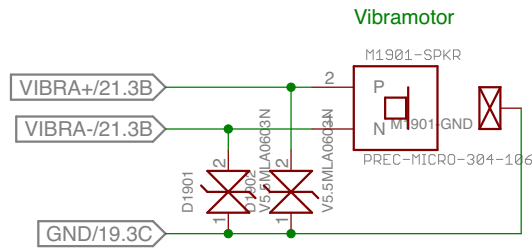
F1902
FIDUCIAL-1.0MM

F1903
FIDUCIAL-1.0MM

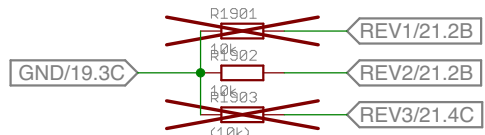
F1904
FIDUCIAL-1.0MM

F1905
FIDUCIAL-1.0MM

F1906
FIDUCIAL-1.0MM



- Revisions:
 none: 4.9 (and earlier)
 R1901: 5.0
 R1902: 5.1
 R1903: 5.2
 R1901+2: 5.3
 R1901+3: 5.4
 R1902+3: 5.5
 R1901+2+3: 5.6



Change revision code only if change is undetectable by software
 first Revision has no resistors installed

Misc

TITLE: DragonFly

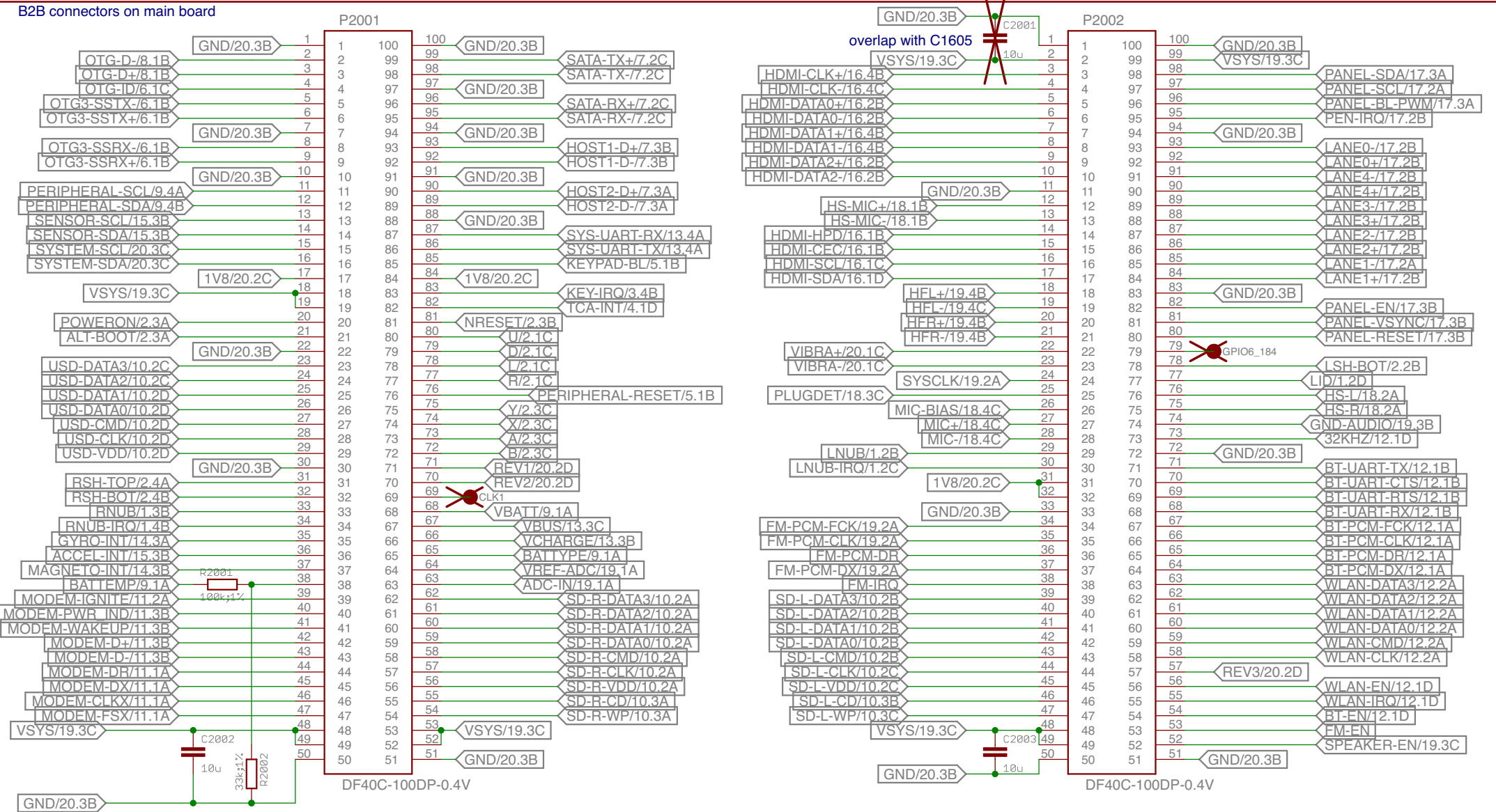
Document Number:

REV:

Date: nicht gespeichert!

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B2B connectors on main board



CPU-Module connector

TITLE: DragonFly

Document Number:

REV:

Date: nicht gespeichert!

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