

# EDM1-FAIRY REV:A2

L=6, 147 x 102 mm(5.8" x 4")

## PAGE TITLE

P01 Index

P02 Expansion CONN.

P03 DC-DC& M-SD & BatterySocket

P04 USB Host

P05 USB Ports & CAN bus

P06 HDMI & Others

P07 RS232/422/485

P08 Others

P09 Audio\_1/Audio\_2

P10 RJ45 & EEPROM/ SPDIF

P11 LVDS & CONNs

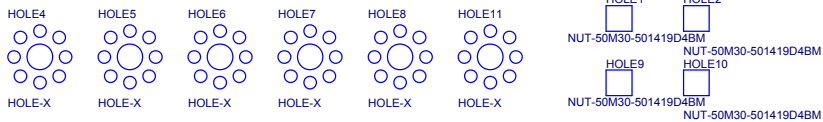
P12 Touch & 3G & MNF

## DESIGN AND DISCLAIMER

These design materials referred to in this document are \*NOT SUPPORTED\* and DO NOT constitute a reference design.

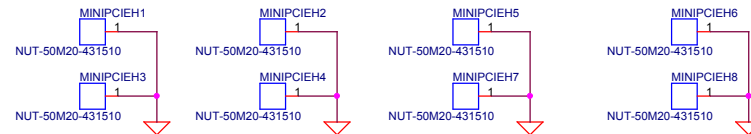
THERE IS NO WARRANTY FOR THE DESIGN MATERIALS, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE DESIGN MATERIALS "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE DESIGN MATERIALS IS WITH YOU. SHOULD THE DESIGN MATERIALS PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

This board was designed as an evaluation and development tool. It was not designed with any other application in mind. As such, these design materials may or may not be suitable for any other purposes. If used, the design material becomes your responsibility as to whether or not it meets your specific needs or your specific applications and may require changes to meet your requirements.



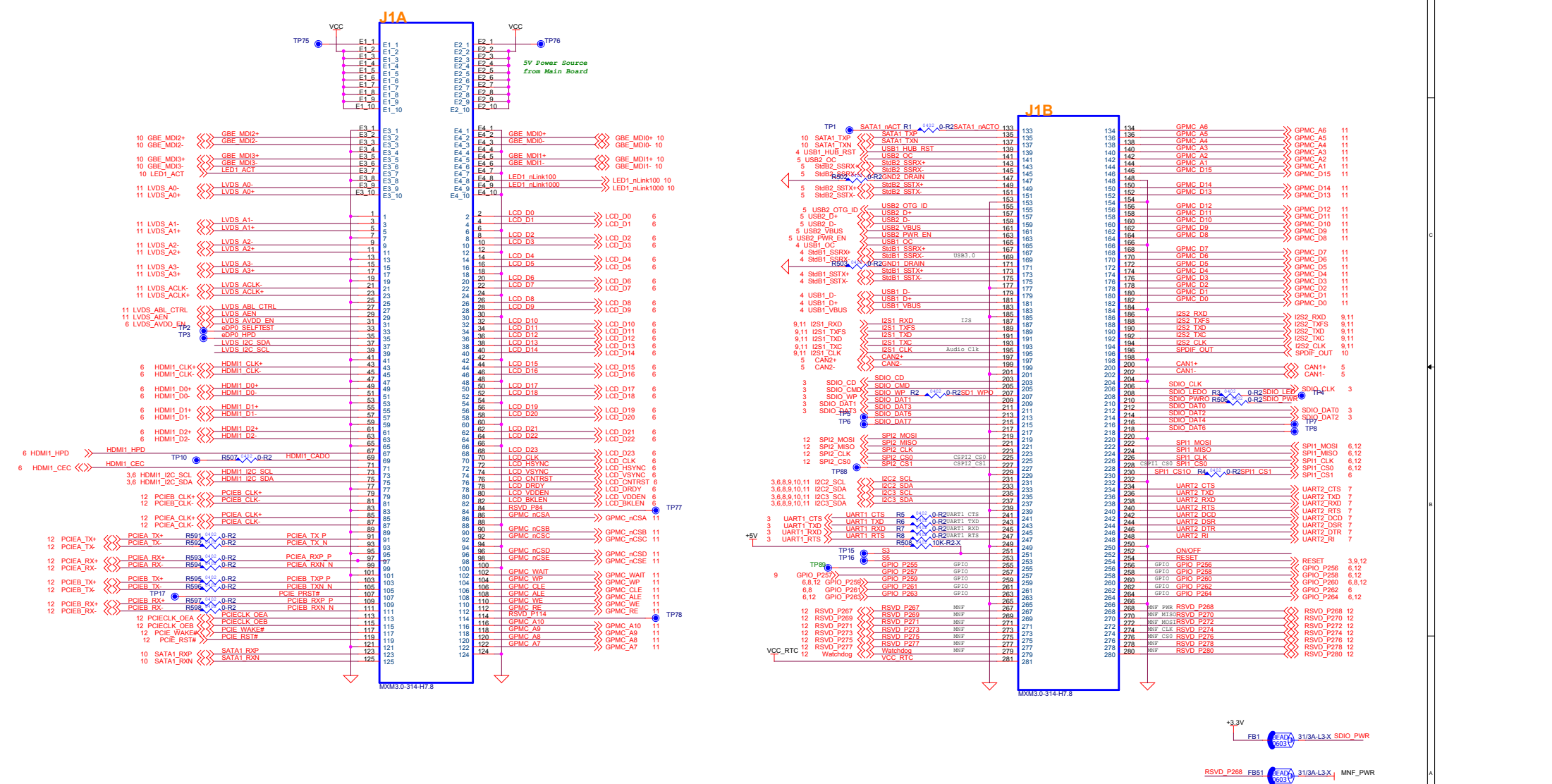
GND

PCB

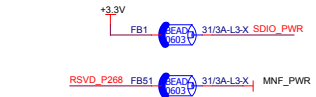
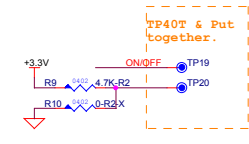


|                   |                           |               |
|-------------------|---------------------------|---------------|
| <b>TechNexion</b> |                           |               |
| <b>INDEX</b>      |                           |               |
| Title             |                           |               |
| Size              | Document Number           | Rev           |
| Custom            | <b>EDM1-FAIRY</b>         | B1            |
| Date:             | Thursday, August 23, 2018 | Sheet 1 of 12 |

**Board to Board**



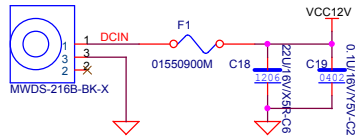
LVDS\_I2C\_SCL R566 0-R2 I2C1\_SCL I2C1\_SCL 3.6,11  
 LVDS\_I2C\_SDA R567 0-R2 I2C1\_SDA I2C1\_SDA 3.6,11



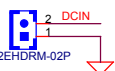
**TechNexion**  
 Expansion CONN.

|       |                           |       |     |       |
|-------|---------------------------|-------|-----|-------|
| Title | EDM1-FAIRY                |       | Rev | B1    |
| Size  | Document Number           |       |     |       |
| C     |                           |       |     |       |
| Date: | Thursday, August 23, 2018 | Sheet | 2   | of 12 |

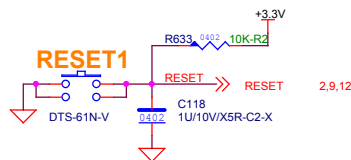
### DCIN1



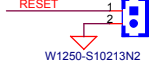
### DCIN2



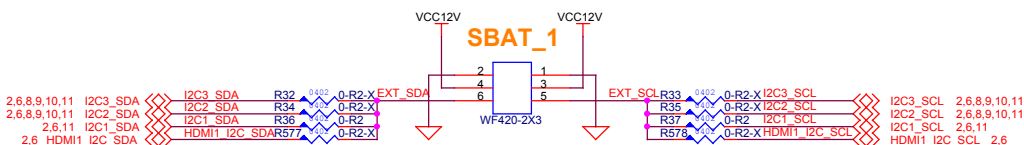
### RESET1



### J9

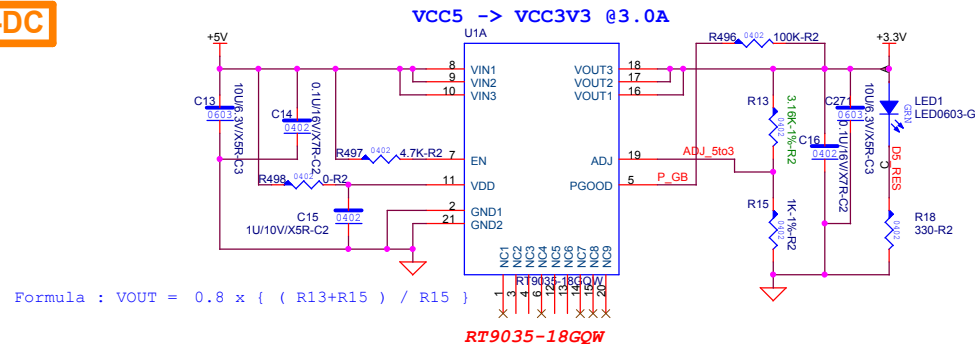


### Battery Module Socket



Use: I2C1 Prepare: I2C1 I2C2 I2C3

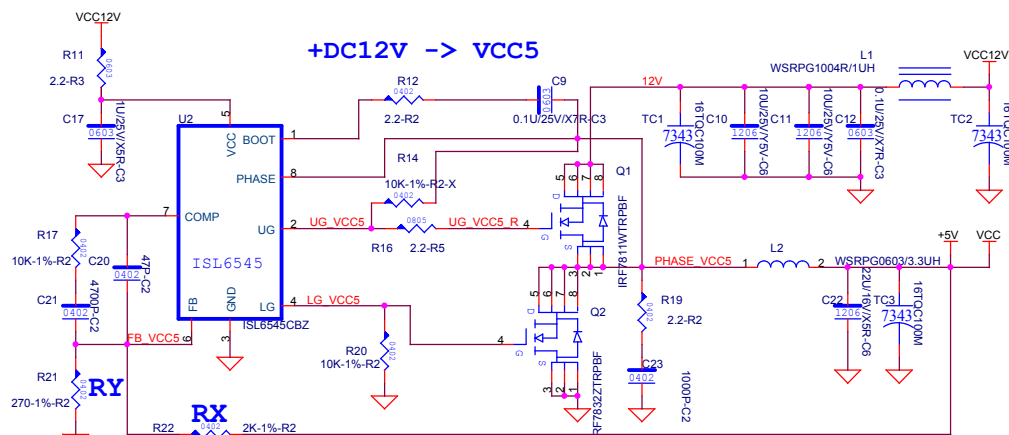
### DC-DC



$$\text{Formula : } V_{OUT} = 0.8 \times \left( \frac{R_{13} + R_{15}}{R_{15}} \right)$$

RT9035-18GQW

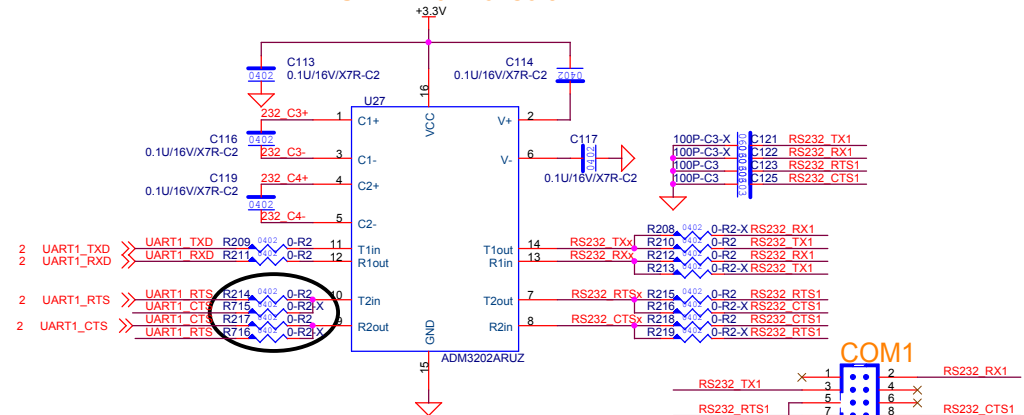
### +DC12V -> VCC5



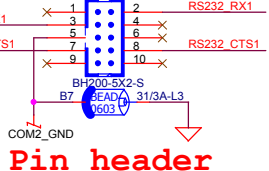
$$\text{Formula : } V_{OUT} = 0.6 \times \left( \frac{R_X + R_Y}{R_Y} \right) \quad 5.04 = 0.6 \times (2000 + 270) / 270$$

### COM1

#### UART1 for Console

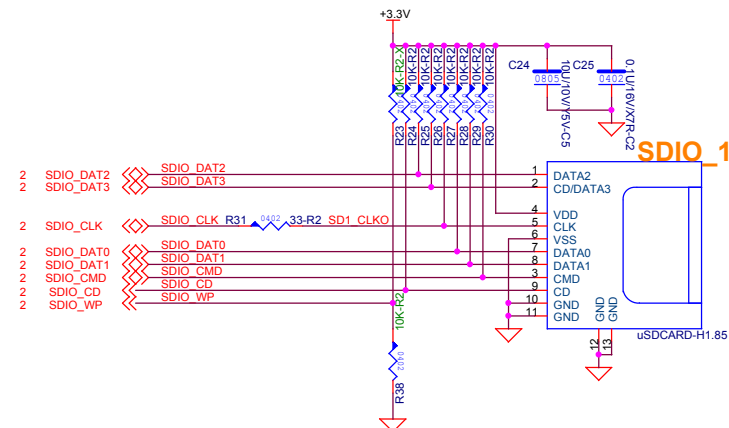


### COM1



Pin header

### Micro-SD



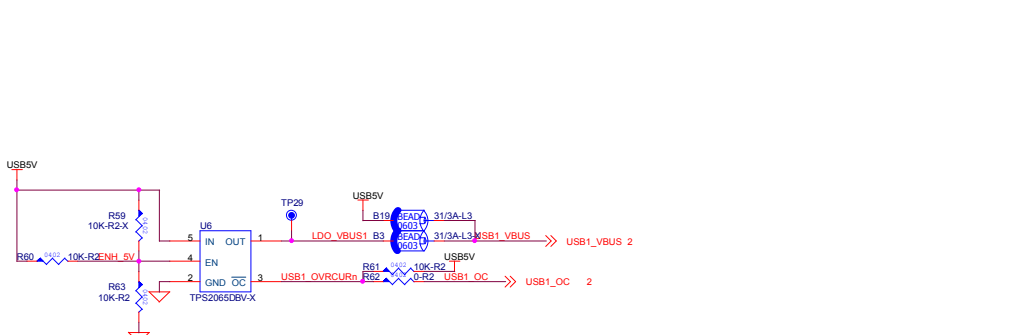
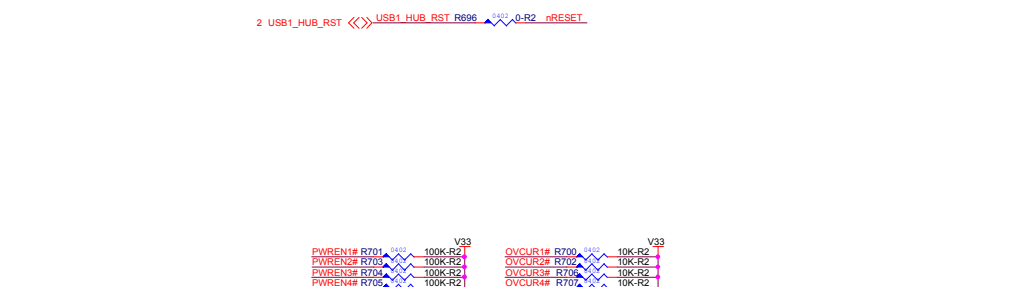
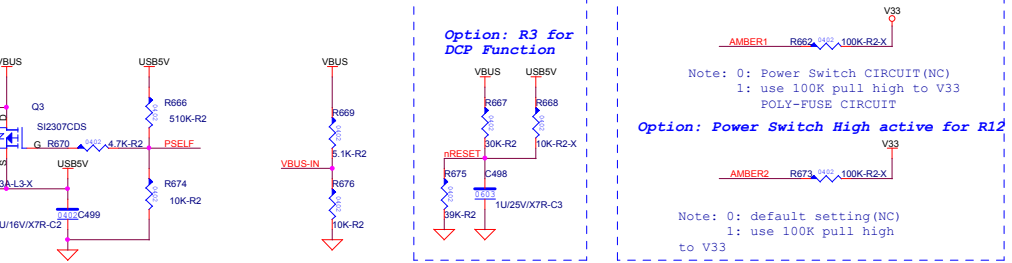
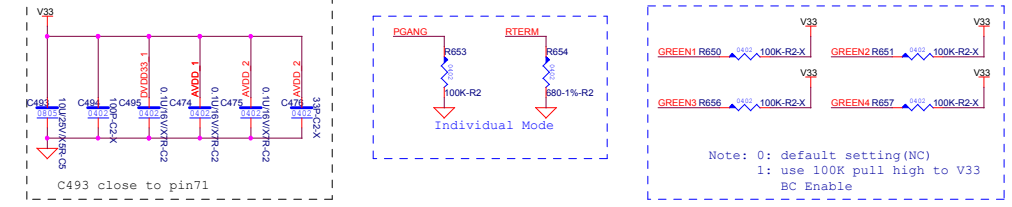
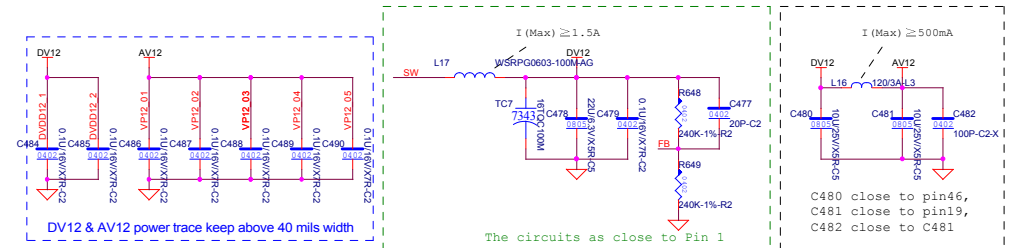
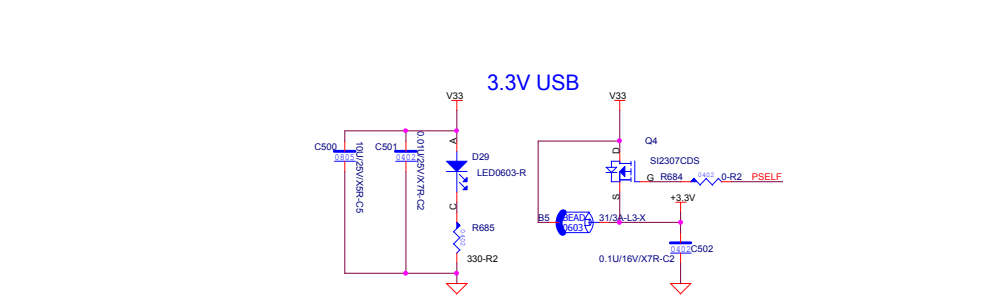
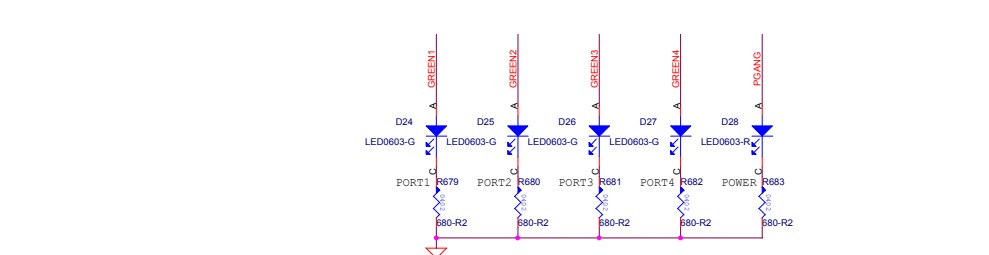
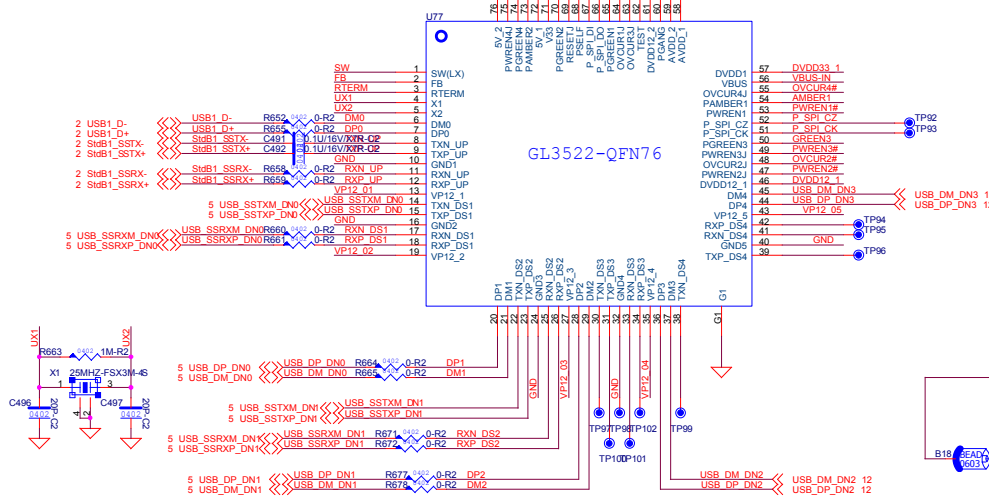
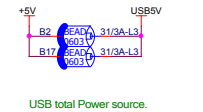
### TechNexion

Title: DC-DC & M-SD & BatterySocket

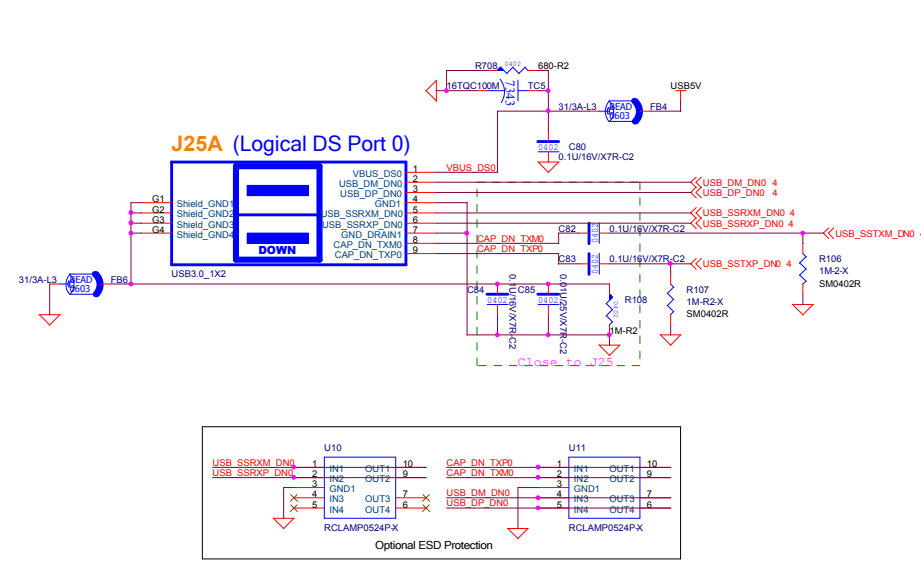
Size: Custom Document Number: EDM1-FAIRY Rev: B1

Date: Thursday, August 23, 2018 Sheet: 3 of 12

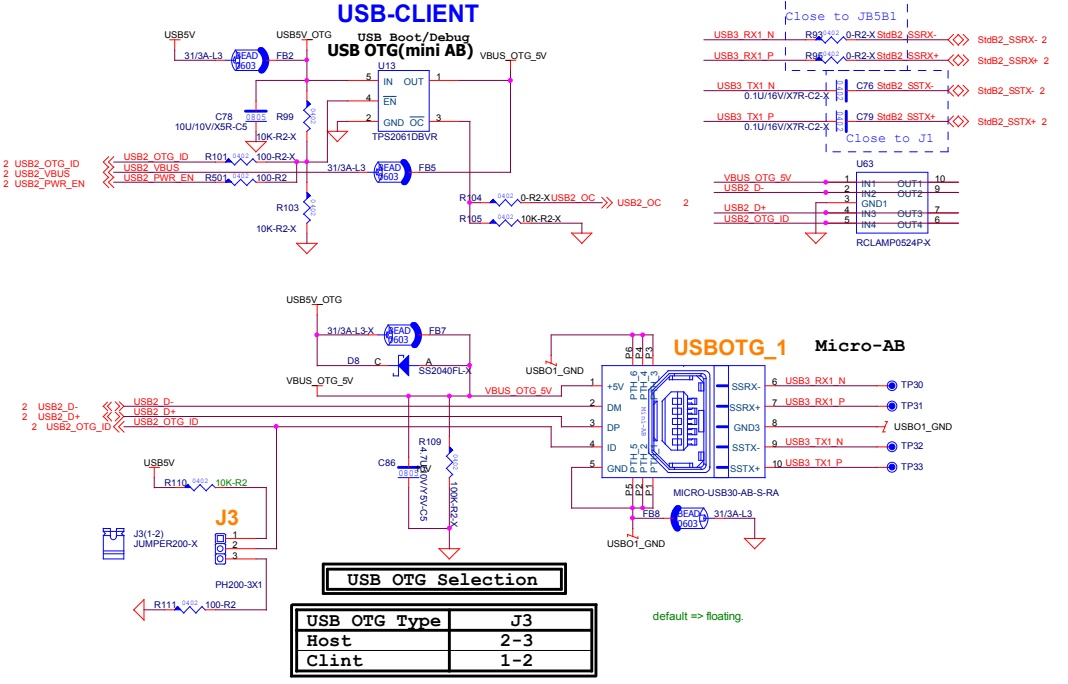
# USB Host



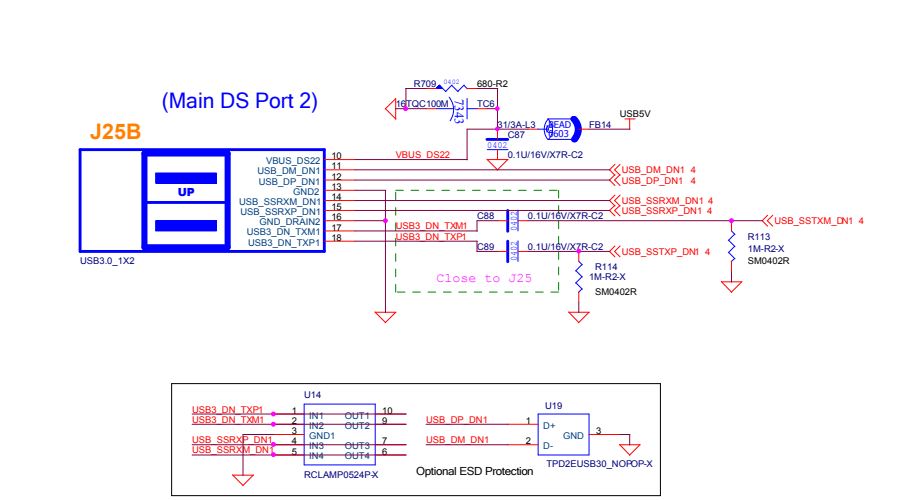
# USB 3.0 Port 0



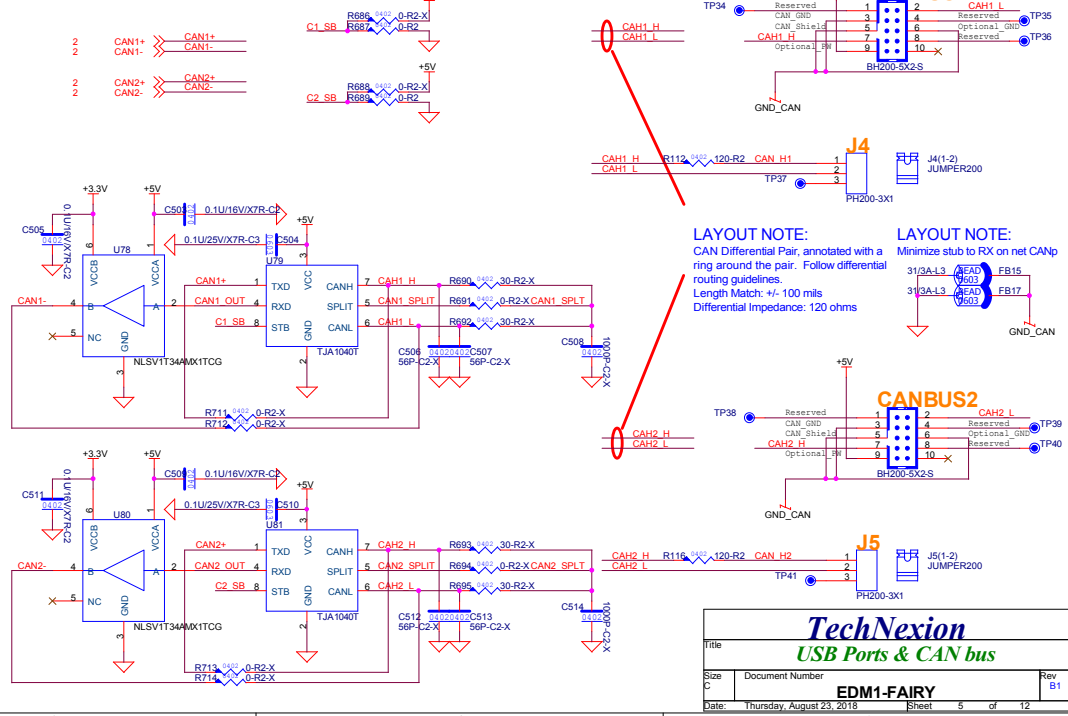
# USB OTG



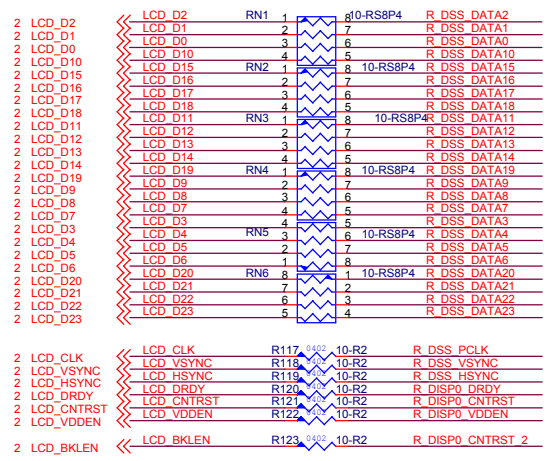
# USB 3.0 Port 1



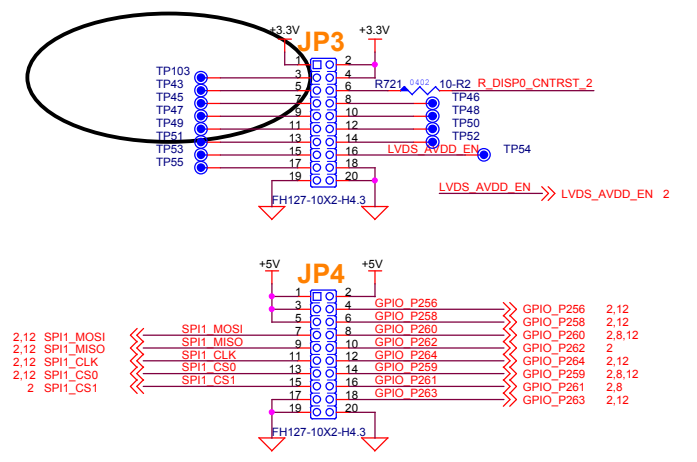
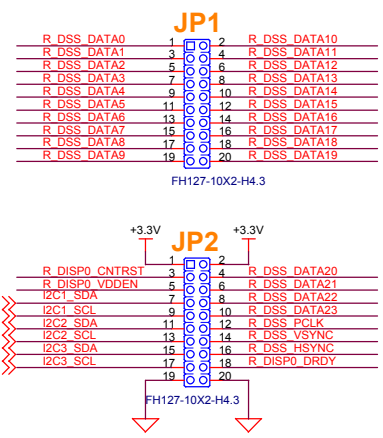
# CAN Bus x 2



# TTL

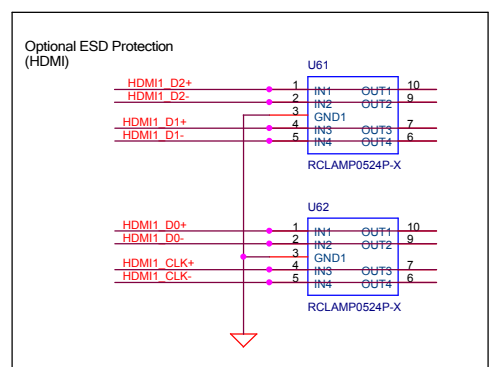
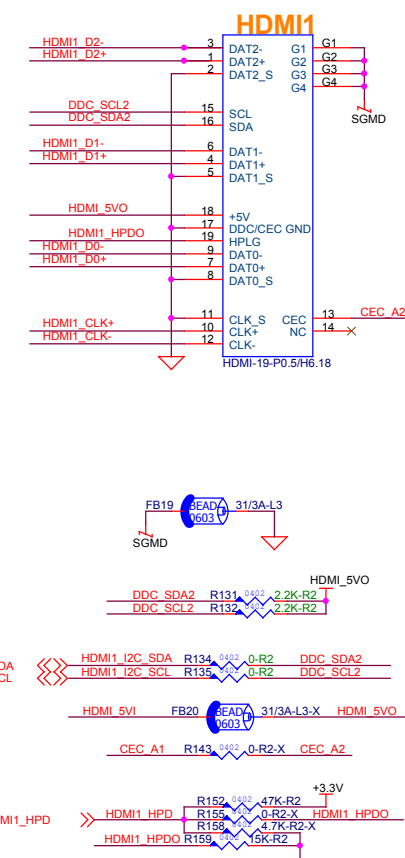
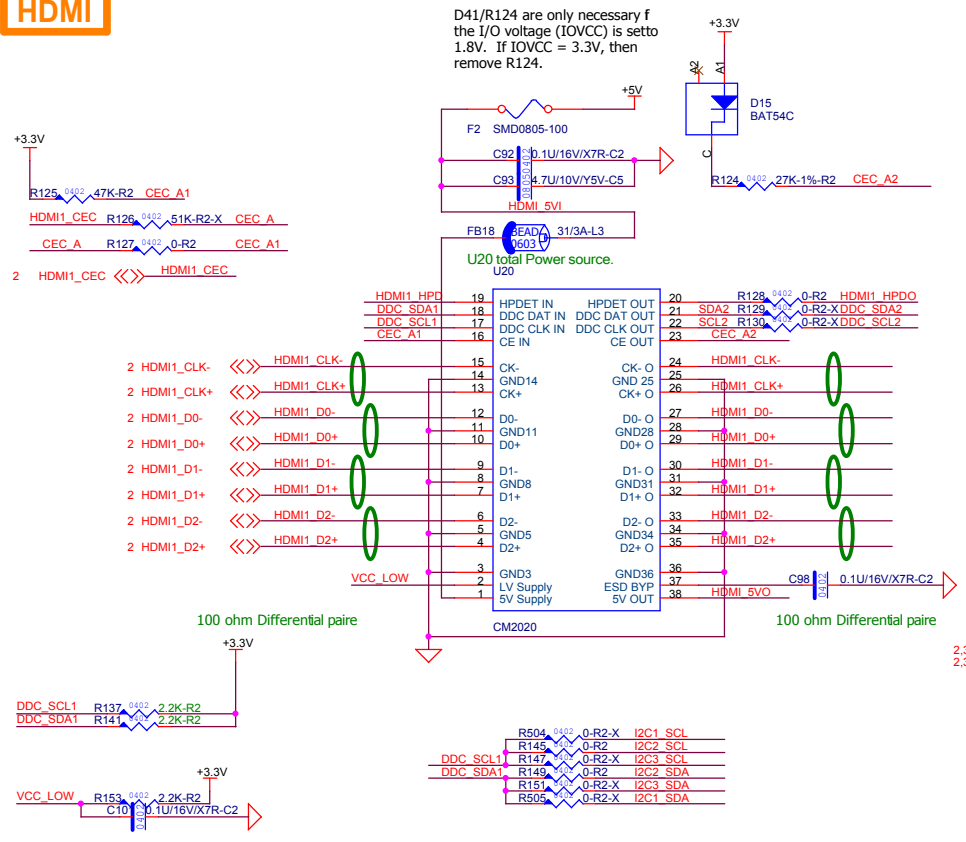


# Headers JP1~4



I2C1 I2C2 I2C3 to Expansion

# HDMI



**TechNexion**  
HDMI & Others

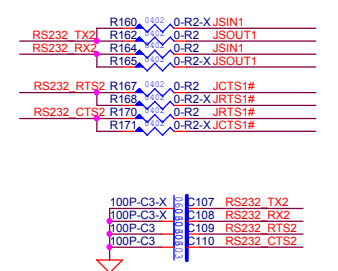
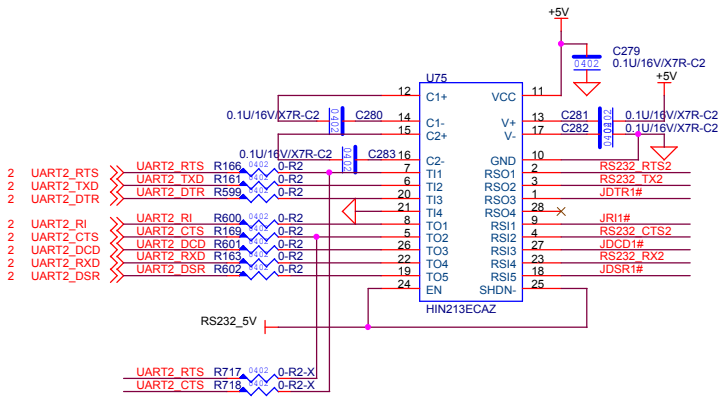
EDM1-FAIRY

Thursday, August 23, 2018

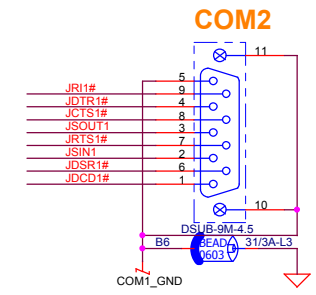
Sheet 6 of 12

# RS232

Uart2

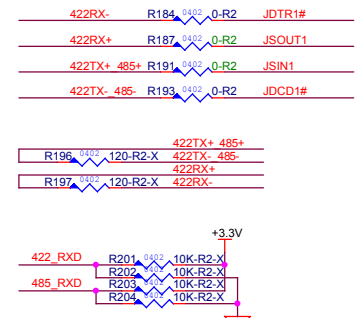
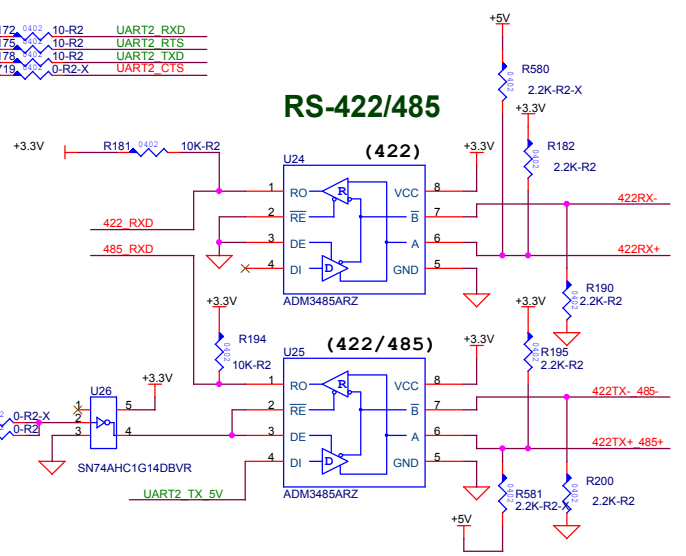


# RS232/422/485 @ DB-9



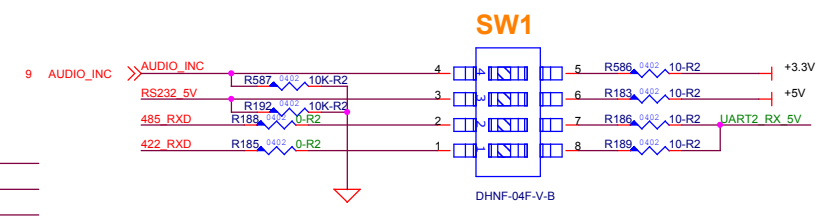
# RS422/485

Uart2



# Audio Output SELECT

| SW1 | SGTL5000 | TLV320 |
|-----|----------|--------|
| 4-5 | OFF      | ON     |



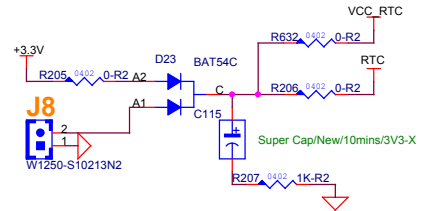
# RS-232/485/422 SELECT (Com2)

| SW1 | RS-422 | RS-485 | RS-232 |
|-----|--------|--------|--------|
| 1-8 | ON     | OFF    | OFF    |
| 2-7 | OFF    | ON     | OFF    |
| 3-6 | OFF    | OFF    | ON     |

**TechNexion**  
RS232/422/485

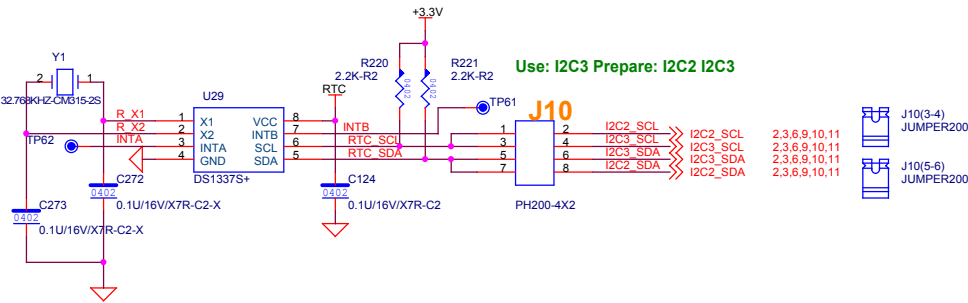
|             |                           |               |
|-------------|---------------------------|---------------|
| Title       |                           | Rev           |
| Size Custom |                           | B1            |
| EDM1-FAIRY  |                           |               |
| Date:       | Thursday, August 23, 2018 | Sheet 7 of 12 |

# RTC



## I2C SEL @ RTC

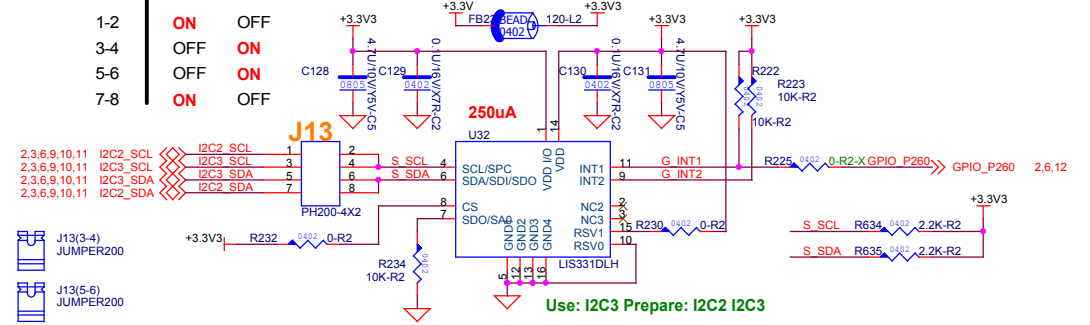
| J10 | I2C2 | default | I2C3 |
|-----|------|---------|------|
| 1-2 | ON   | OFF     | I2C3 |
| 3-4 | OFF  | ON      | I2C2 |
| 5-6 | OFF  | ON      | I2C2 |
| 7-8 | ON   | OFF     | I2C2 |



# 3 axis sensor

## I2C SEL @ 3 axis sensor

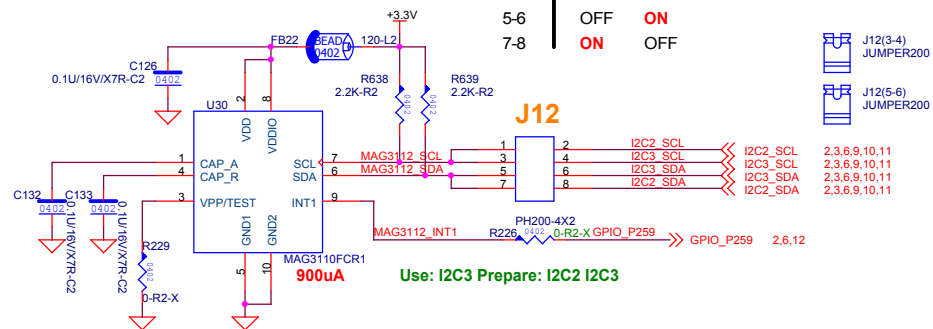
| J13 | I2C2 | default | I2C3 |
|-----|------|---------|------|
| 1-2 | ON   | OFF     | I2C3 |
| 3-4 | OFF  | ON      | I2C2 |
| 5-6 | OFF  | ON      | I2C2 |
| 7-8 | ON   | OFF     | I2C2 |



# eCOMPASS

## I2C SEL @ eCOMPASS

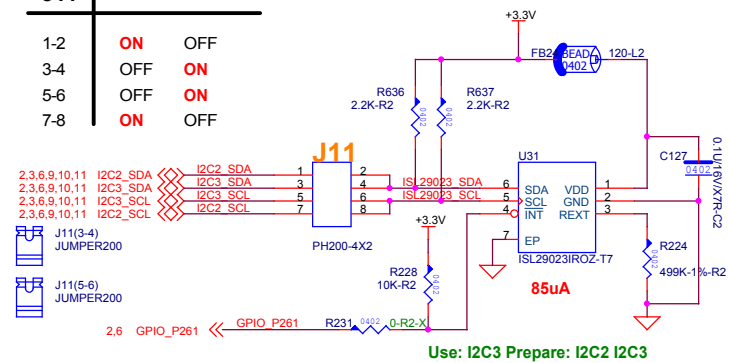
| J12 | I2C2 | default | I2C3 |
|-----|------|---------|------|
| 1-2 | ON   | OFF     | I2C3 |
| 3-4 | OFF  | ON      | I2C2 |
| 5-6 | OFF  | ON      | I2C2 |
| 7-8 | ON   | OFF     | I2C2 |



# LIGHT-SENSOR

## I2C SEL @ Light-Sensor

| J11 | I2C2 | default | I2C3 |
|-----|------|---------|------|
| 1-2 | ON   | OFF     | I2C3 |
| 3-4 | OFF  | ON      | I2C2 |
| 5-6 | OFF  | ON      | I2C2 |
| 7-8 | ON   | OFF     | I2C2 |

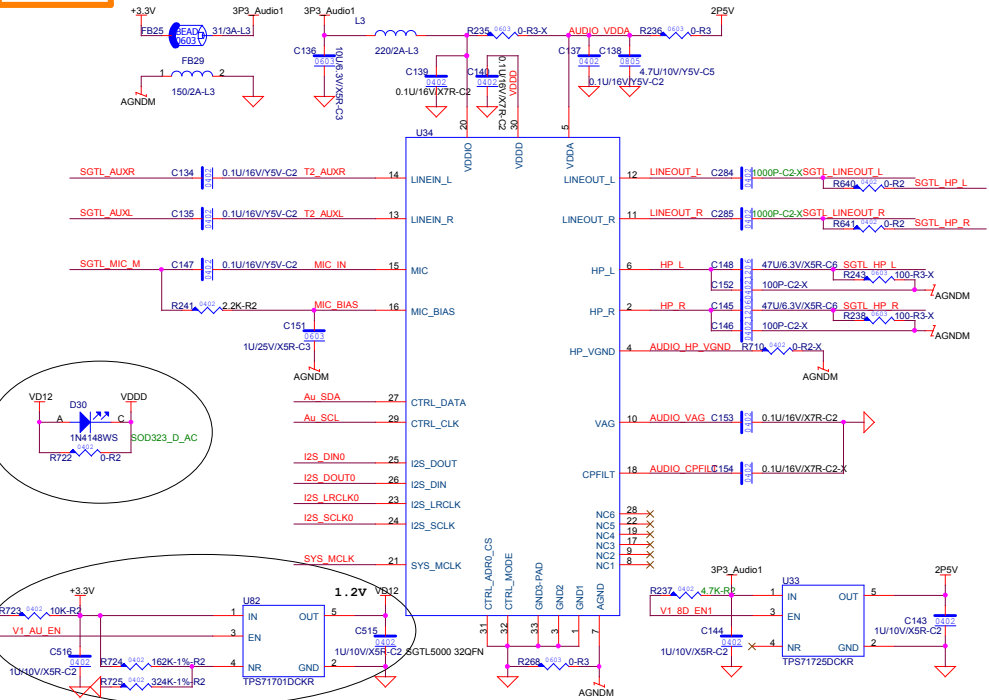


**TechNexion**  
Others

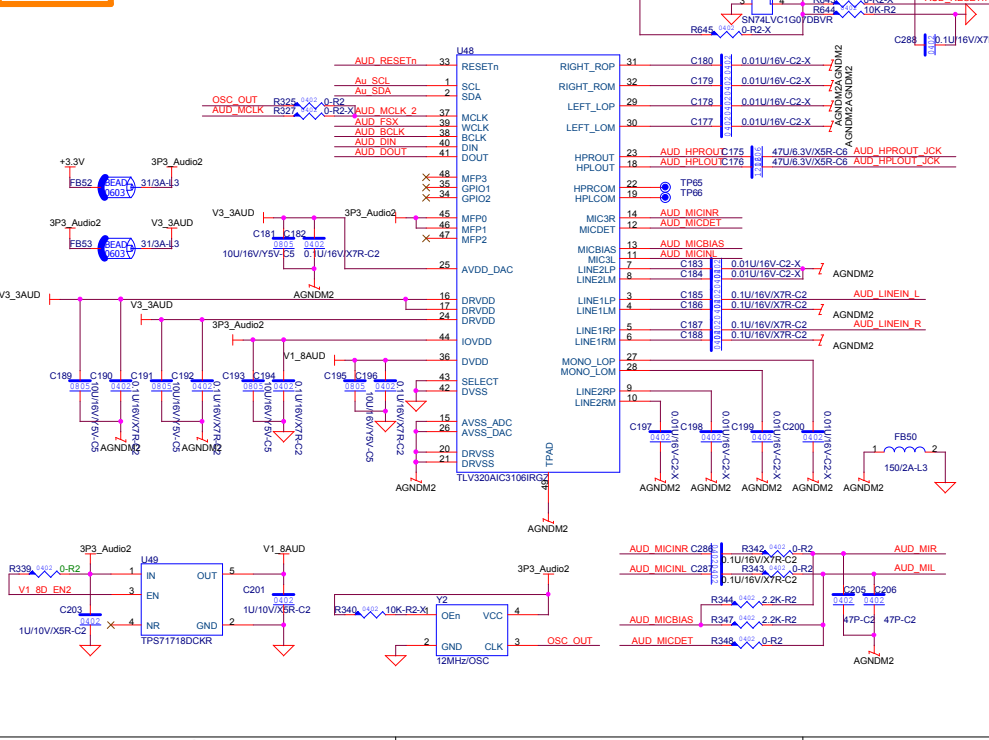
|             |                           |            |         |
|-------------|---------------------------|------------|---------|
| Title       |                           | Rev B1     |         |
| Size Custom | Document Number           | EDM1-FAIRY |         |
| Date:       | Thursday, August 23, 2018 | Sheet      | 8 of 12 |



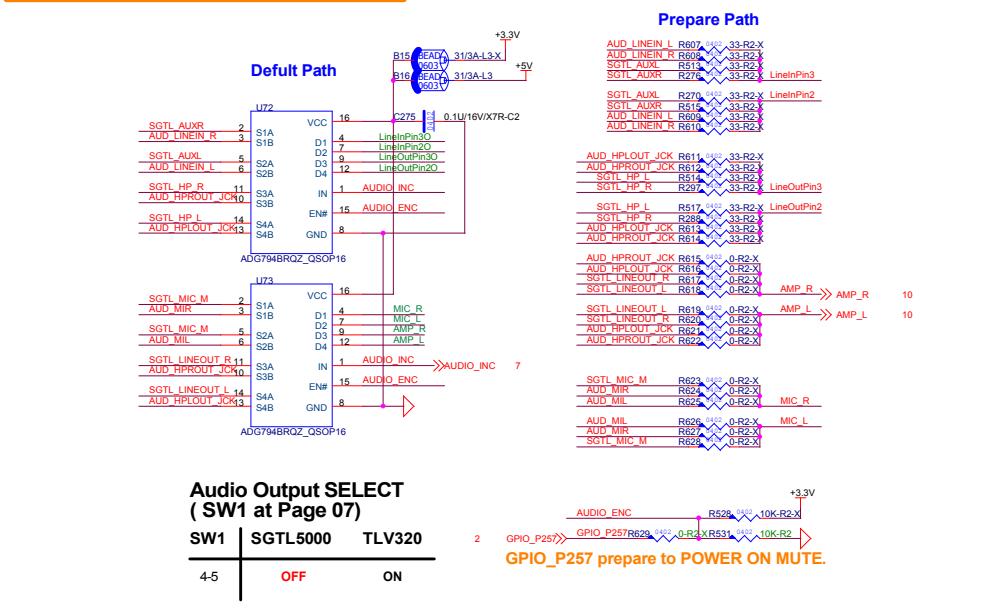
# AUDIO\_1



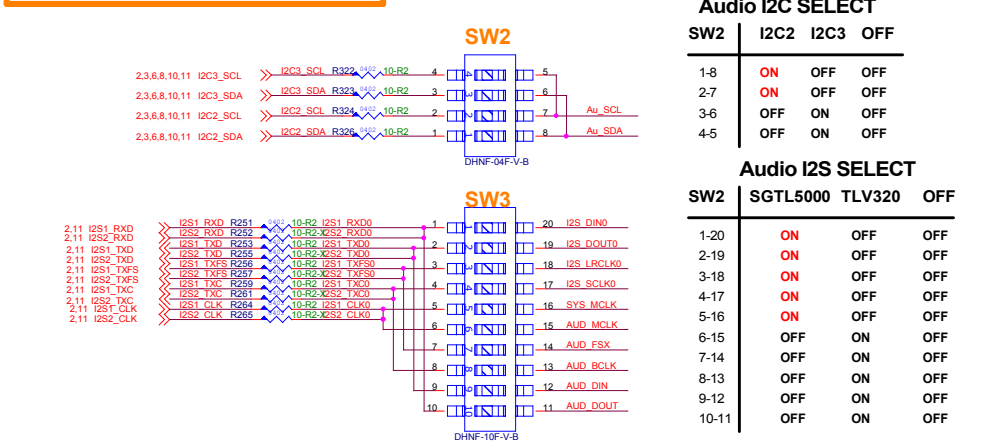
# AUDIO\_2



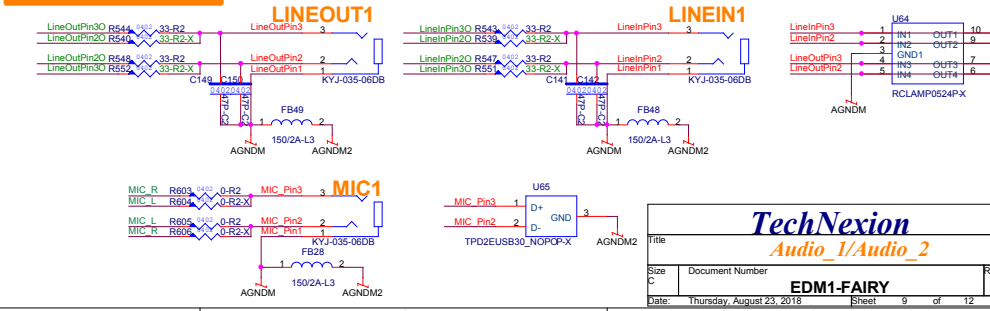
# AUDIO\_Select\_Switches (Output Side)



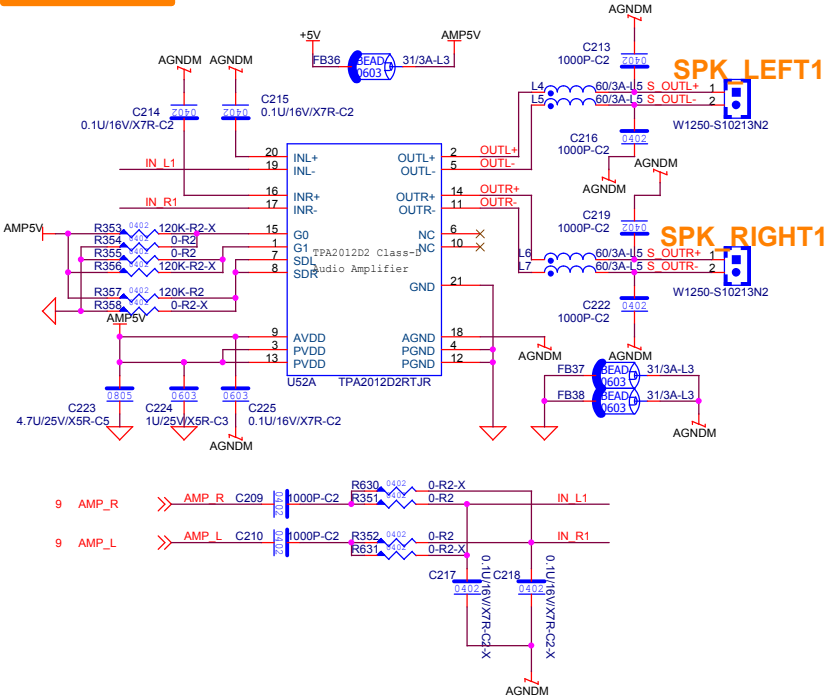
# AUDIO\_Select\_Switches (Input Side)



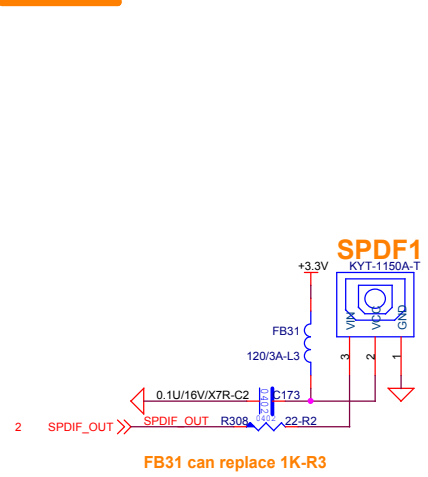
# AUDIO\_Connectors



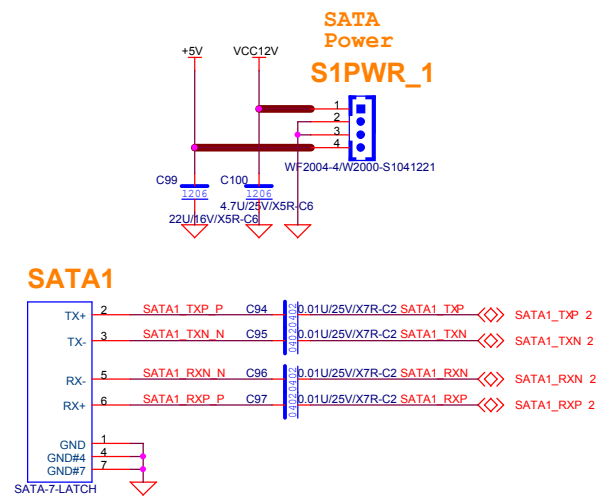
# AUDIO AMP



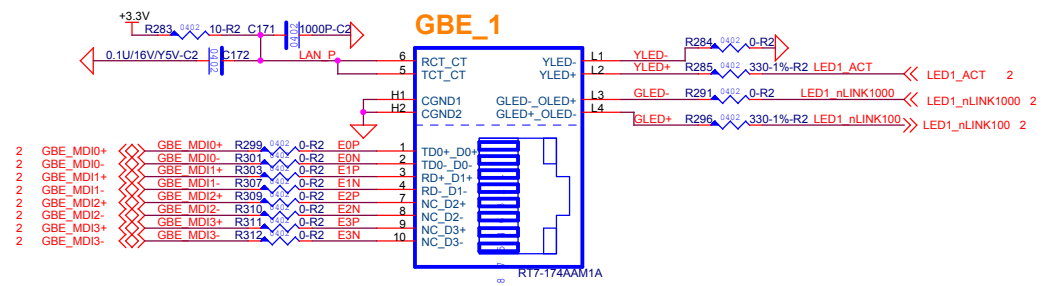
# SPDIF



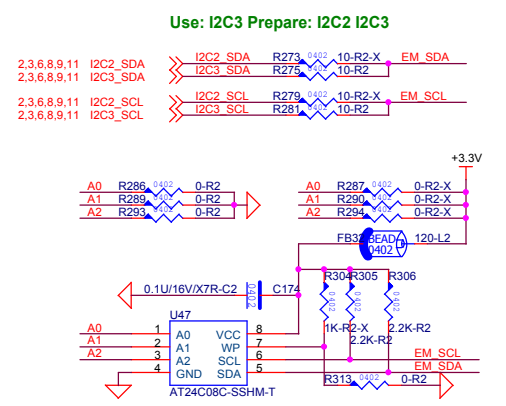
# SATA



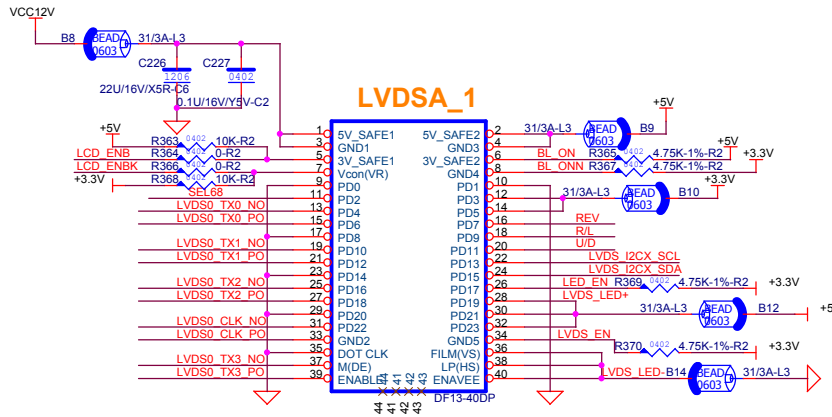
# RJ45



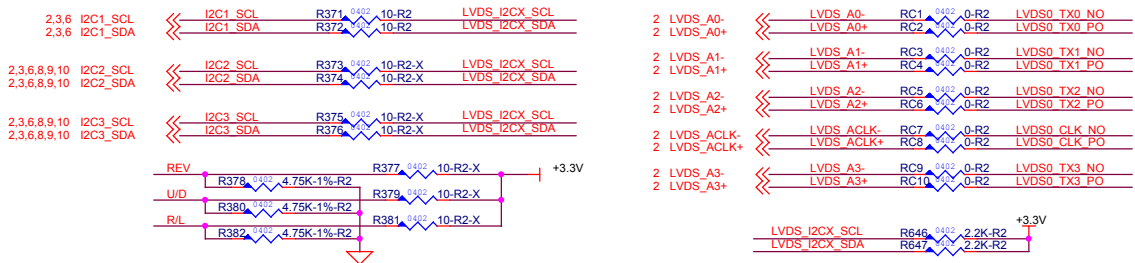
# EEPROM



# LVDS

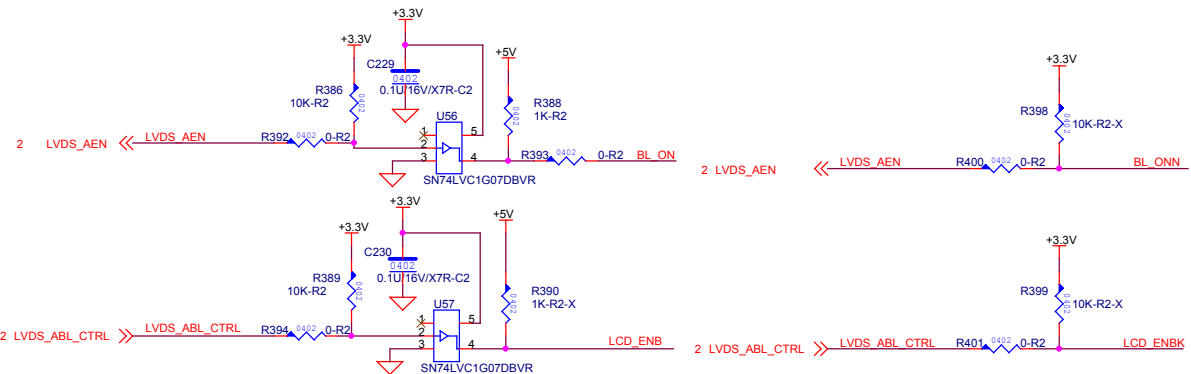
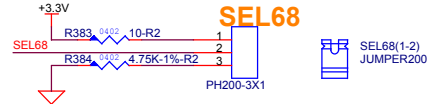


Use: I2C3 Prepare: I2C1 I2C2 I2C3

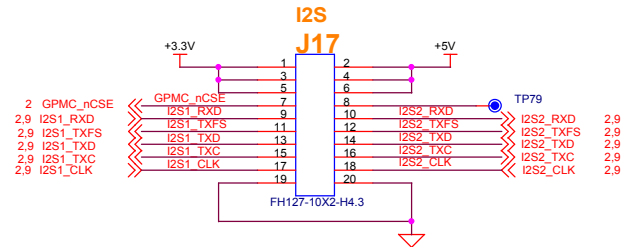
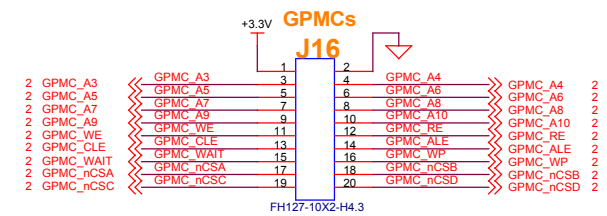
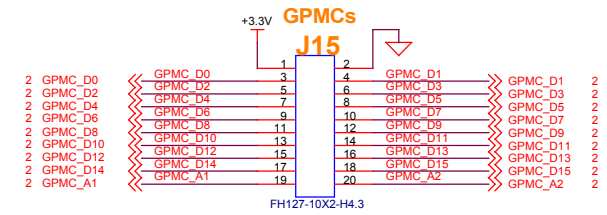


| Pull H/L | SEL68 |
|----------|-------|
| High     | 1-2   |
| Low      | 2-3   |

default



# CONN

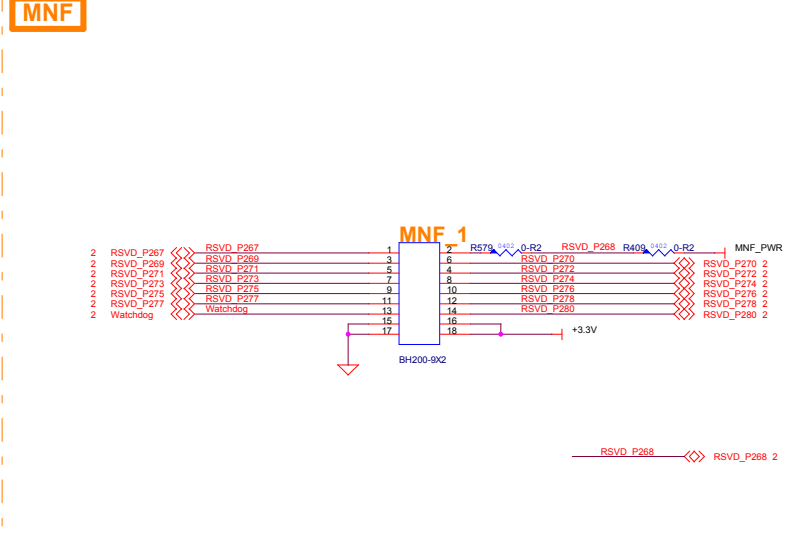
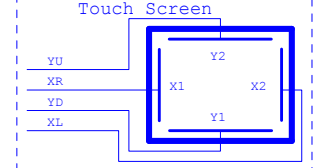
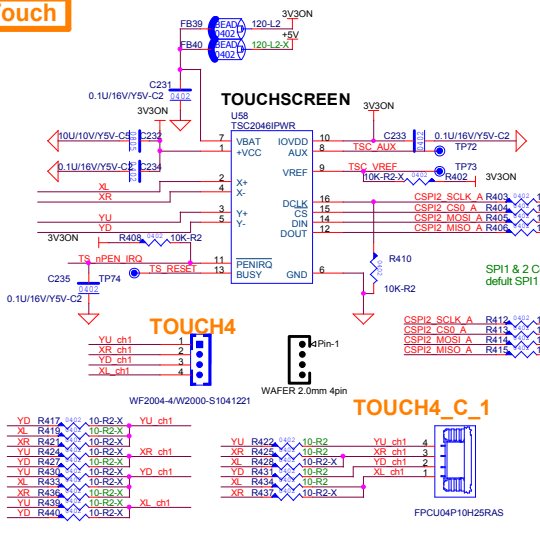


# Touch

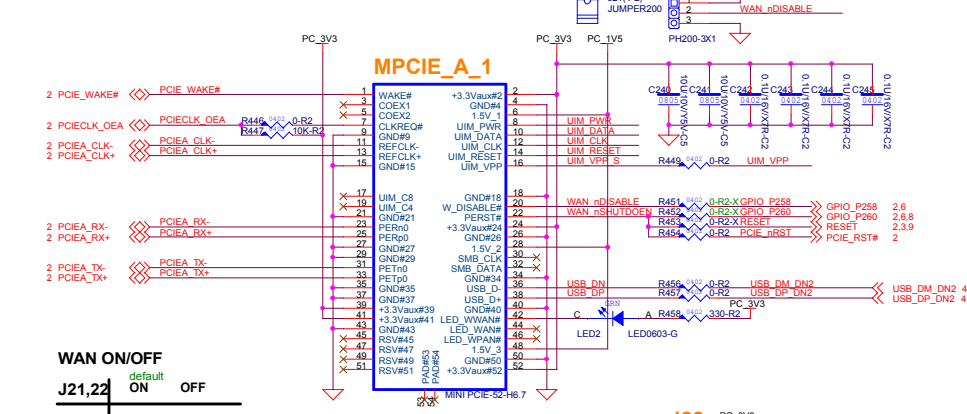
# Touch ON/OFF

# Touch Screen

# MNF



# Mini PCIE



|        |         |     |     |
|--------|---------|-----|-----|
|        | default | ON  | OFF |
| J21,22 | ON      | OFF | ON  |
| 1-2    | ON      | OFF | ON  |
| 2-3    | OFF     | ON  | ON  |

