MangOH Red Platform

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SHEET 8 Battery Charger and USB power

SHEET 9 1V8,3V3,5V0 Power Supply

SHEET 10 WIFI and BT

Project Variants

	1600643		
DNI	N		
MIC_OMTP	N		
MIC_CTIA	Y		

Variants description

DNI = Do Not Install
MIC_OMTP = OMTP headphones config (do not define MIC_CTIA)
MIC_CTIA = CTIA/AHJ headphones config (do not define MIC_OMTP)

I2C address list

08h = 3503 USB hub
3Eh = I/O expander
51h = EEPROM with Board ID
55h = Battery gauge
68h = 6 Axis IMU
6Bh = Buck+batt charger
71h = I2C Hub
76h = Pressure Sensor

REFERENCE

1600674 PCA, MANGOH
5302303 PCB, MANGOH

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REV PCB	6
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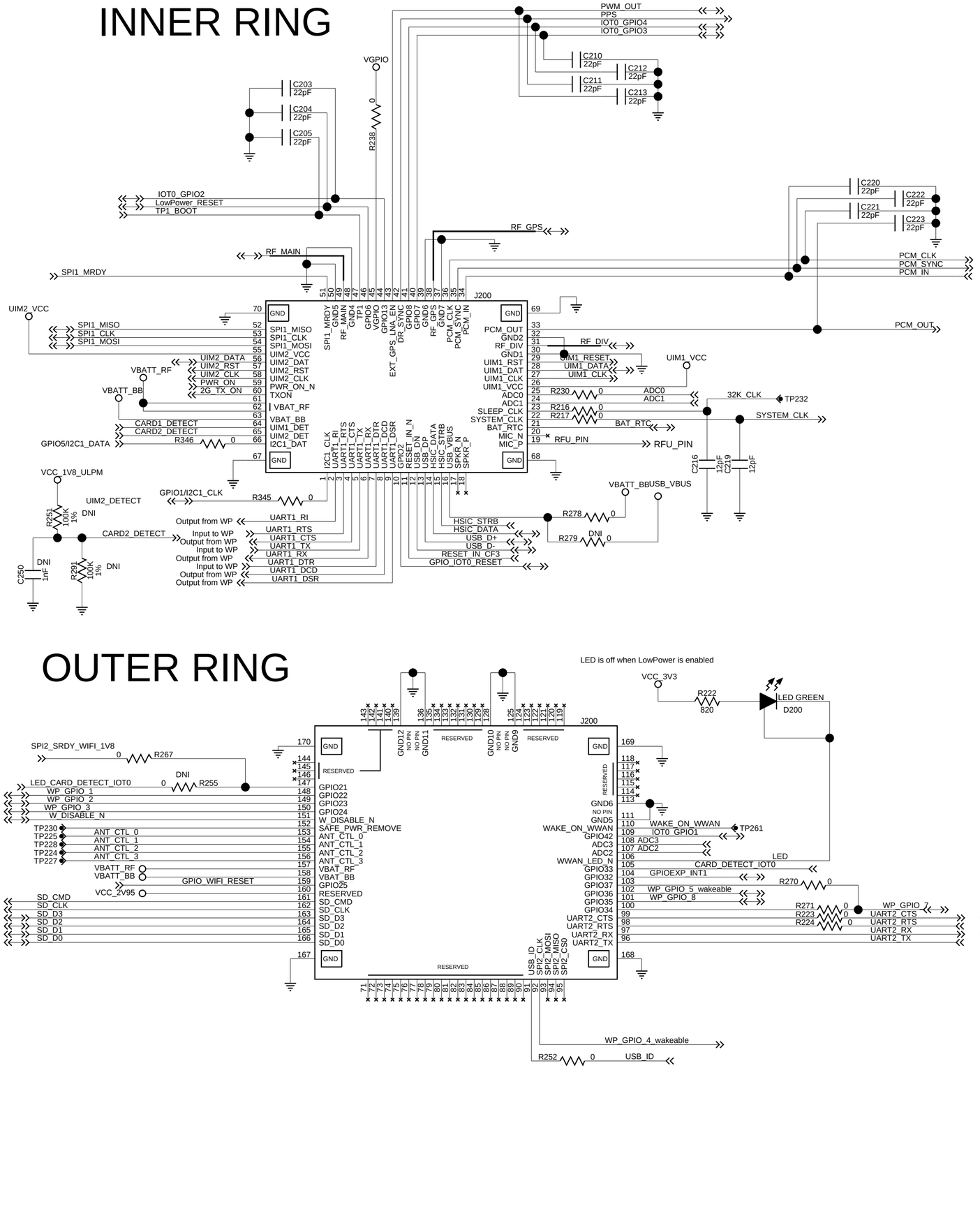
DATE/TIME	26-06-2018_11:08
SCHEMATIC	2500927
PAGE	1 OF 10

INNER RING



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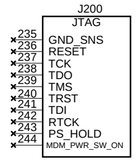
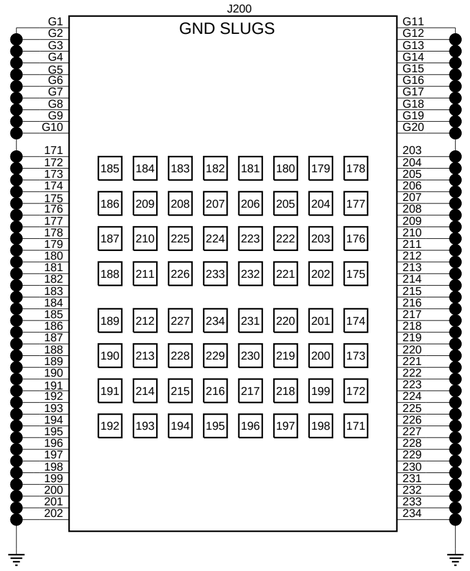
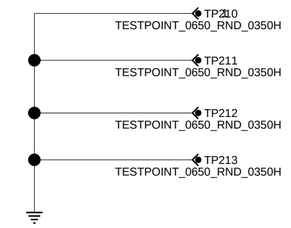


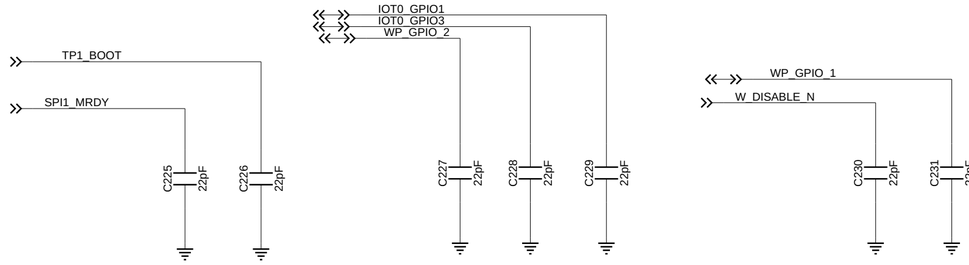
GROUND SLUG

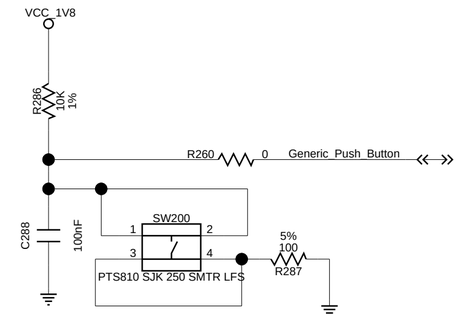


OUTER RING

Mounting Holes







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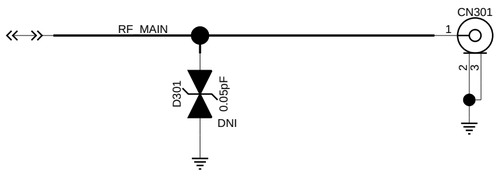
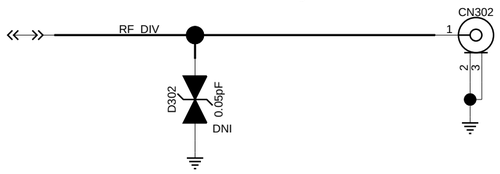
MAIN CF3 Socket

Main Antenna

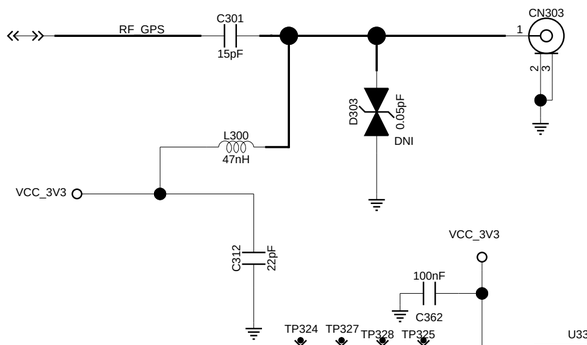


Diversity

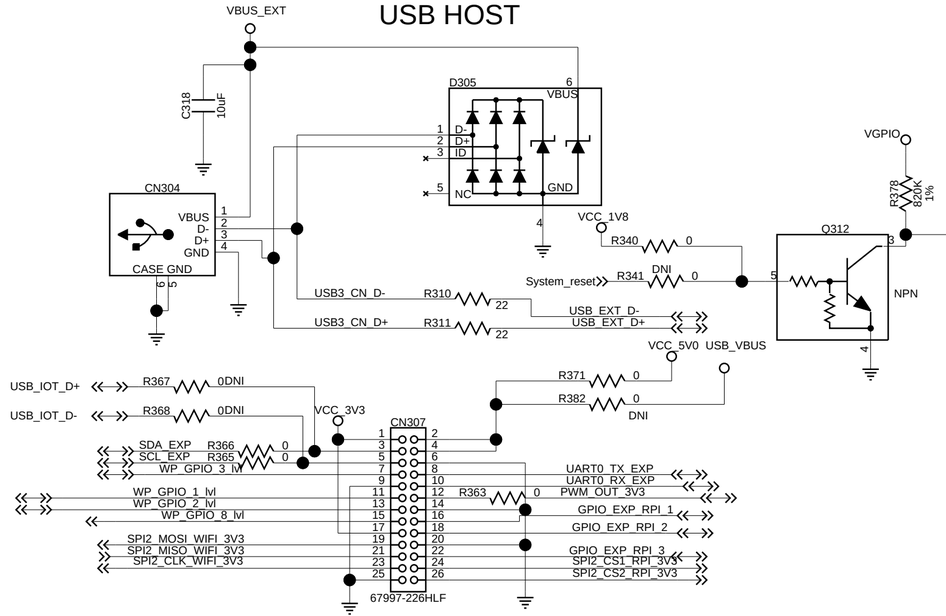


GPS

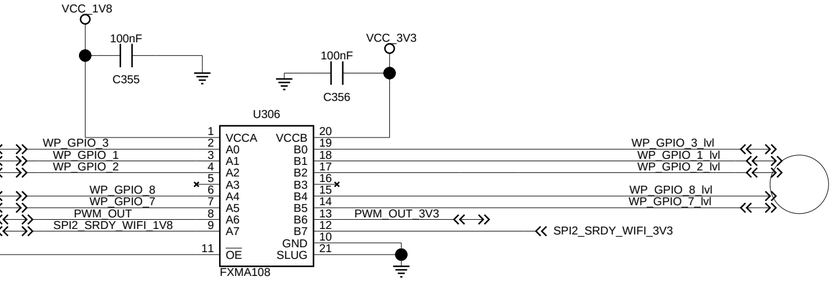
Active Antenna Supply

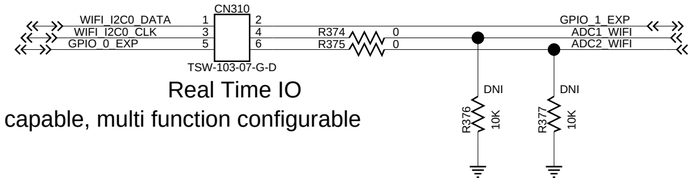


USB HOST



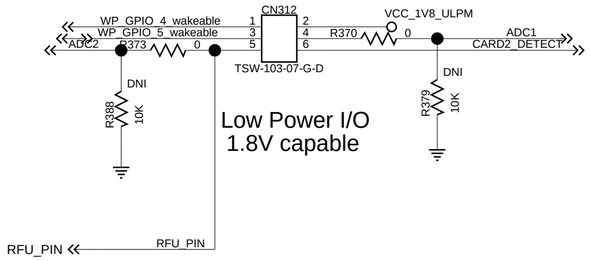
26 pin Raspberry Pi Compatible
3.3V capable





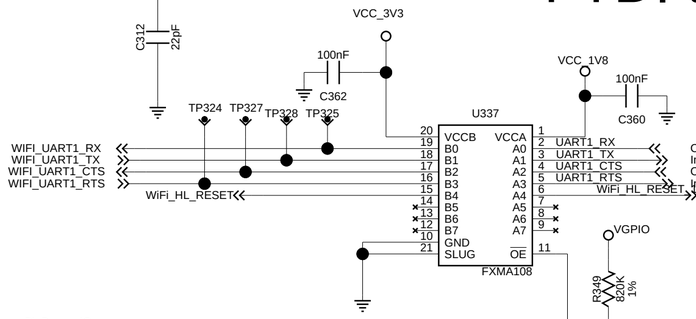
Real Time IO

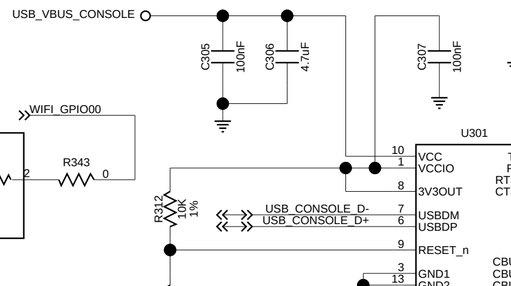
3.3V capable, multi function configurable



Low Power I/O
1.8V capable

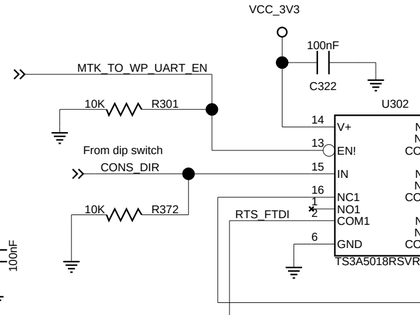
FTDI to Serial

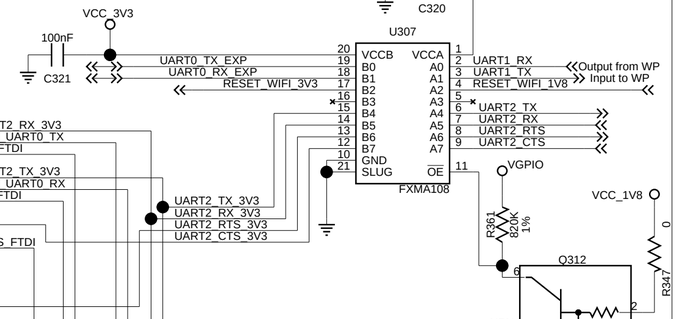


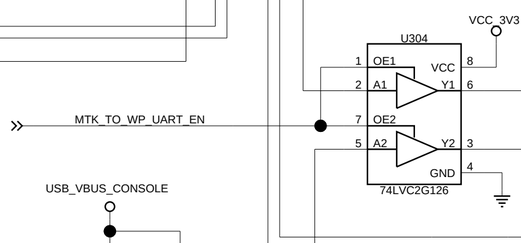


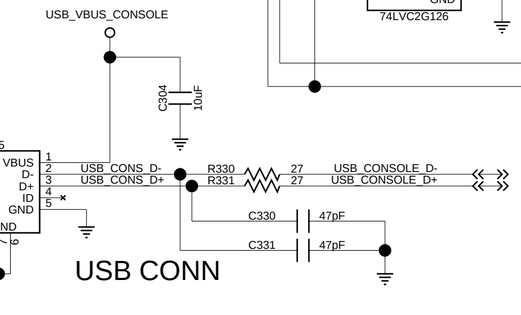
FTDI has ESD protecton

MTK_TO_WP_UART_EN	CONS_DIR	STATUS
L	L	UART <---> WP CONS
L	H	UART <---> MTK CONS
H	X	WP CONS <---> MTK CONS

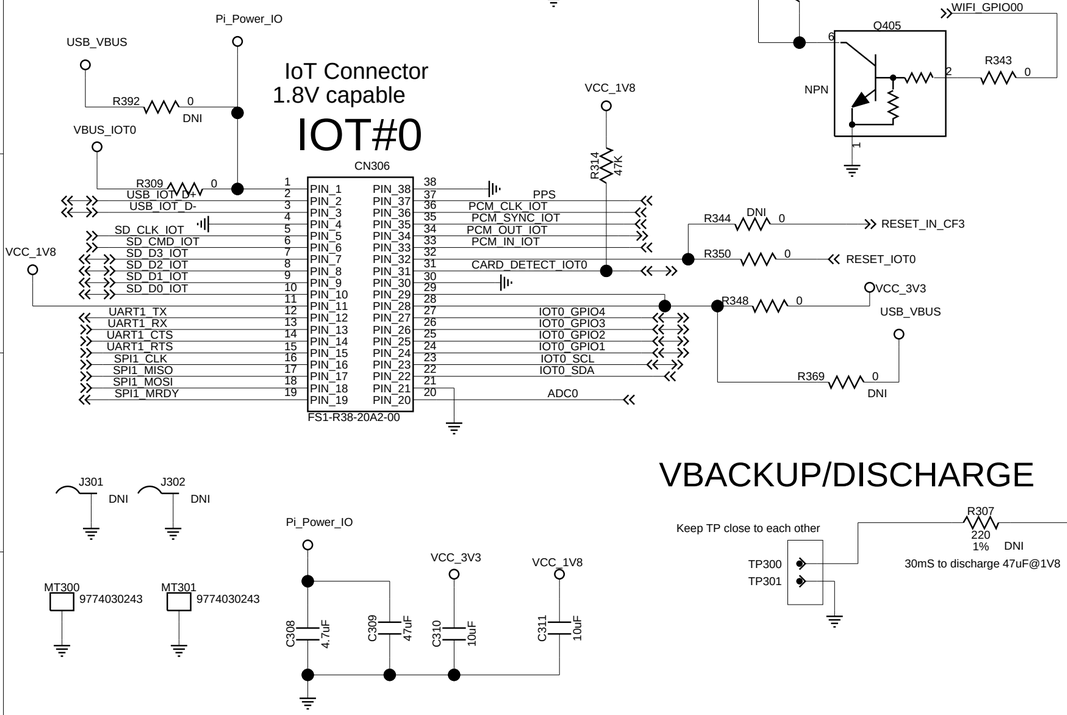




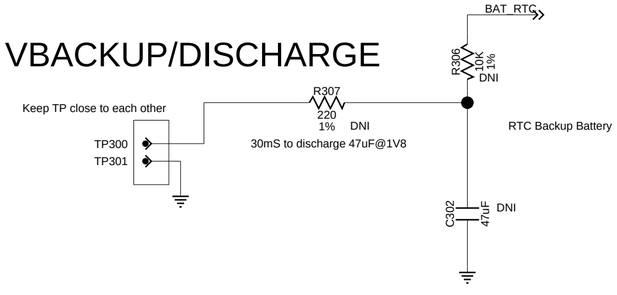




USB CONN



VBACKUP/DISCHARGE



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REV PCB	See P1
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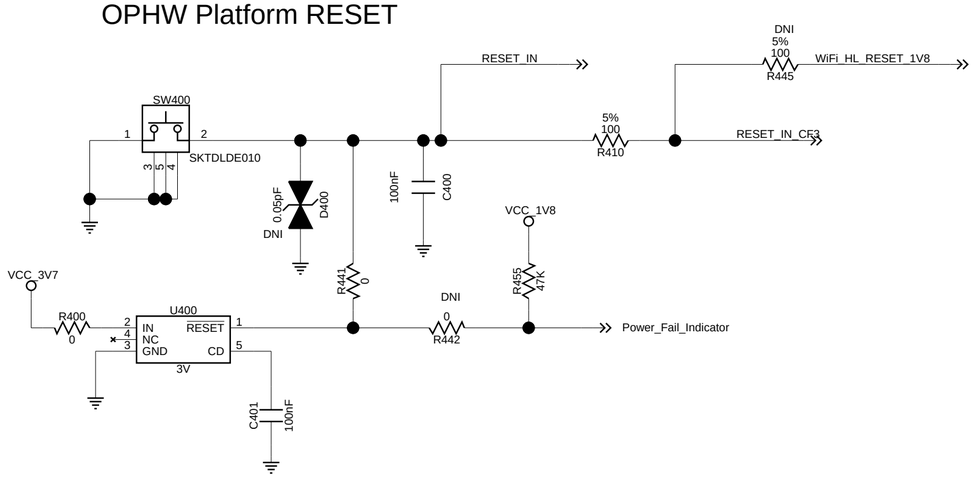
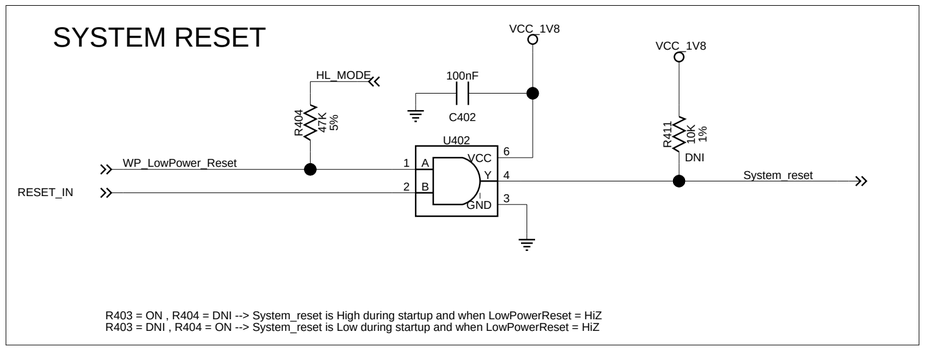
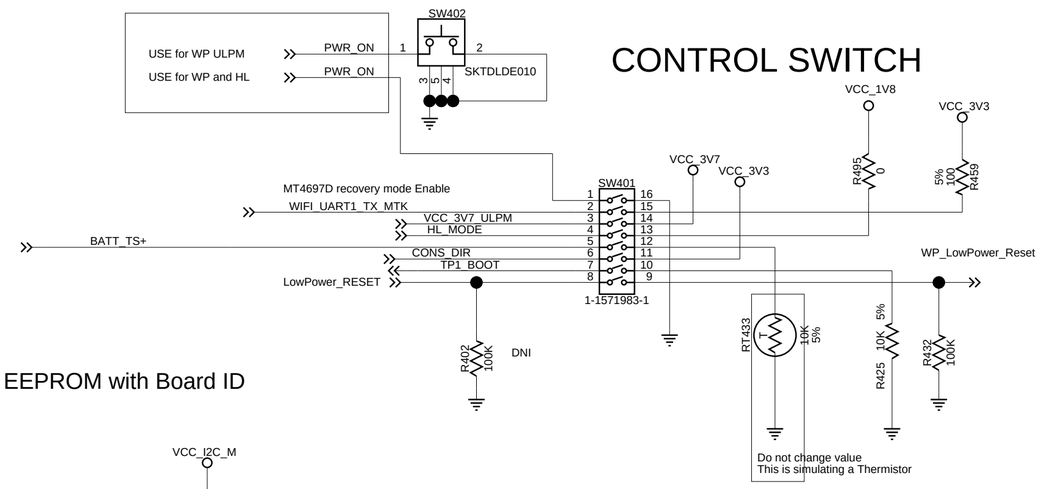
OPHW Platform RESET



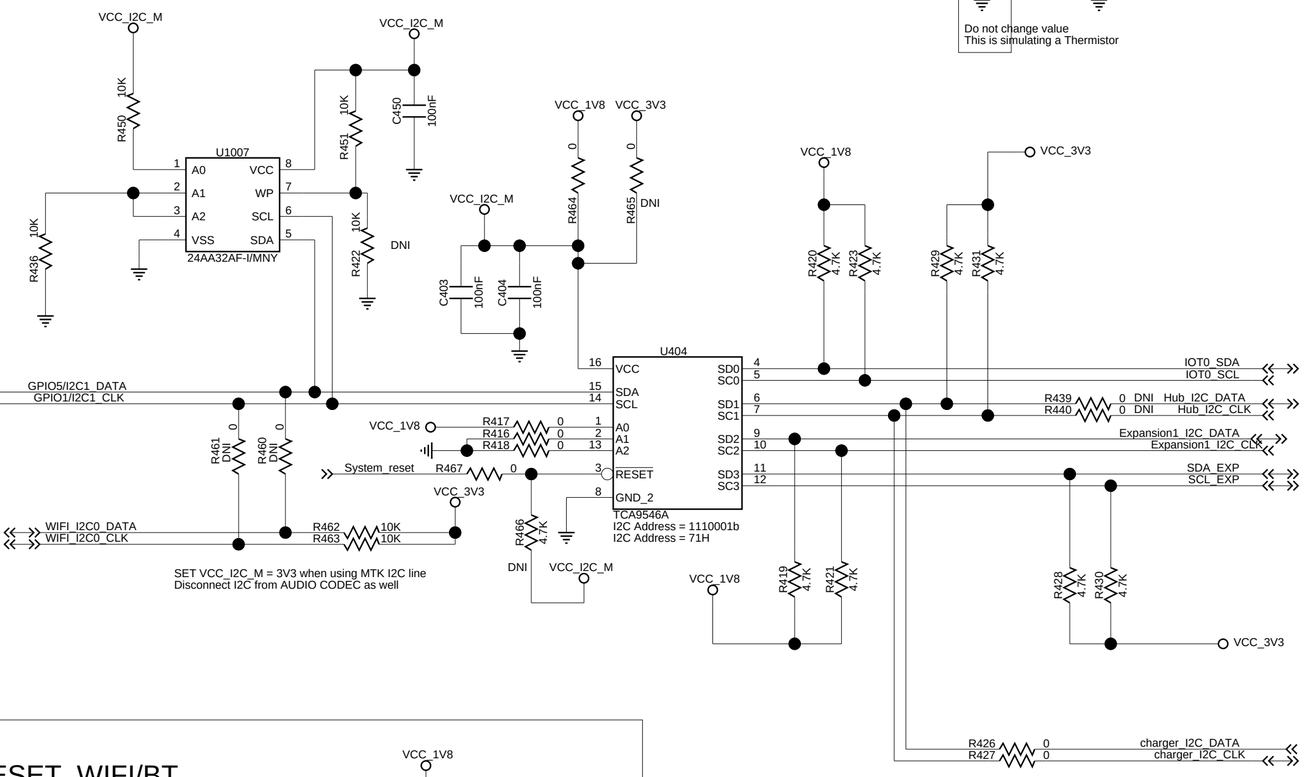
SYSTEM RESET



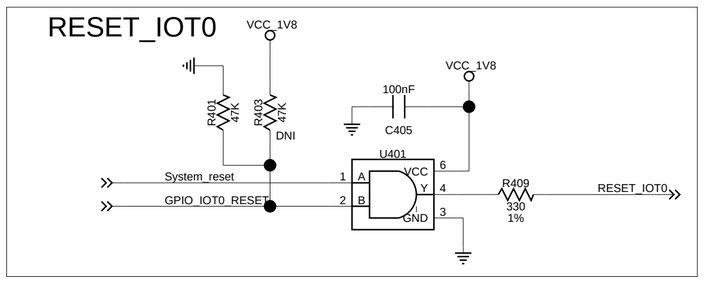
CONTROL SWITCH



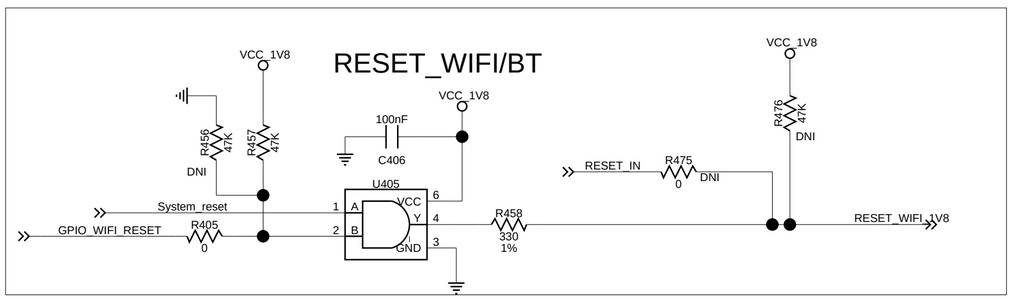
Addr 51h = EEPROM with Board ID



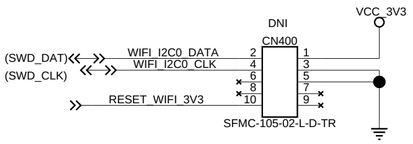
RESET_IOT0



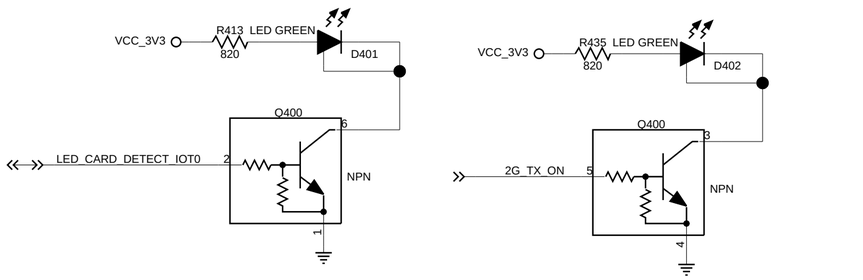
RESET_WIFI/BT

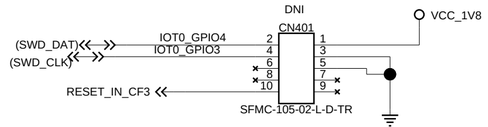


uC DEBUG



LEDs





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SCHEMATIC	2500927
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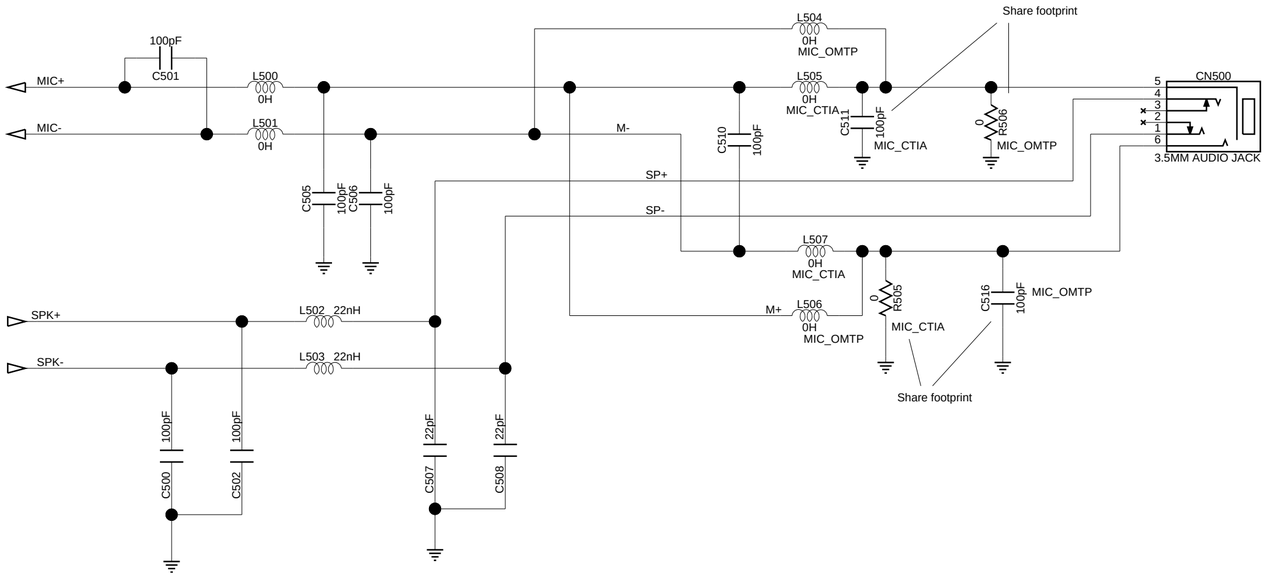
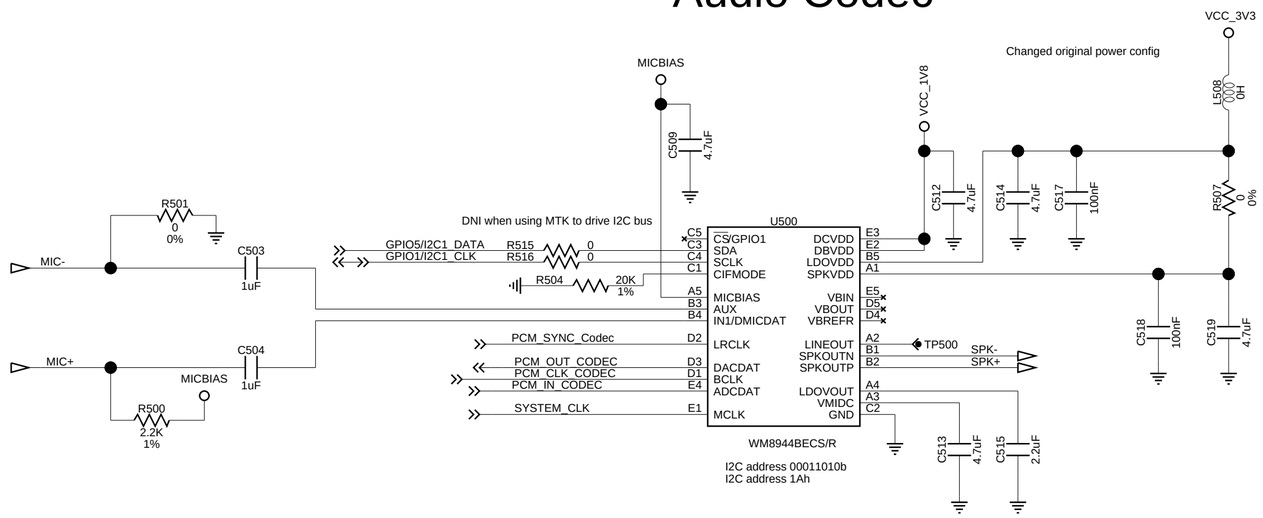
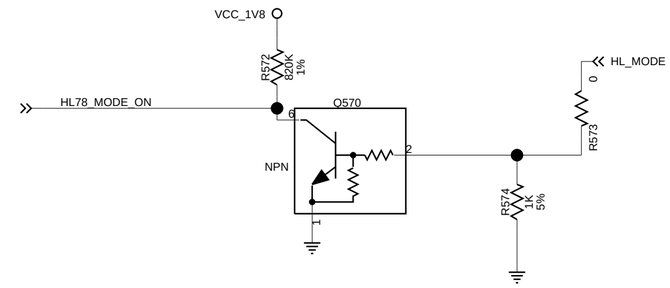
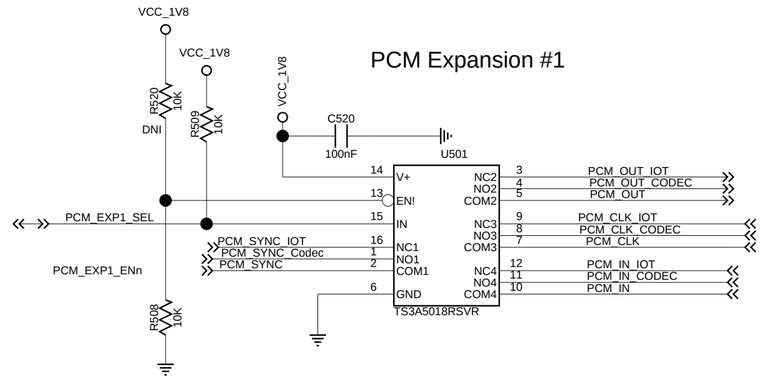
Audio Source Selection

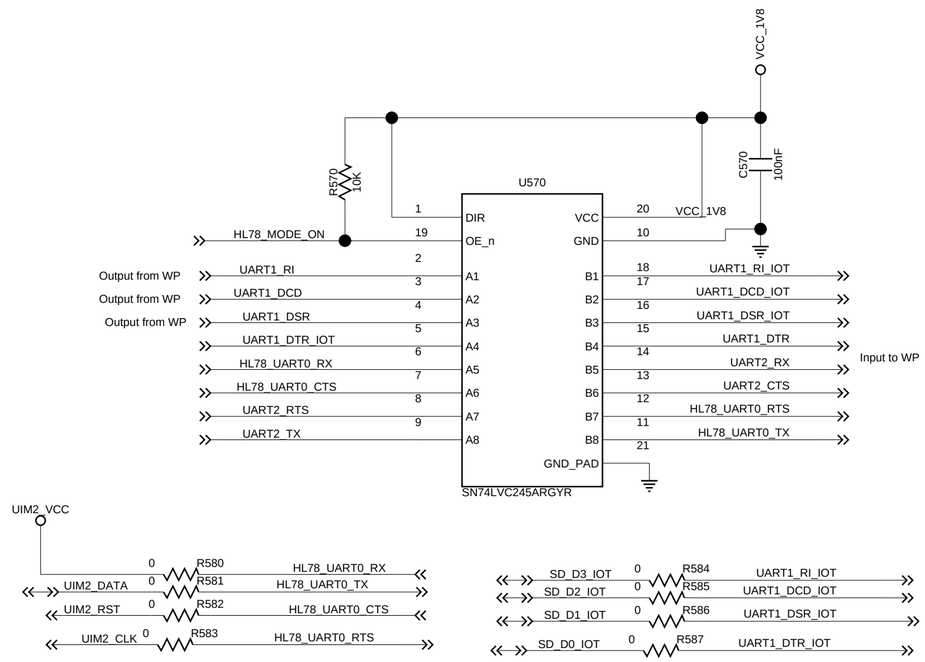


Audio Codec









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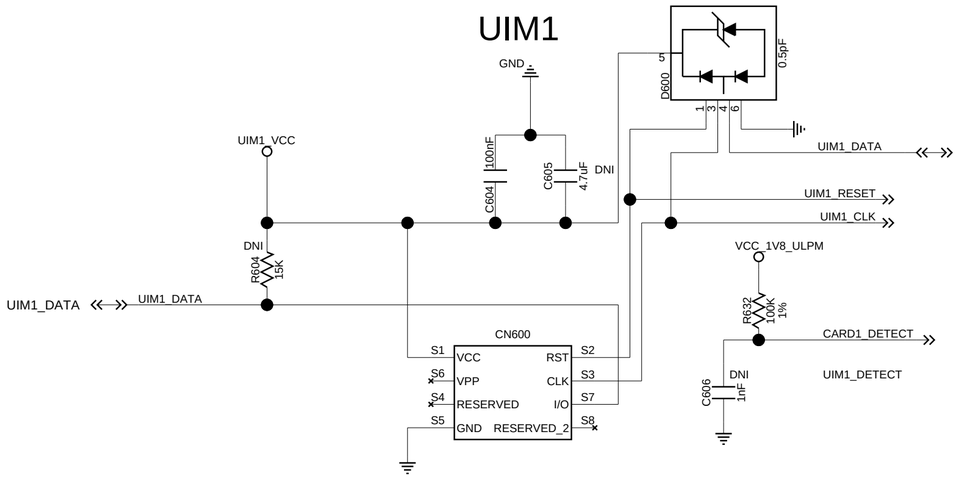
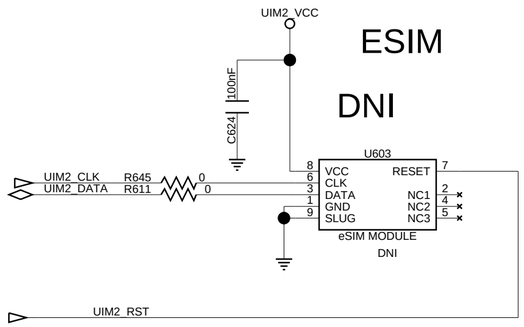
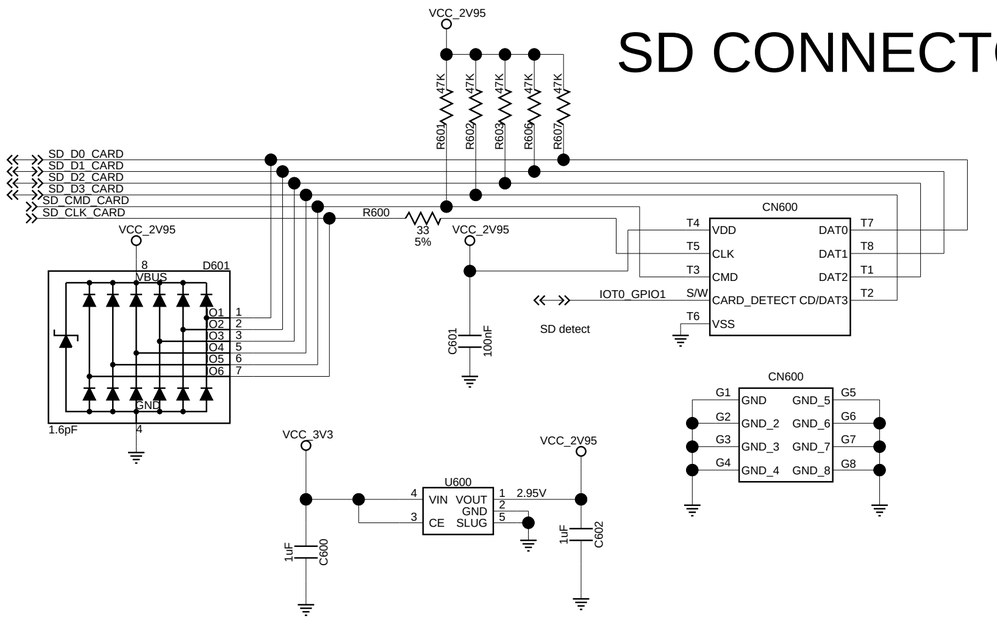
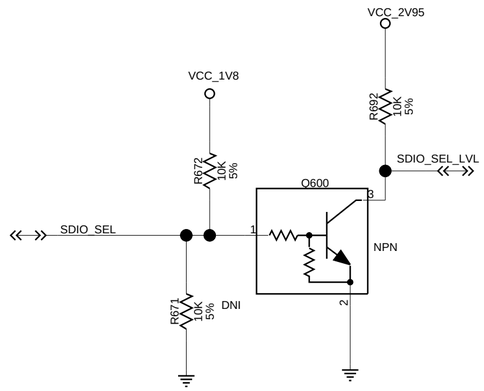




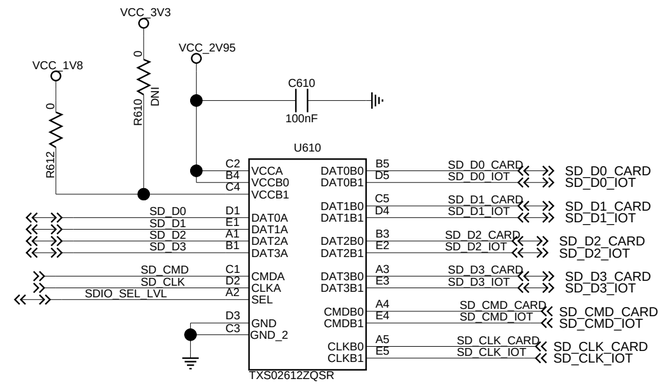
SIM card detected only if present at startup

SD CONNECTOR





SDIO Expansion



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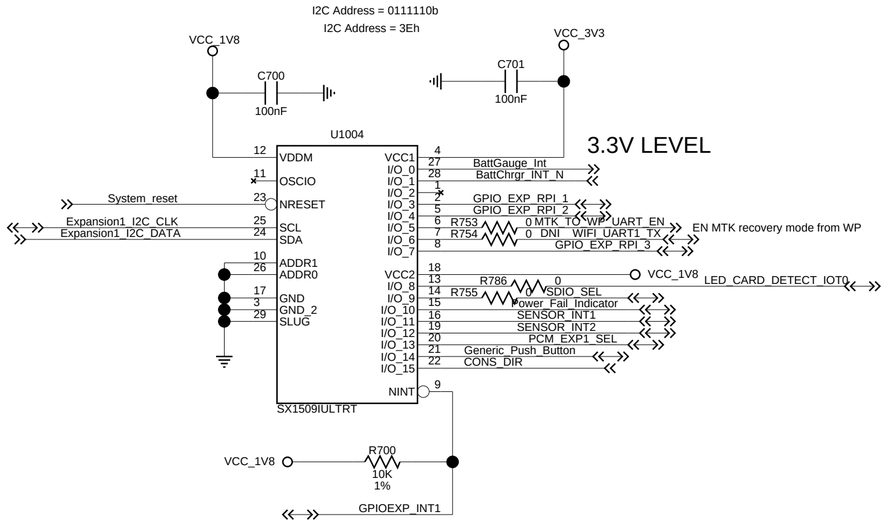
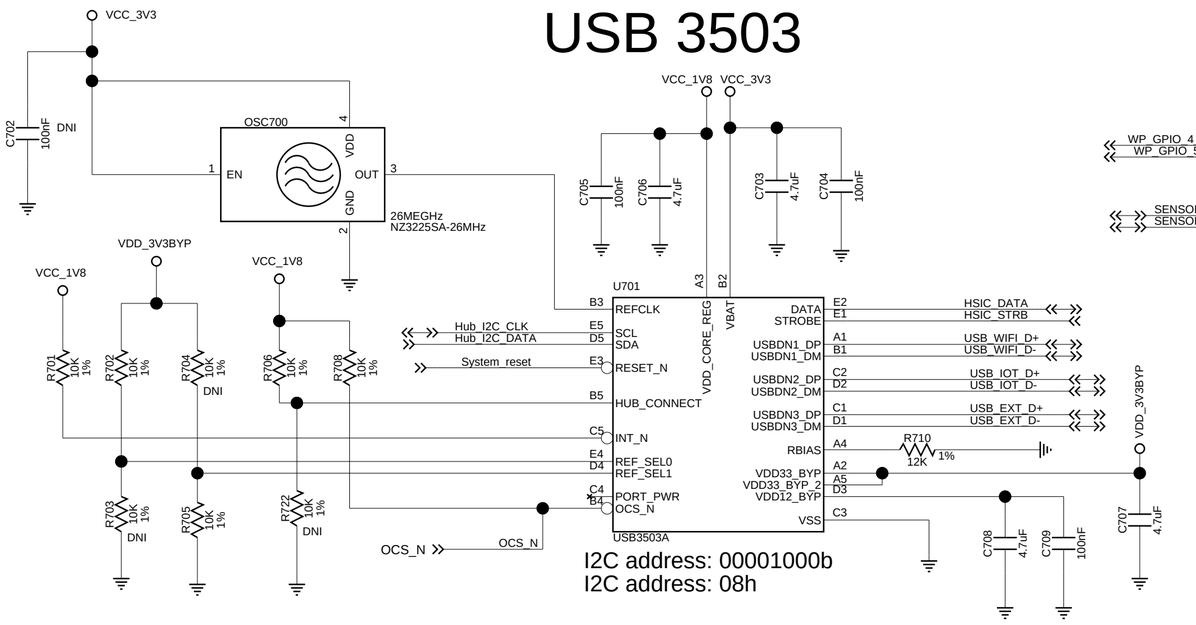
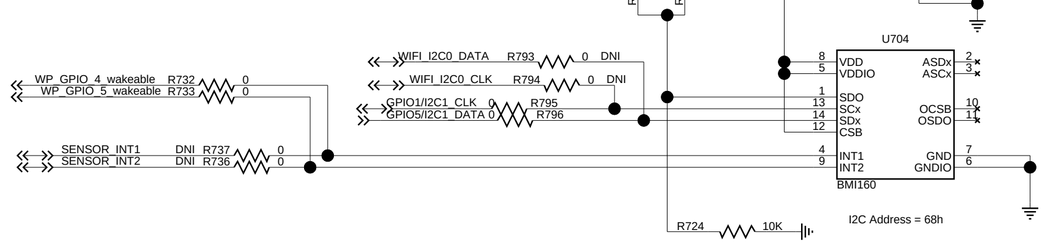
GPIO Expander#1



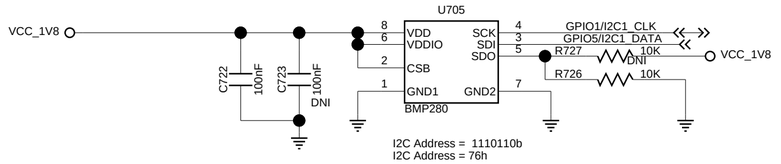
USB 3503



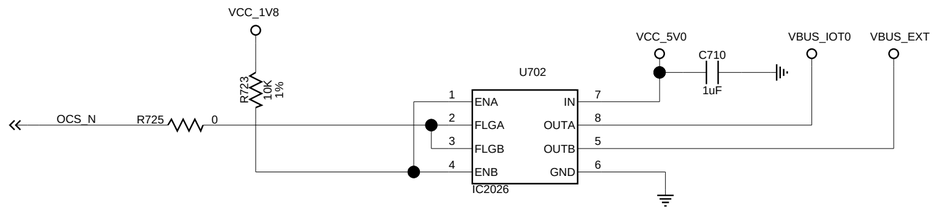


ACCELEROMETER AND GYROSCOPE

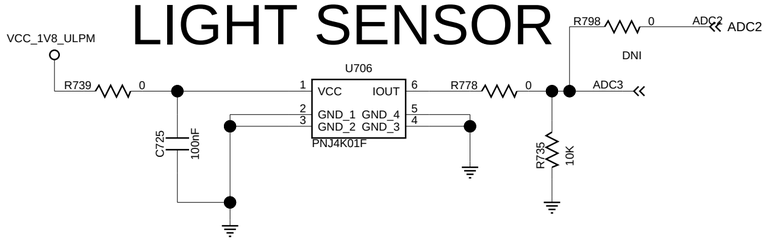
PRESSURE SENSOR



USB Downstream Power



LIGHT SENSOR



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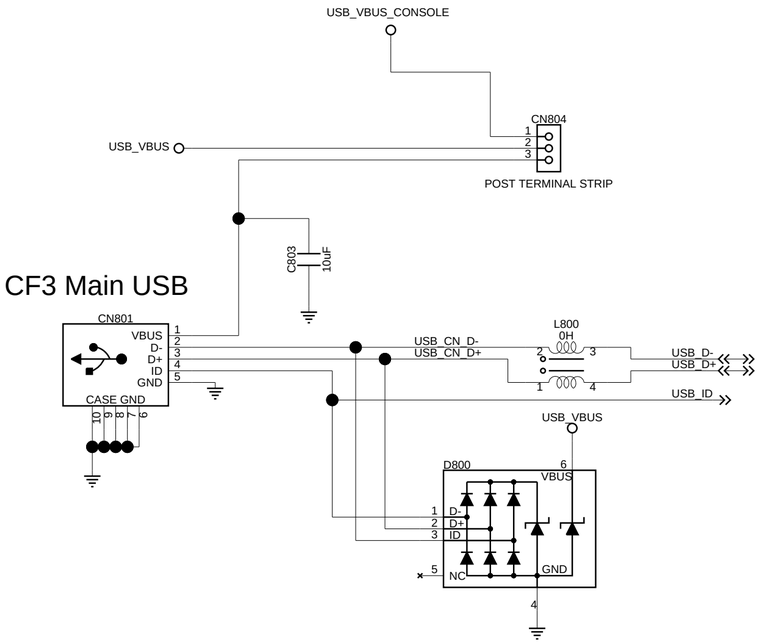
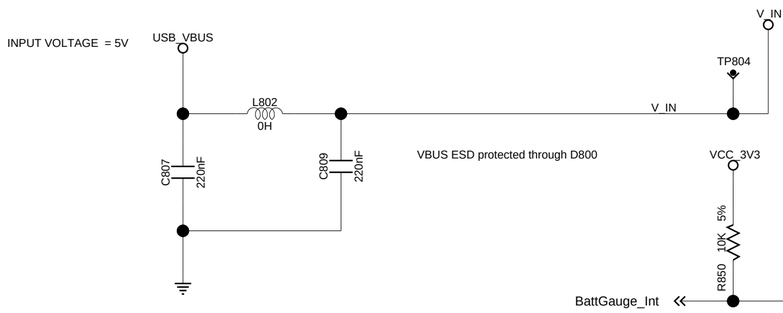
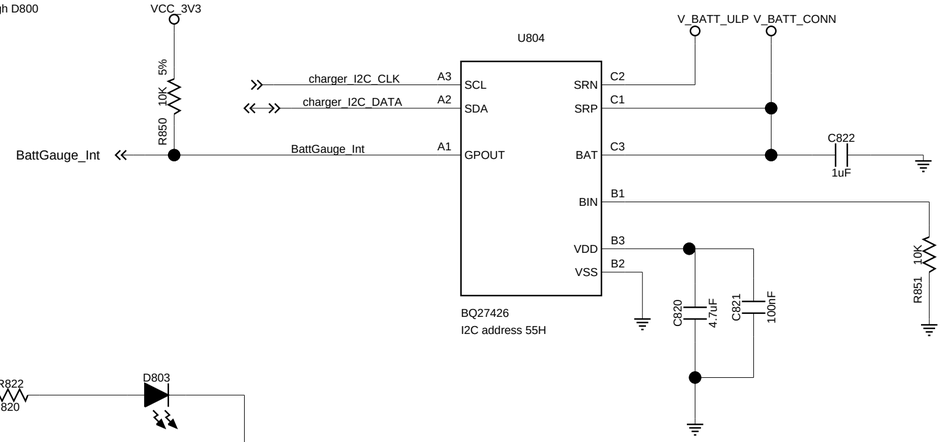
PSU Front End and 3.7V DC/DC converter

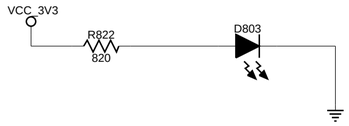
Power can come from either
Main or uUSB-Power connectors

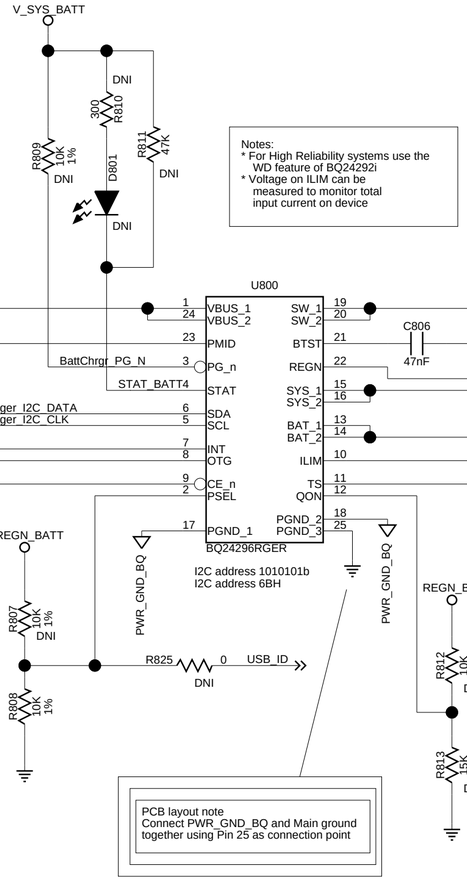
CF3 Main USB



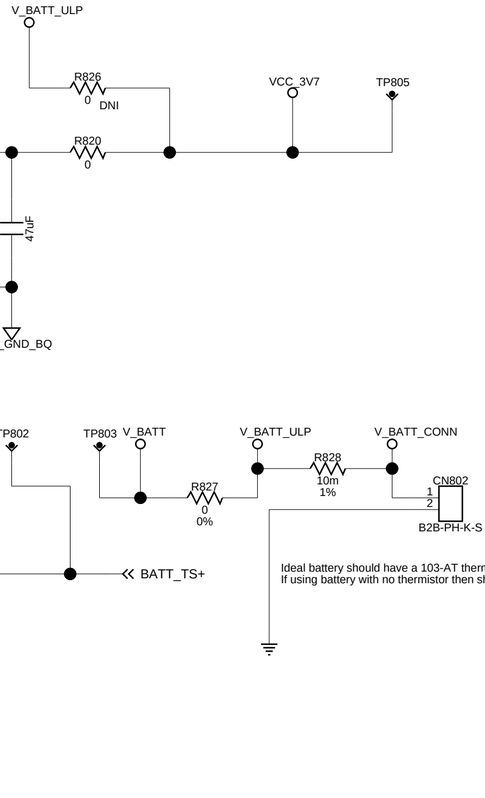


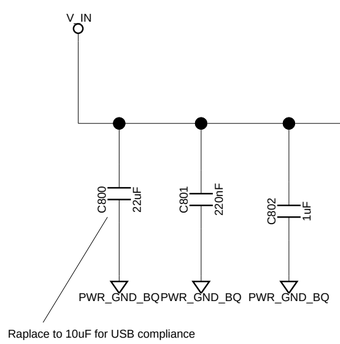


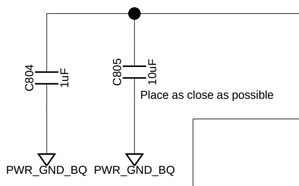


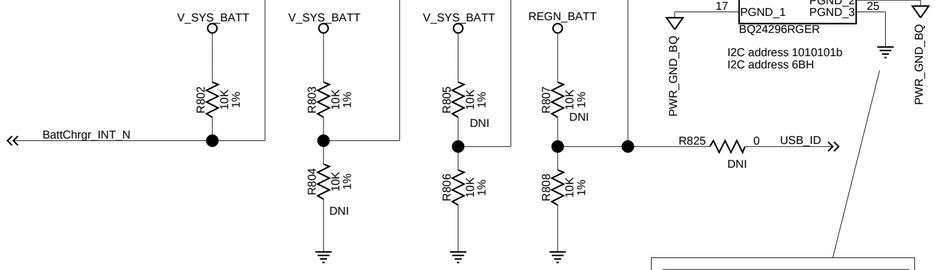


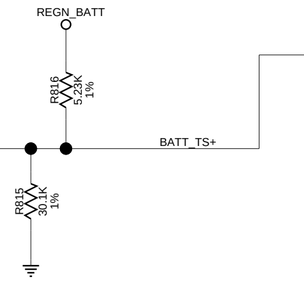
Notes:
* For High Reliability systems use the WD feature of BQ24292i
* Voltage on ILIM can be measured to monitor total input current on device

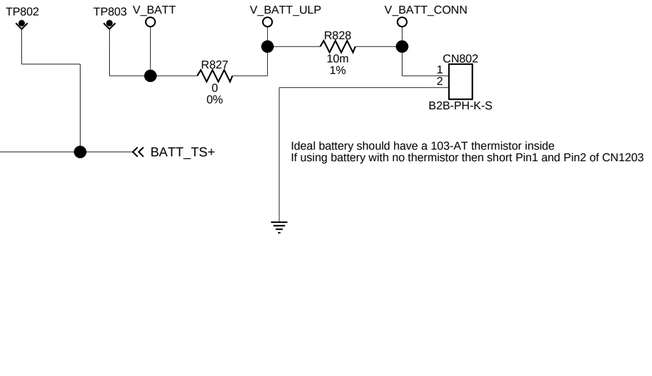












PCB layout note
Connect PWR_GND_BQ and Main ground together using Pin 25 as connection point

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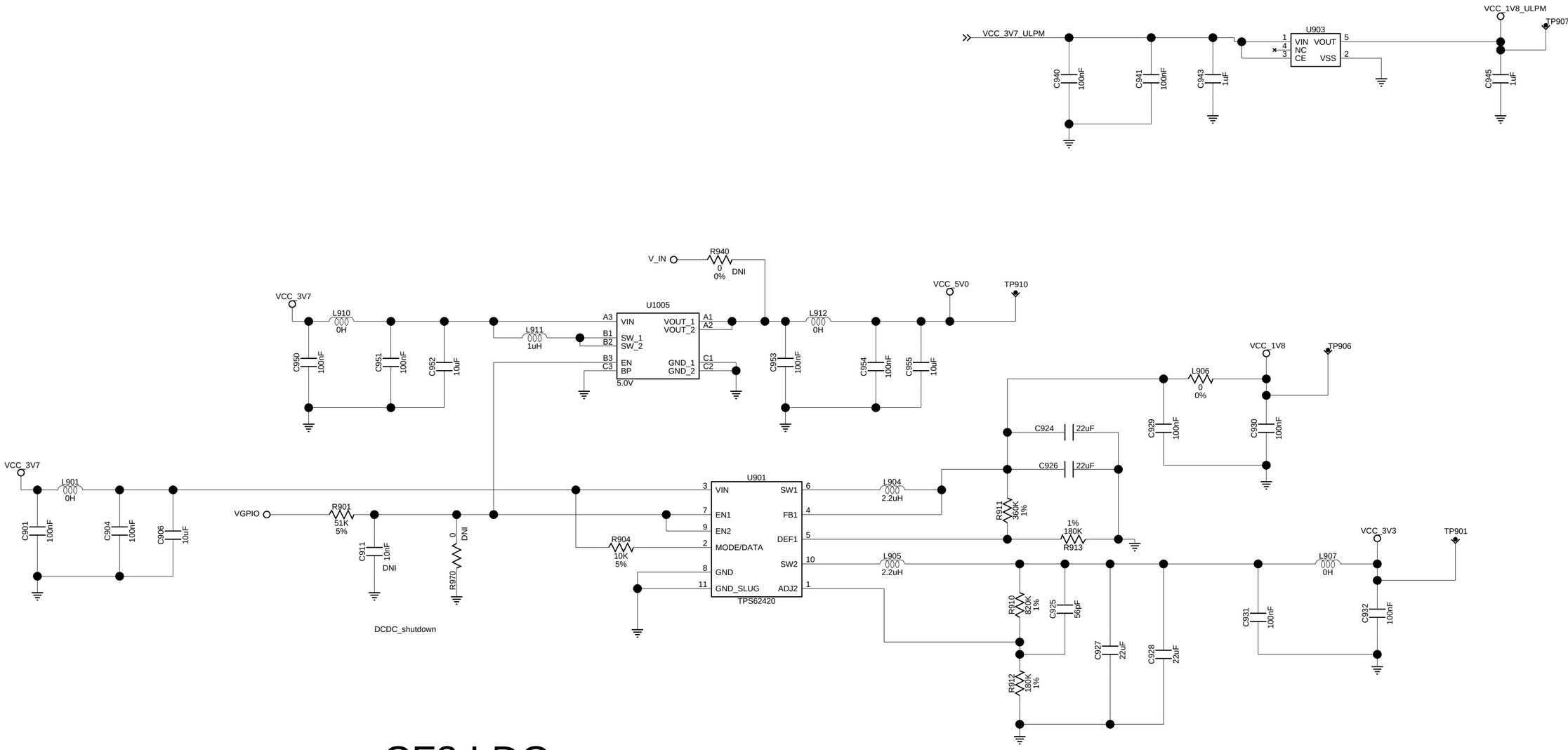
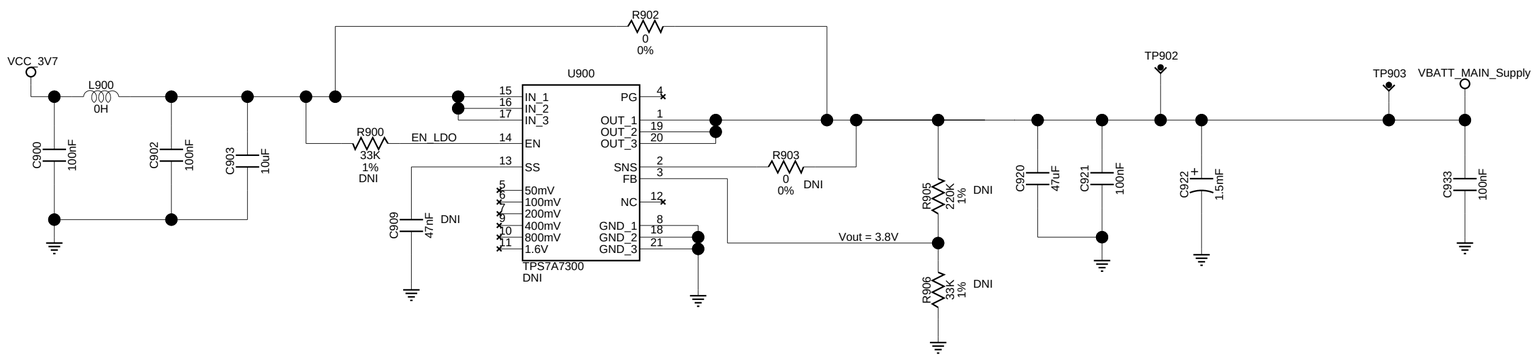
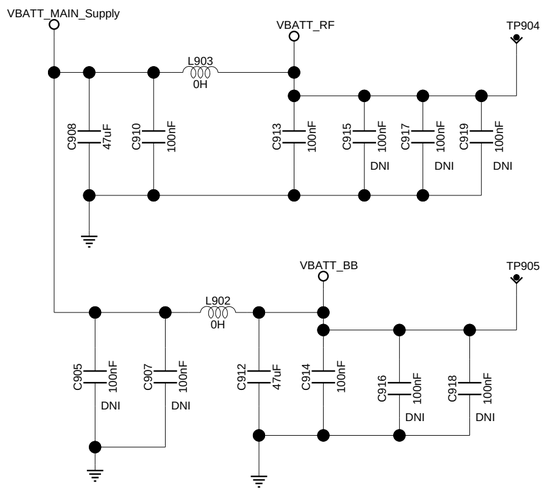
3V3 and 1V8 Buck * 5V0 Boost



CF3 LDO





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RF SECTION

MT7697

Buffer HL Mode

26MHz XTAL

26MHz XTAL config

32KHz Clock derived from XTAL

Flash Normal Mode

Close to Pin31, 43

Close to Pin14, 17, 49

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