MAIN MCU
OPTIONAL FRAM MODULE
U21
FM25V05-GTR
IC1
nRF54L15-QFAA-R
XTAL2
32MHz
Uses internal 9pF caps
Uses internal 9pF caps
TXAL1
32.768kHz
ANT4
nn02-101
J8
TC2050
https://docs-be.nordicsemi.com/bundle/ps_nrf54L15/page/pdf/nRF54L15_nRF54L10_nRF54L05_Preliminary_Datasheet_v0.9.pdf
nRF9151 + LTE & GPS RF frontend
U5
nRF9151-LAXX
CONSIDER BRINGING OUT 50 OHM TRACE WITH IF USED FOR RF CALIBRATION
ANT1
P822601
U8
MM8130-2600RA2
U9
SKY65723-81
ANT2
DSGP.1575.15.4.A.02
U7
SF725006VBDR2500
U6
TP03F303DPVR
J6
Conn_01x12_Pin
J7
TC2050
MIPI RFFE? Prolly not needed, but if space allows, break out TPs
HIGH when GPS used
https://docs-be.nordicsemi.com/bundle/ps_nrf9151/page/nRF9151_PS_v1.0.pdf
USB-IN + CHARGING + WIRELESS CHARGING + REGULATORS
U1
TYPE-C_16PIN_2MD(073)
U2
PRTR5V0U2X-ES
D5
LED
U17
TPS2121RUXR
USB VBUS GETS PRIORITY OVER WIRELESS CHARGING
U3
TPS62840DLCR
U4
TPS62840DLCR
L5
2.2uH
L6
BLM21AG102SN1D
L7
2.2uH
L8
BLM21AG102SN1D
MODE low = Power-Saving Mode (use unless the ripple is too high)
3.3V 750mA
3.3V 750mA
L3
BLM21AG102SN1D
L1
2.2uH
L2
2.2uH
L4
BLM21AG102SN1D
I2C ADDRESS: 0x6B
PMIC1
NPM1300-QEAA-R7
VSYS provides unregulated output, up to 1340mA when on battery
NTC needs to be tied to GND using R3 if thermistor not used.
BATTERY JST-PH
BT1
POWER PROFILING
U18
BQ25013BRHLR
U19
DMP1046UFDB-7
Values of R-ITOD, R-OS and R-ILIM to be tested and verified.
https://www.ti.com/lit/ds/symlink/tps62840.pdf
https://docs-be.nordicsemi.com/bundle/ps_npm1300/page/nPM1300_PS_v1.2.pdf
WIFI RF FRONTEND
U20
TCX1004AG.LF
XTAL3
SX0840_000F0810F30
IC2
NRF7002-QFAA-R
U10
LFD1820A50C1D247
U11
MMB130-2600RA2
ANT3
nn02-101
https://docs-be.nordicsemi.com/bundle/ps_nrf7002/attach/nRF7002_PS_v1.2.pdf
LORA RF FRONTEND
U12
SX1268SAS+T-X1
U13
MMB130-2600RA2
U14
SKY13351-378LF
ANT5
ACAG1204-433-T
ANT6
U_FL-R-SMT-1(80)
PICK CHIP/HELIX ANTENNA
DISPLAY
D1
PMEG3005EJ.115
D2
PMEG3005EJ.115
D3
PMEG3005EJ.115
Q1
SI1308EDL
U15
AFC24-S24FIC-00
CONNECTION FOR E-INK DISPLAY SUCH AS GDEY0154Z90
FIGURE OUT IF I WANNA MAKE MY OWN MODULES THAT WOULD MAYBE SOLDER DIRECTLY ONTO THE PCB
(ADD PADS APPROPRIATELY)
SRR
LEGACY SRR CONNECTION
1mm PITCH ORIGINAL SRR CONN
I/O EXPANDER FOR nRF54
U24
PCF8574RGTR(UMW)
MODE
UART TO USB
U23
TLV704330DBVR
U22
CH340E
TESTPOINTS
Drawn by Matěj Neumann
Sheet: /
File: O-Gateway.kicad_sch
Title: OriLive O-Gateway
Size: A1
Date: 2025-06-19
Rev: 0.1
KiCad E.D.A. 9.0.2
Id: 1/1