Power

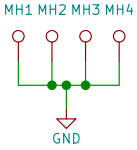
Radioberry-PWR.sch

GPIO

Raspberry-GPIO.sch

Frontend

Radioberry-Frontend.sch



PA3GSB

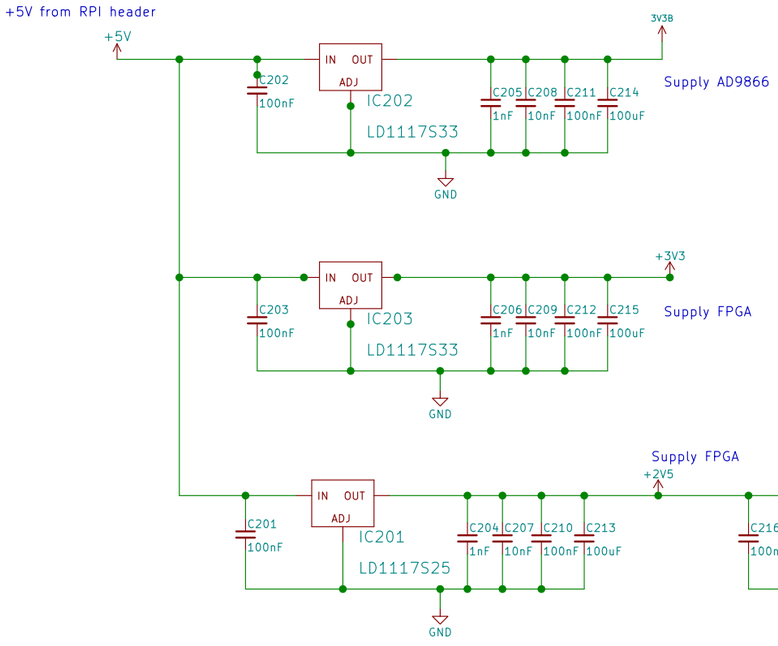
AppMind

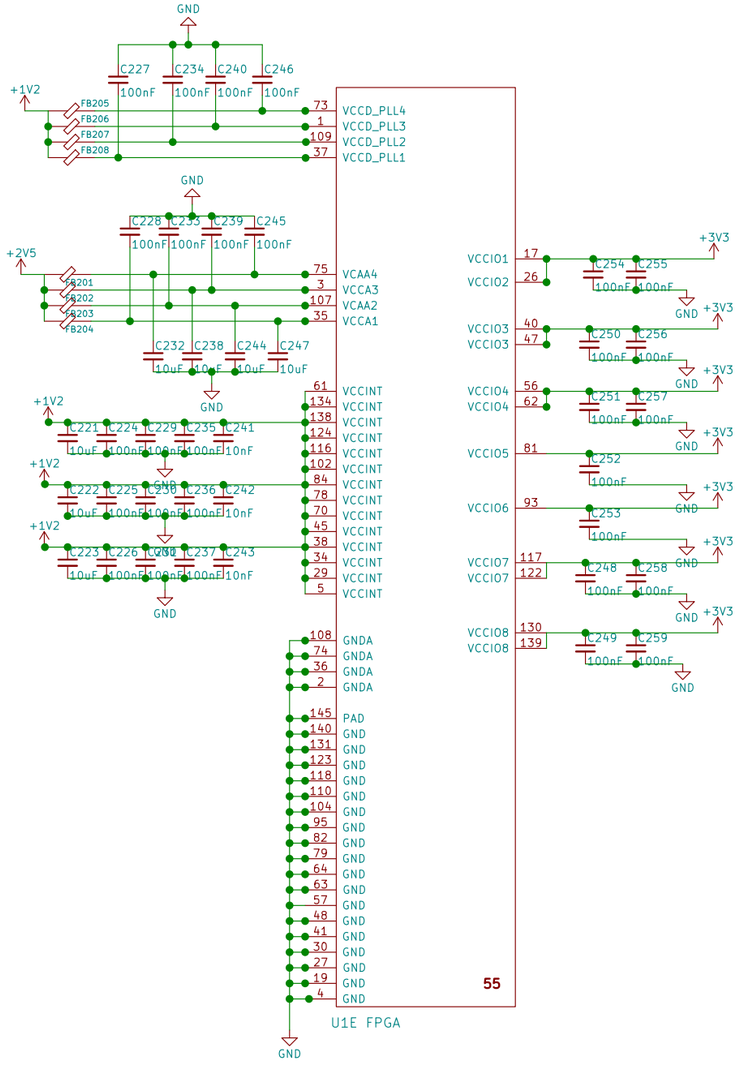
Sheet: /

File: Radioberry.sch

Title: RadioBerry V2.0

Size: A4	Date: 2017-11-29	**Rev: beta2**
KiCad E.D.A. kicad 4.0.6		Id: 1/4

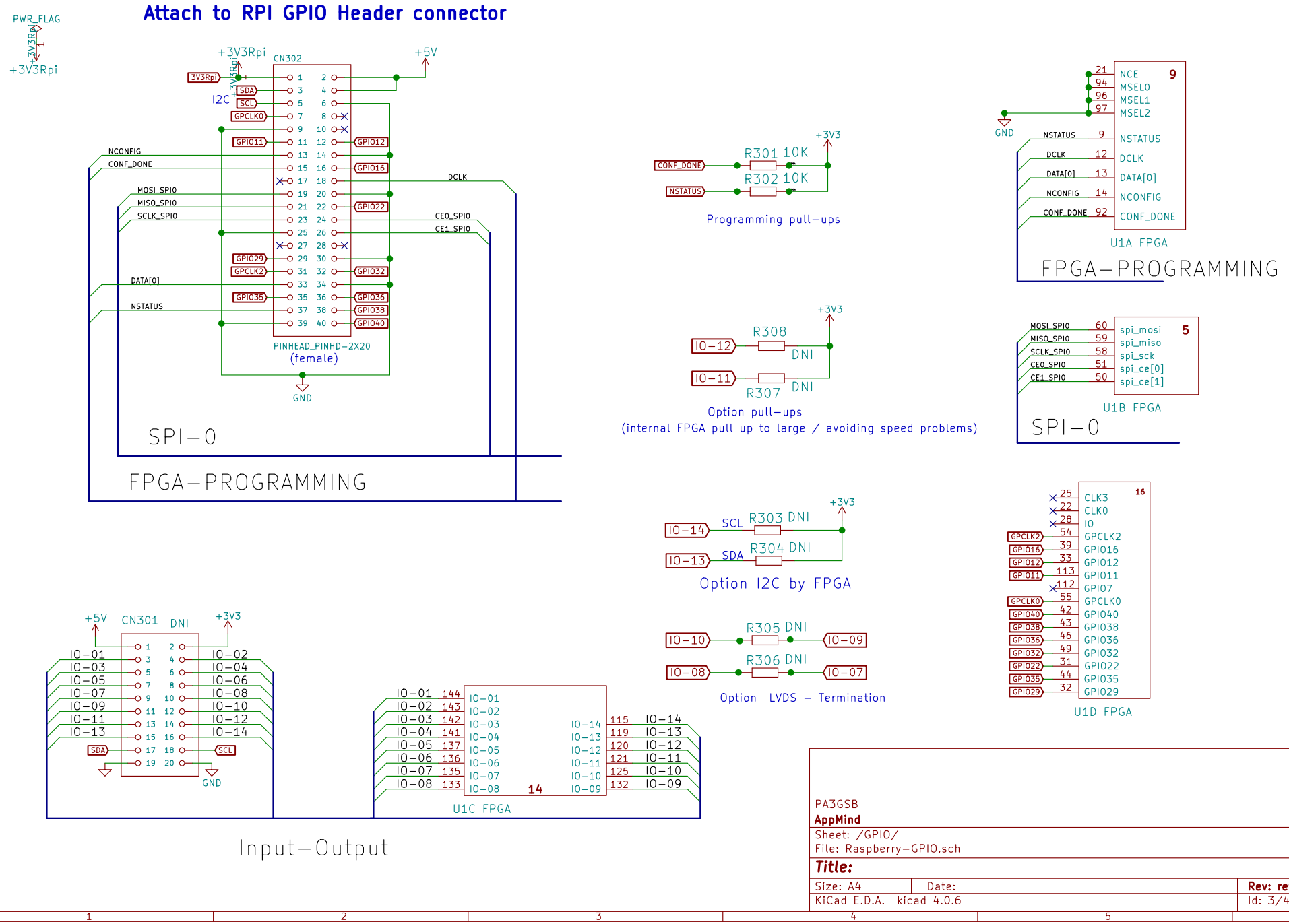


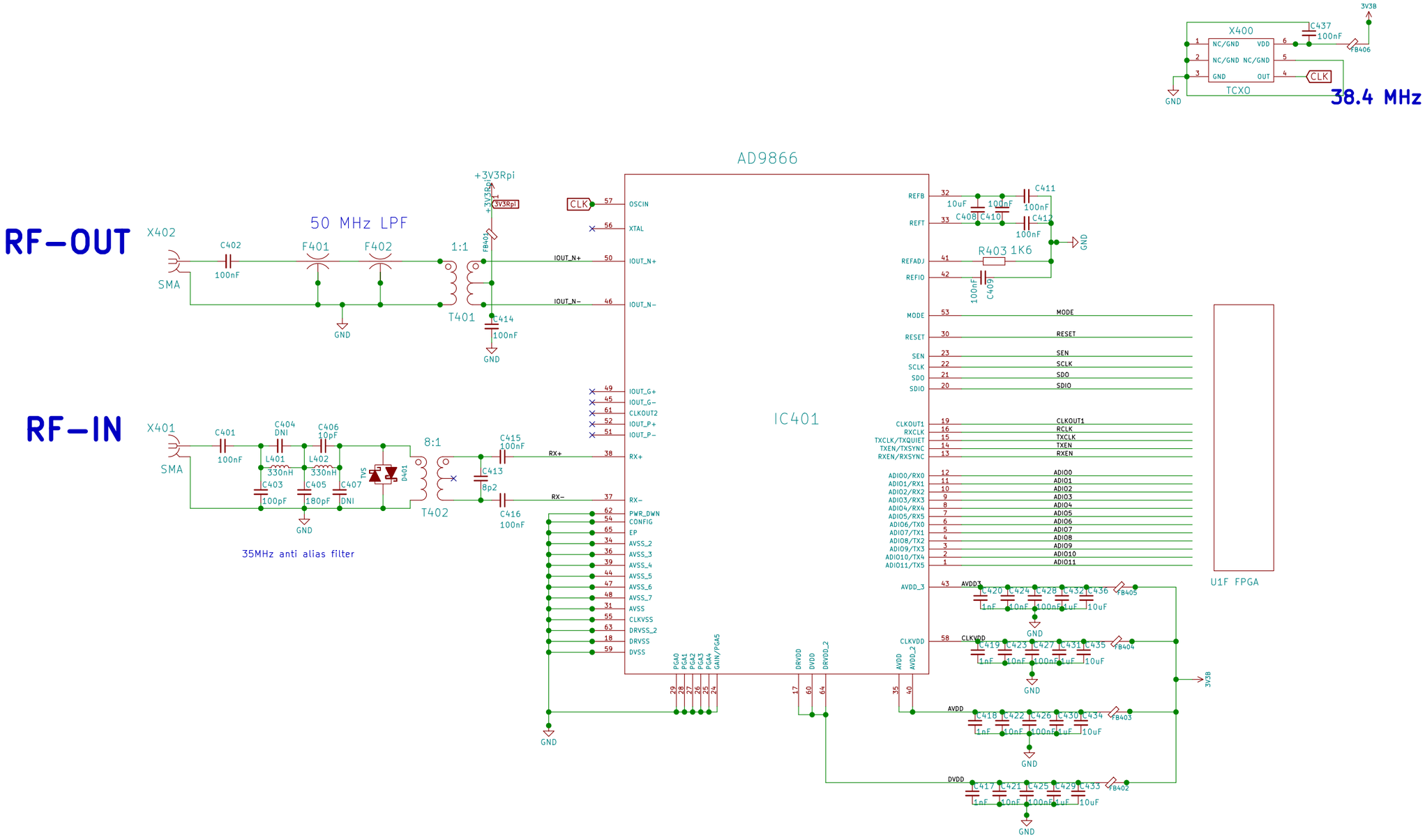


Cyclone 10LP : Possible use : 10CL016 or 10CL025

PA3GSB
AppMind

Sheet: /Power/		
File: Radioberry-PWR.sch		
Title:		
Size: A3	Date:	**Rev: rev 2.0-beta1**
KiCad E.D.A. kicad 4.0.6		Id: 2/4


Attach to RPI GPIO Header connector
PWR_FLAG
+3V3Rpi
+3V3Rpi
CN302
+5V
3V3Rpi
I2C
SDA
SCL
GPCLK0
GPIO11
GPIO12
NCONFIG
CONF_DONE
GPIO16
DCLK
MOSI_SPI0
MISO_SPI0
GPIO22
SCLK_SPI0
CE0_SPI0
CE1_SPI0
GPIO29
GPCLK2
GPIO32
DATA[0]
GPIO35
GPIO36
NSTATUS
GPIO38
GPIO40
PINHEAD_PINHD-2X20
(female)
GND
SPI-0
FPGA-PROGRAMMING
+3V3
R301 10K
R302 10K
CONF_DONE
NSTATUS
Programming pull-ups
+3V3
R308
DNI
IO-12
IO-11
R307
DNI
Option pull-ups
(internal FPGA pull up to large / avoiding speed problems)
+3V3
IO-14
SCL
R303 DNI
IO-13
SDA
R304 DNI
Option I2C by FPGA
R305 DNI
IO-10
IO-09
R306 DNI
IO-08
IO-07
Option LVDS - Termination
+5V
CN301
DNI
+3V3
IO-01
IO-02
IO-03
IO-04
IO-05
IO-06
IO-07
IO-08
IO-09
IO-10
IO-11
IO-12
IO-13
IO-14
SDA
SCL
GND
Input-Output
IO-01 144
IO-02 143
IO-03 142
IO-04 141
IO-05 137
IO-06 136
IO-07 135
IO-08 133
14
U1C FPGA
115 IO-14
119 IO-13
120 IO-12
121 IO-11
125 IO-10
132 IO-09
GND
NCE
MSEL0
MSEL1
MSEL2
9
NSTATUS
DCLK
DATA[0]
NCONFIG
CONF_DONE
U1A FPGA
FPGA-PROGRAMMING
MOSI_SPI0
MISO_SPI0
SCLK_SPI0
CE0_SPI0
CE1_SPI0
spi_mosi
spi_miso
spi_sck
spi_ce[0]
spi_ce[1]
5
U1B FPGA
SPI-0
CLK3
CLK0
IO
16
GPCLK2
GPIO16
GPIO12
GPIO11
GPIO7
GPCLK0
GPIO40
GPIO38
GPIO36
GPIO32
GPIO22
GPIO35
GPIO29
U1D FPGA
PA3GSB
AppMind
Sheet: /GPIO/
File: Raspberry-GPIO.sch
Title:
Size: A4
Date:
Rev: rev 2.0-beta1
KiCad E.D.A. kicad 4.0.6
Id: 3/4


RF-OUT
X402
SMA
C402
100nF
50 MHz LPF
F401
F402
1:1
T401
+3V3Rpi
3V3Rpi
FB401
C414
100nF
GND
CLK
IOUT_N+
IOUT_N-
AD9866
IC401
OSCIN
XTAL
IOUT_N+
IOUT_N-
IOUT_G+
IOUT_G-
CLKOUT2
IOUT_P+
IOUT_P-
RX+
RX-
PWR_DWN
CONFIG
EP
AVSS_2
AVSS_3
AVSS_4
AVSS_5
AVSS_6
AVSS_7
AVSS
CLKVSS
DRVSS_2
DRVSS
DVSS
PGA0
PGA1
PGA2
PGA3
PGA4
GAIN/PGA5
DRVDD
DVDD
DRVDD_2
AVDD
AVDD_2
REFB
REFT
REFADJ
REFIO
10uF
100nF
C411
C408
C410
C412
R403 1K6
C409
MODE
RESET
SEN
SCLK
SDO
SDIO
CLKOUT1
RCLK
TXCLK
TXEN
RXEN
ADIO0
ADIO1
ADIO2
ADIO3
ADIO4
ADIO5
ADIO6
ADIO7
ADIO8
ADIO9
ADIO10
ADIO11
AVDD_3
CLKVDD
AVDD
DVDD
C420
C424
C428
C432
C436
FB405
C419
C423
C427
C431
C435
FB404
C418
C422
C426
C430
C434
FB403
C417
C421
C425
C429
C433
FB402
1nF
10nF
1uF
10uF
3V3B
U1F FPGA
X400
NC/GND
VDD
OUT
TCXO
C437
FB406
38.4 MHz
RF-IN
X401
SMA
C401
100nF
C404
DNI
C406
10pF
L401
330nH
L402
330nH
C403
100pF
C405
180pF
C407
DNI
TVS
D401
8:1
T402
C415
100nF
C413
8p2
C416
100nF
35MHz anti alias filter
PA3GSB
AppMind
Sheet: /Frontend/
File: Radioberry-Frontend.sch
Title:
Size: A3
Date:
Rev: rev 2.0-beta1
KiCad E.D.A. kicad 4.0.6
Id: 4/4