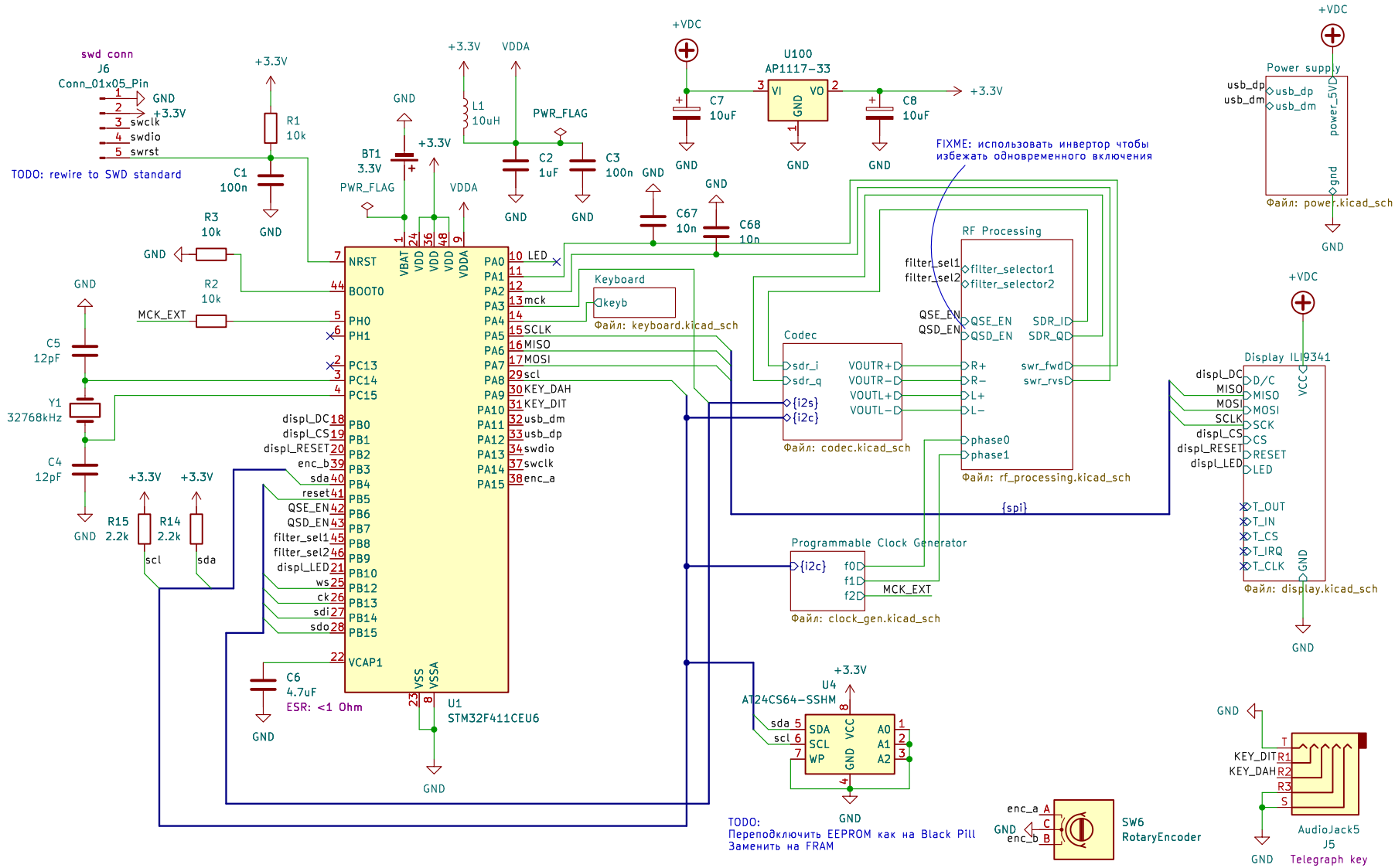
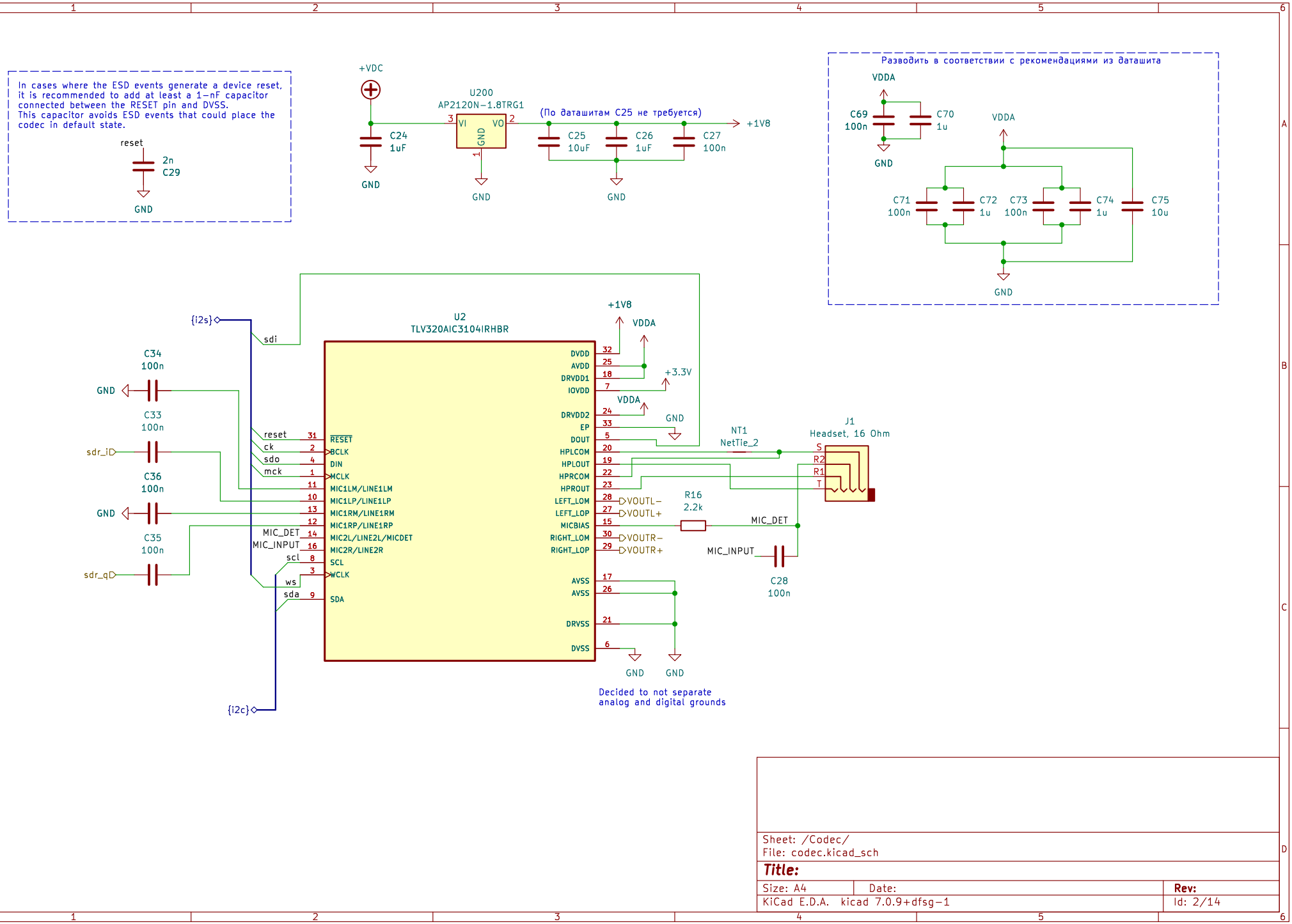
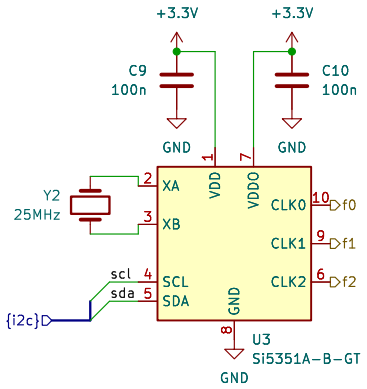

swd conn
J6
Conn_01x05_Pin
GND
+3.3V
swclk
swdio
swrst
TODO: rewire to SWD standard
R1
10k
C1
100n
R3
10k
R2
10k
MCK_EXT
C5
12pF
Y1
32768kHz
C4
12pF
R15
2.2k
R14
2.2k
scl
sda
BT1
3.3V
PWR_FLAG
L1
10uH
C2
1uF
C3
100n
VDDA
C6
4.7uF
ESR: <1 Ohm
U1
STM32F411CEU6
NRST
BOOT0
PH0
PH1
PC13
PC14
PC15
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
PB8
PB9
PB10
PB12
PB13
PB14
PB15
VCAP1
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PA8
PA9
PA10
PA11
PA12
PA13
PA14
PA15
LED
mck
SCLK
MISO
MOSI
scl
KEY_DAH
KEY_DIT
usb_dm
usb_dp
swdio
swclk
enc_a
displ_DC
displ_CS
displ_RESET
enc_b
sda
reset
QSE_EN
QSD_EN
filter_sel1
filter_sel2
displ_LED
ws
ck
sdi
sdo
+VDC
U100
AP1117-33
C7
10uF
C8
10uF
C67
10n
C68
10n
FIXME: использовать инвертор чтобы избежать одновременного включения
Keyboard
keyb
Файл: keyboard.kicad_sch
RF Processing
filter_selector1
filter_selector2
QSE_EN
QSD_EN
SDR_I
SDR_Q
Codec
sdr_i
sdr_q
{i2s}
{i2c}
VOUTR+
VOUTR−
VOUTL+
VOUTL−
R+
R−
L+
L−
swr_fwd
swr_rvs
phase0
phase1
Файл: codec.kicad_sch
Файл: rf_processing.kicad_sch
{spi}
Power supply
usb_dp
usb_dm
power_5VD
gnd
Файл: power.kicad_sch
Display ILI9341
displ_DC
MISO
MOSI
SCLK
displ_CS
displ_RESET
displ_LED
D/C
SCK
CS
RESET
LED
VCC
T_OUT
T_IN
T_CS
T_IRQ
T_CLK
Файл: display.kicad_sch
Programmable Clock Generator
{i2c}
f0
f1
f2
MCK_EXT
Файл: clock_gen.kicad_sch
U4
AT24CS64-SSHM
SDA
SCL
WP
A0
A1
A2
TODO:
Переподключить EEPROM как на Black Pill
Заменить на FRAM
enc_a
enc_b
SW6
RotaryEncoder
KEY_DIT
KEY_DAH
AudioJack5
J5
Telegraph key
Sheet: /
File: main.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. kicad 7.0.9+dfsg-1
Id: 1/14

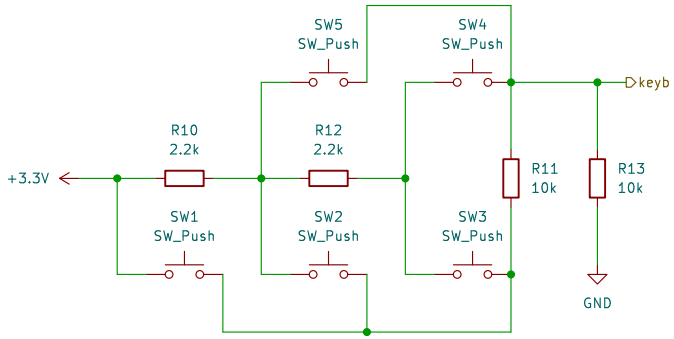

In cases where the ESD events generate a device reset, it is recommended to add at least a 1−nF capacitor connected between the RESET pin and DVSS. This capacitor avoids ESD events that could place the codec in default state.
reset
2n
C29
GND
+VDC
C24
1uF
GND
U200
AP2120N−1.8TRG1
3
VI
GND
VO
2
1
GND
(По даташитам C25 не требуется)
C25
10uF
C26
1uF
C27
100n
GND
+1V8
Разводить в соответствии с рекомендациями из даташита
VDDA
C69
100n
C70
1u
GND
VDDA
C71
100n
C72
1u
C73
100n
C74
1u
C75
10u
GND
U2
TLV320AIC3104IRHBR
{i2s}
sdi
C34
100n
GND
C33
100n
sdr_iD
C36
100n
GND
C35
100n
sdr_qD
reset
ck
sdo
mck
MIC_DET
MIC_INPUT
scl
ws
sda
{i2c}
31
RESET
2
BCLK
4
DIN
1
MCLK
11
MIC1LM/LINE1LM
10
MIC1LP/LINE1LP
13
MIC1RM/LINE1RM
12
MIC1RP/LINE1RP
14
MIC2L/LINE2L/MICDET
16
MIC2R/LINE2R
8
SCL
3
WCLK
9
SDA
+1V8
VDDA
+3.3V
VDDA
GND
32
DVDD
25
AVDD
18
DRVDD1
7
IOVDD
24
DRVDD2
33
EP
5
DOUT
20
HPLCOM
19
HPLOUT
22
HPRCOM
23
HPROUT
28
LEFT_LOM
27
LEFT_LOP
15
MICBIAS
30
RIGHT_LOM
29
RIGHT_LOP
17
AVSS
26
AVSS
21
DRVSS
6
DVSS
VOUTL−
VOUTL+
VOUTR−
VOUTR+
GND
GND
NT1
NetTie_2
J1
Headset, 16 Ohm
S
R2
R1
T
R16
2.2k
MIC_DET
MIC_INPUT
C28
100n
Decided to not separate analog and digital grounds
Sheet: /Codec/
File: codec.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. kicad 7.0.9+dfsg−1
Id: 2/14



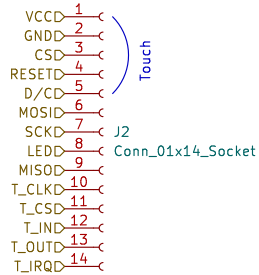
Sheet: /Programmable Clock Generator/
File: clock_gen.kicad_sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.9+dfsg-1		Id: 3/14



Sheet: /Keyboard/		
File: keyboard.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.9+dfsg-1		Id: 4/14



1 VCC 5V/3.3V power input
2 GND Ground
3 CS LCD chip select signal, low level enable
4 RESET LCD reset signal, low level reset
5 DC/RS LCD register / data selection signal,
high level: register, low level: data

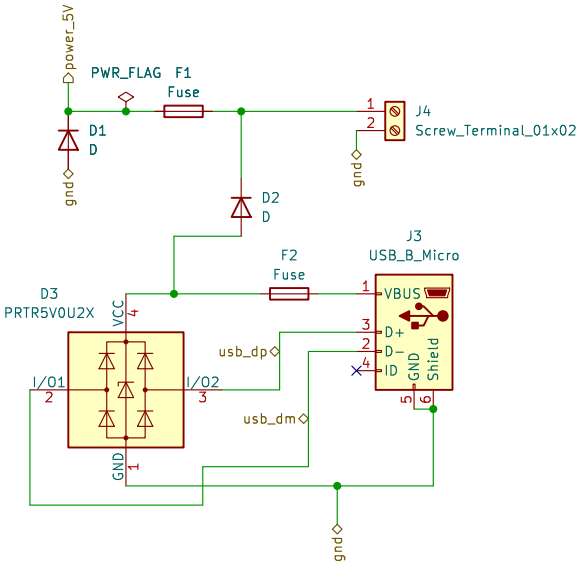
6 SDI(MOSI) SPI bus write data signal
7 SCK SPI bus clock signal
8 LED Backlight control, high level lighting,
if not controlled, connect 3.3V always bright

9 SDO(MISO) SPI bus read data signal, if you do not need to the read function, you can not connect it
(The following is the touch screen signal line wiring, if you do not need to touch function or the module itself does not have touch function, you can not connect them)
10 T_CLK Touch SPI bus clock signal
11 T_CS Touch screen chip select signal, low level enable
12 T_DIN Touch SPI bus input
13 T_DO Touch SPI bus output
14 T_IRQ Touch screen interrupt signal, low level when touch is detected

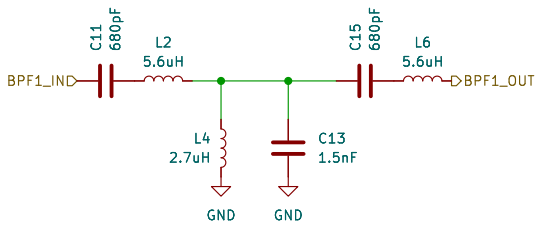
Sheet: /Display ILI9341/
File: display.kicad_sch

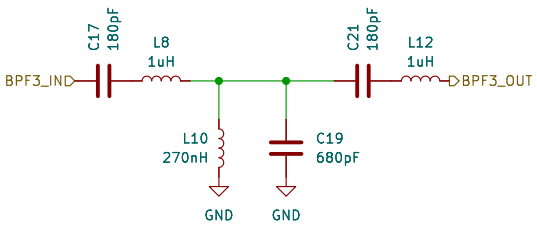
Title: 2.8inch SPI Module ILI9341 SKU:MSP2807

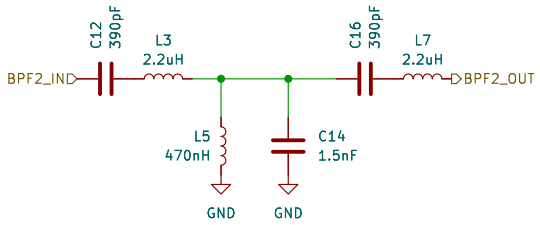
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.9+dfsg-1		Id: 5/14

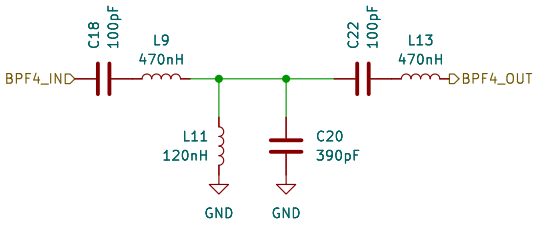


Sheet: /Power supply/		
File: power.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.9+dfsg-1		Id: 6/14





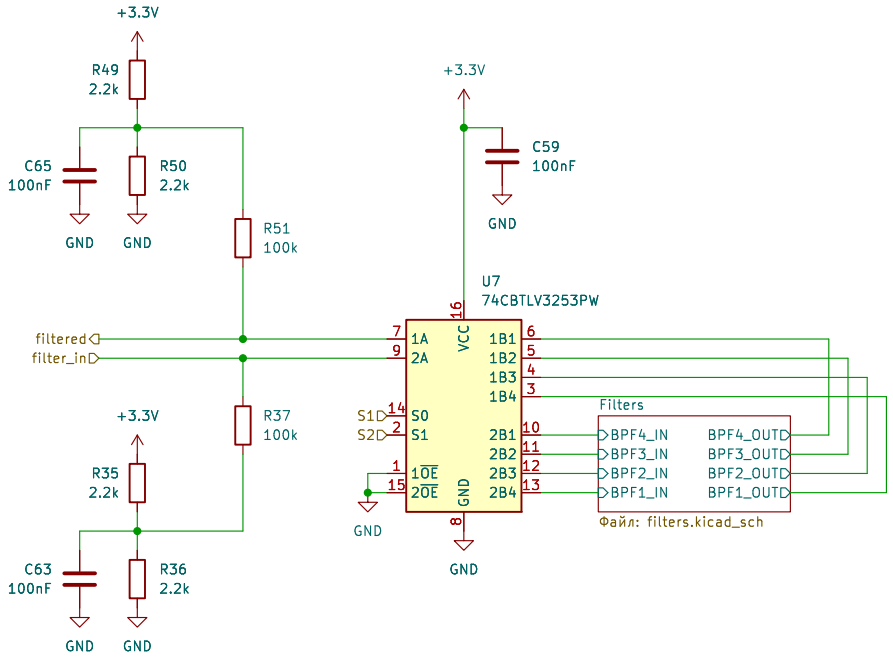




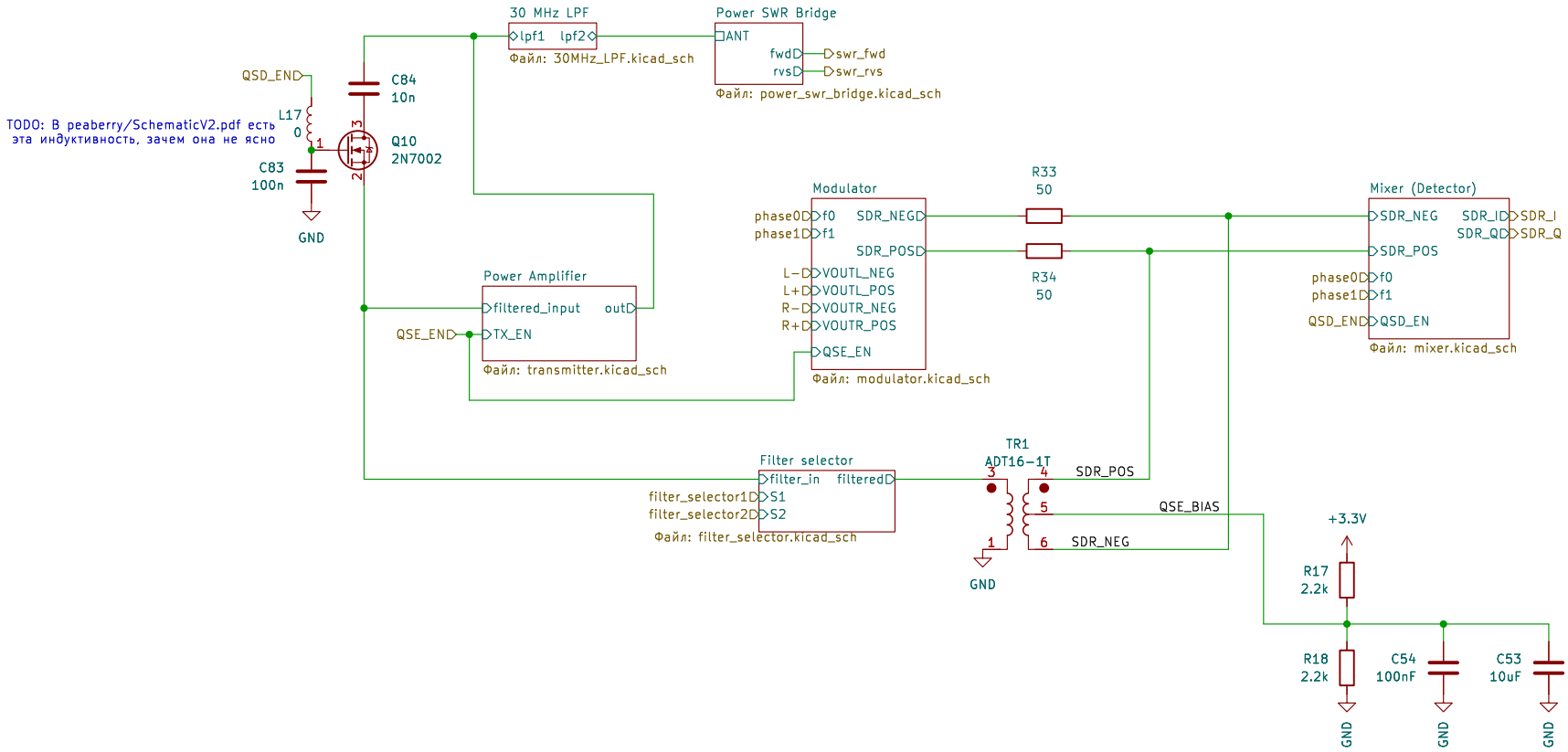
Sheet: /RF Processing/Filter selector/Filters/
File: filters.kicad_sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.9+dfsg-1		Id: 8/14



Sheet: /RF Processing/Filter selector/ File: filter_selector.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.9+dfsg-1		Id: 9/14

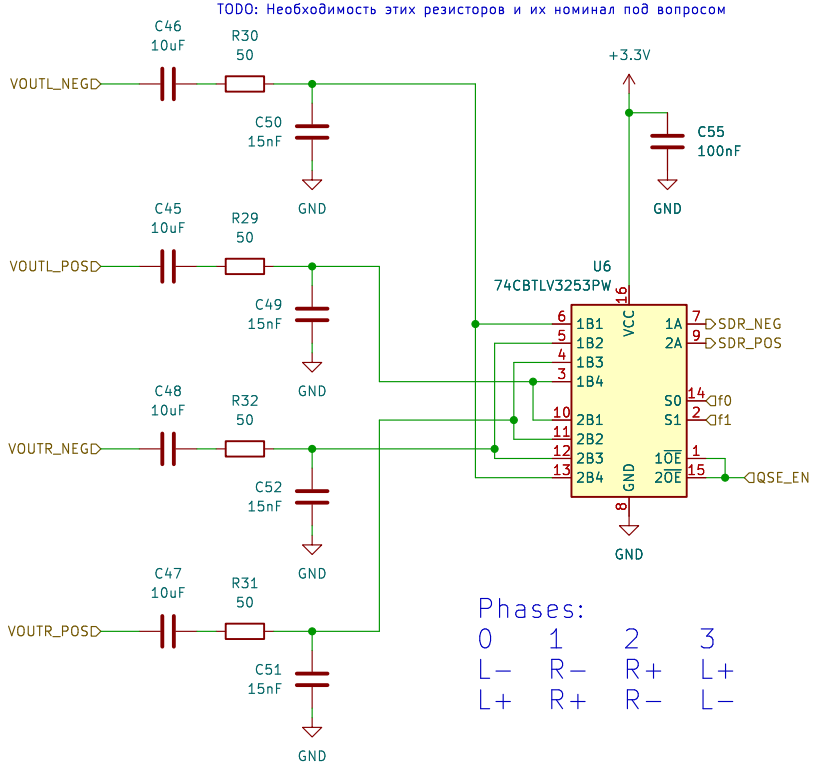


Sheet: /RF Processing/		
File: rf_processing.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.9+dfsg−1		Id: 10/14

Based on Selenite Lite SDR HF Transceiver by Dmitrii Rudnev

TODO:
Вопрос:
Нужны ли разделительные конденсаторы
(C46 и прочие) на большую ёмкость?

TODO: Необходимость этих резисторов и их номинал под вопросом



Phases:

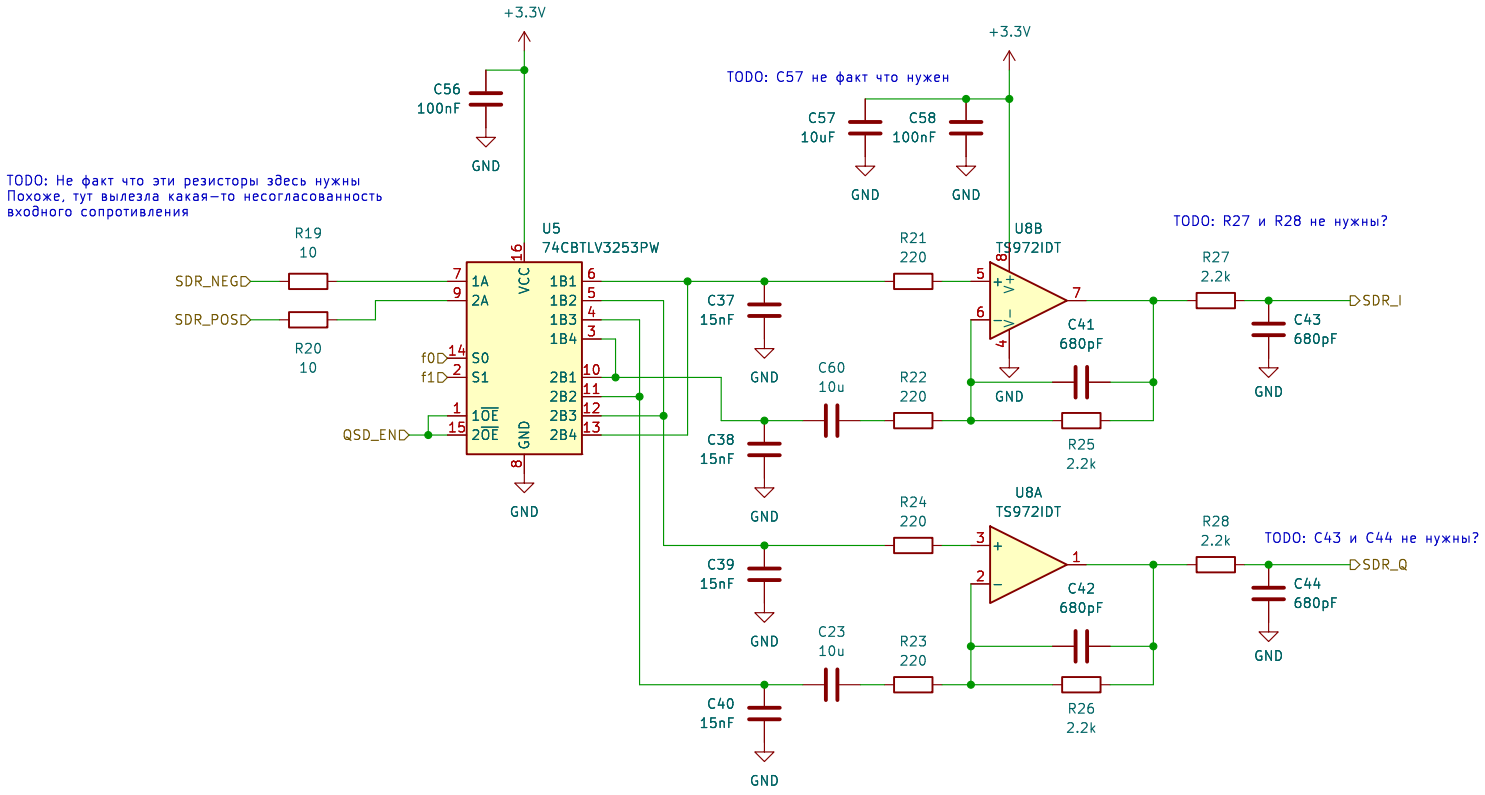
0	1	2	3
L−	R−	R+	L+
L+	R+	R−	L−

Sheet: /RF Processing/Modulator/
File: modulator.kicad_sch

Title: Quadrature Sampling Exciter (QSE)

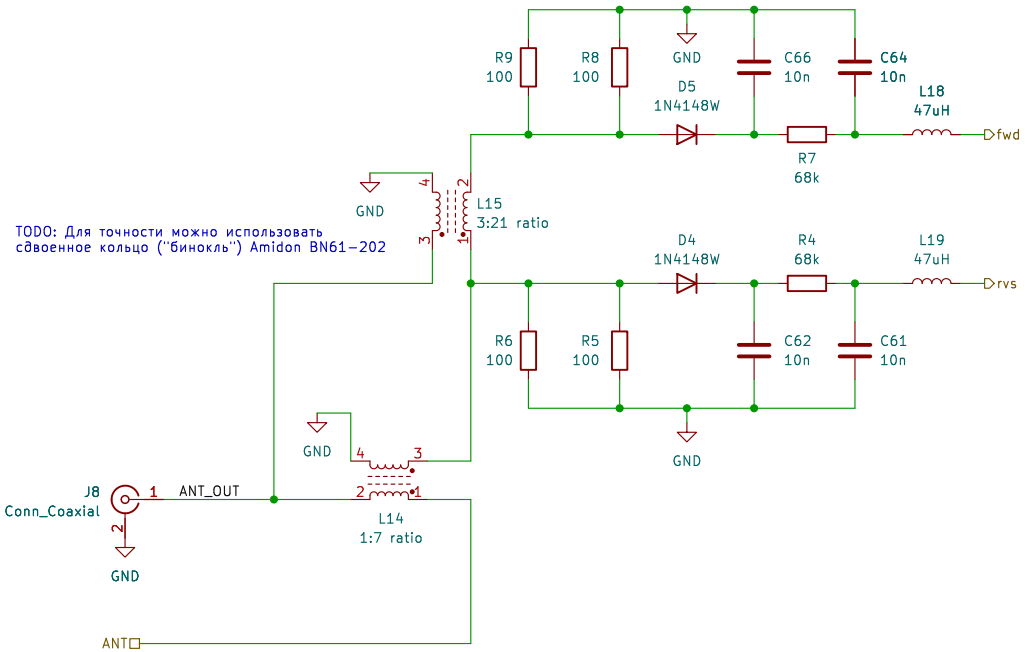
Size: A4	Date:	Rev:
KiCad E.D.A. kicad 7.0.9+dfsg-1		Id: 11/14

Double Balanced "Tayloe" Detector (by Dan Tayloe)



Sheet: /RF Processing/Mixer (Detector)/		
File: mixer.kicad_sch		
Title: Balanced quadrature sampling detector (QSD)		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.9+dfsg-1		Id: 12/14

"Stockton bridge"
from (tr)uSDX RF board

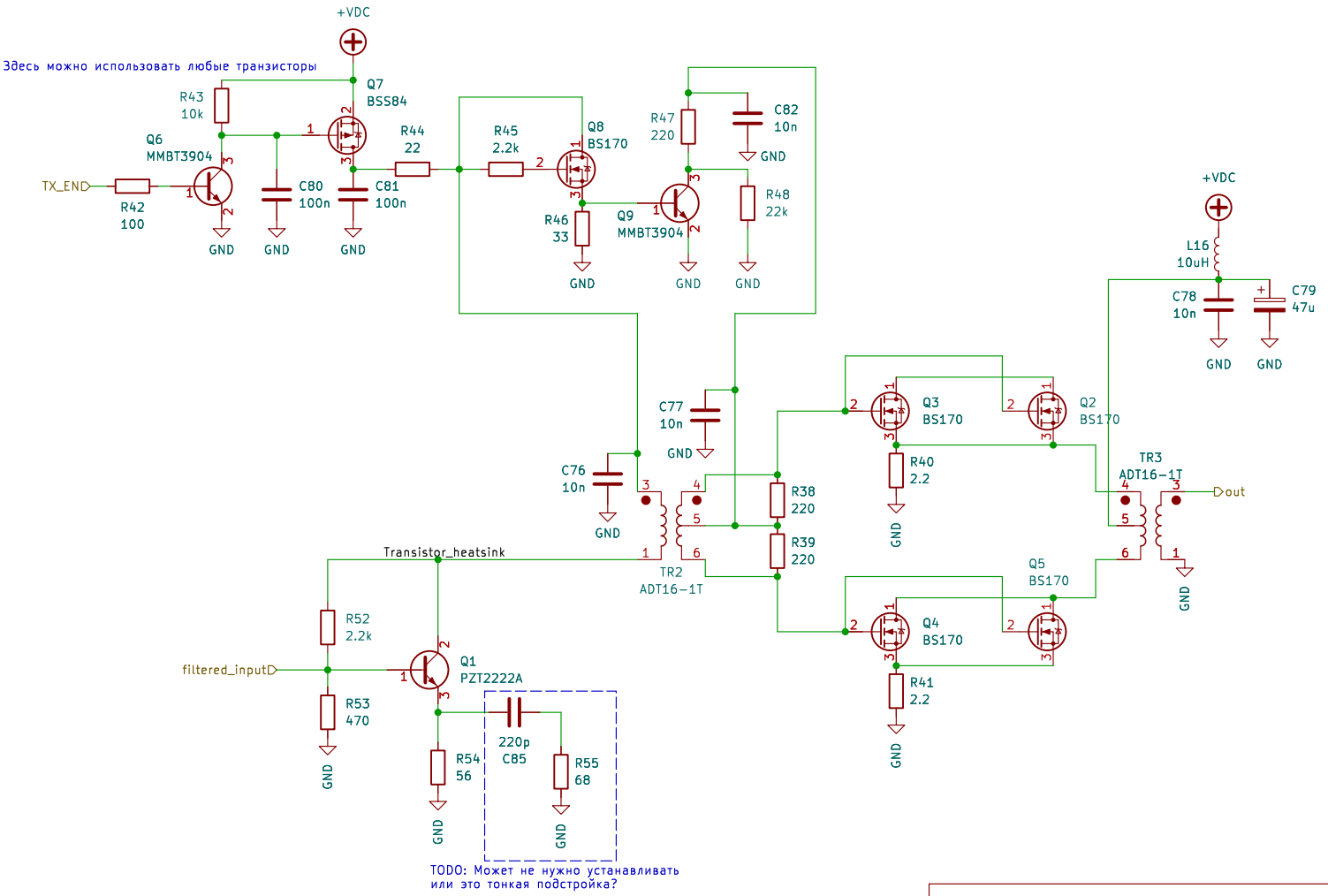


Sheet: /RF Processing/Power SWR Bridge/
File: power_swr_bridge.kicad_sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.9+dfsg-1		Id: 13/14

Based on AE9RB Peaberry SDR V2 circuit

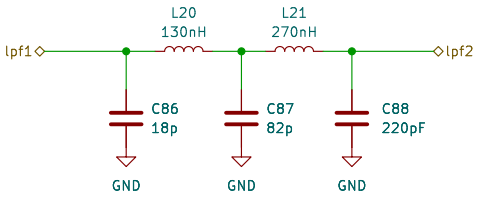


Sheet: /RF Processing/Power Amplifier/
File: transmitter.kicad_sch

Title: Transmitter, Power Amplifier

Size: A4	Date:	Rev:
KiCad E.D.A. kicad 7.0.9+dfsg-1		Id: 14/14

LPF 30 MHz cutoff, impedance 50 Ohm



Sheet: /RF Processing/30 MHz LPF/		
File: 30MHz_LPF.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.9+dfsg-1		Id: 14/14