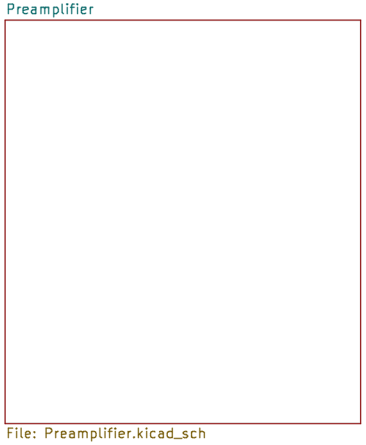
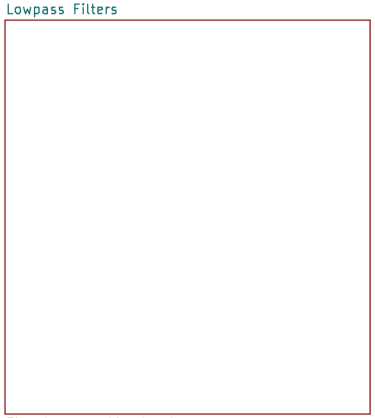
Preamplifier



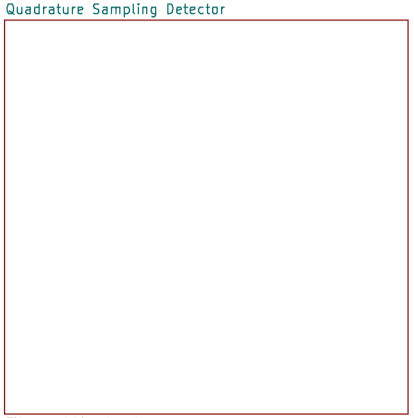
File: Preamplifier.kicad_sch

Lowpass Filters



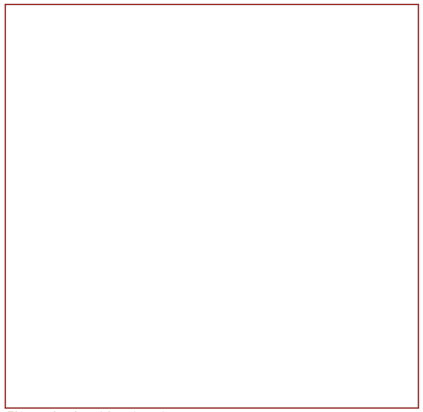
File: Lowpass.kicad_sch

Quadrature Sampling Detector



File: qsd.kicad_sch

PI Pico



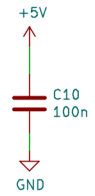
File: pi_pico.kicad_sch

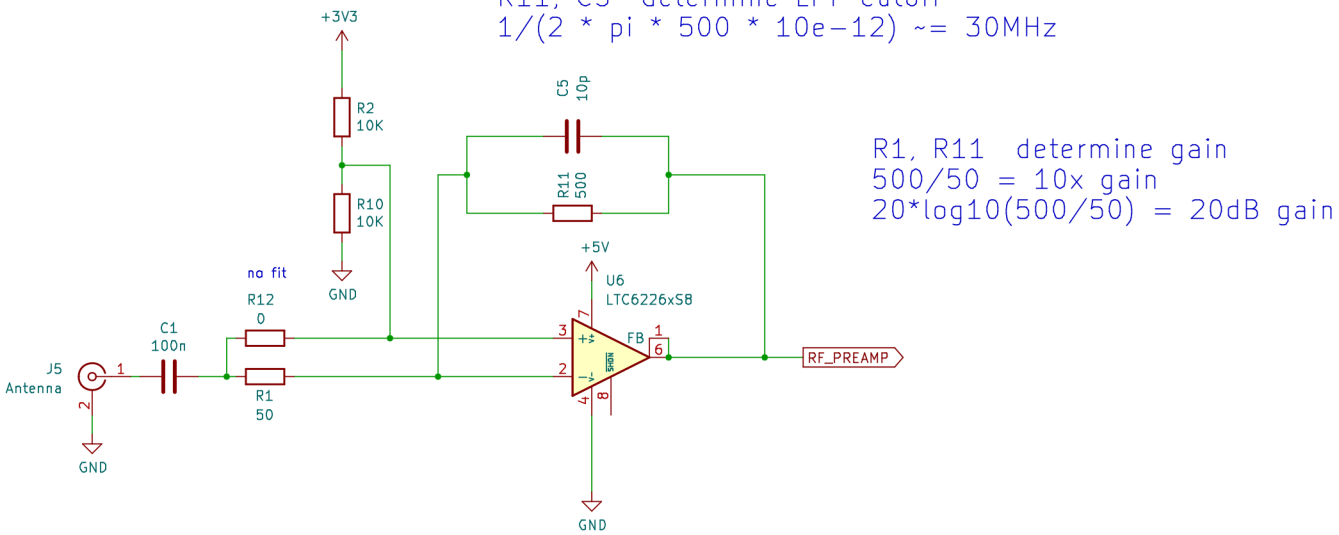
Sheet: /
File: pico_rx.kicad_sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.5-unknown-202306101748-6fbdf8f0e2~ubuntu22.04.1		Id: 1/5

	WITH PREAMP	WITHOUT PREAMP
R12	no fit	0 ohm link
R1	50	no fit
R11	500	0 ohm link
C5	10p	no fit
U6	fit	no fit



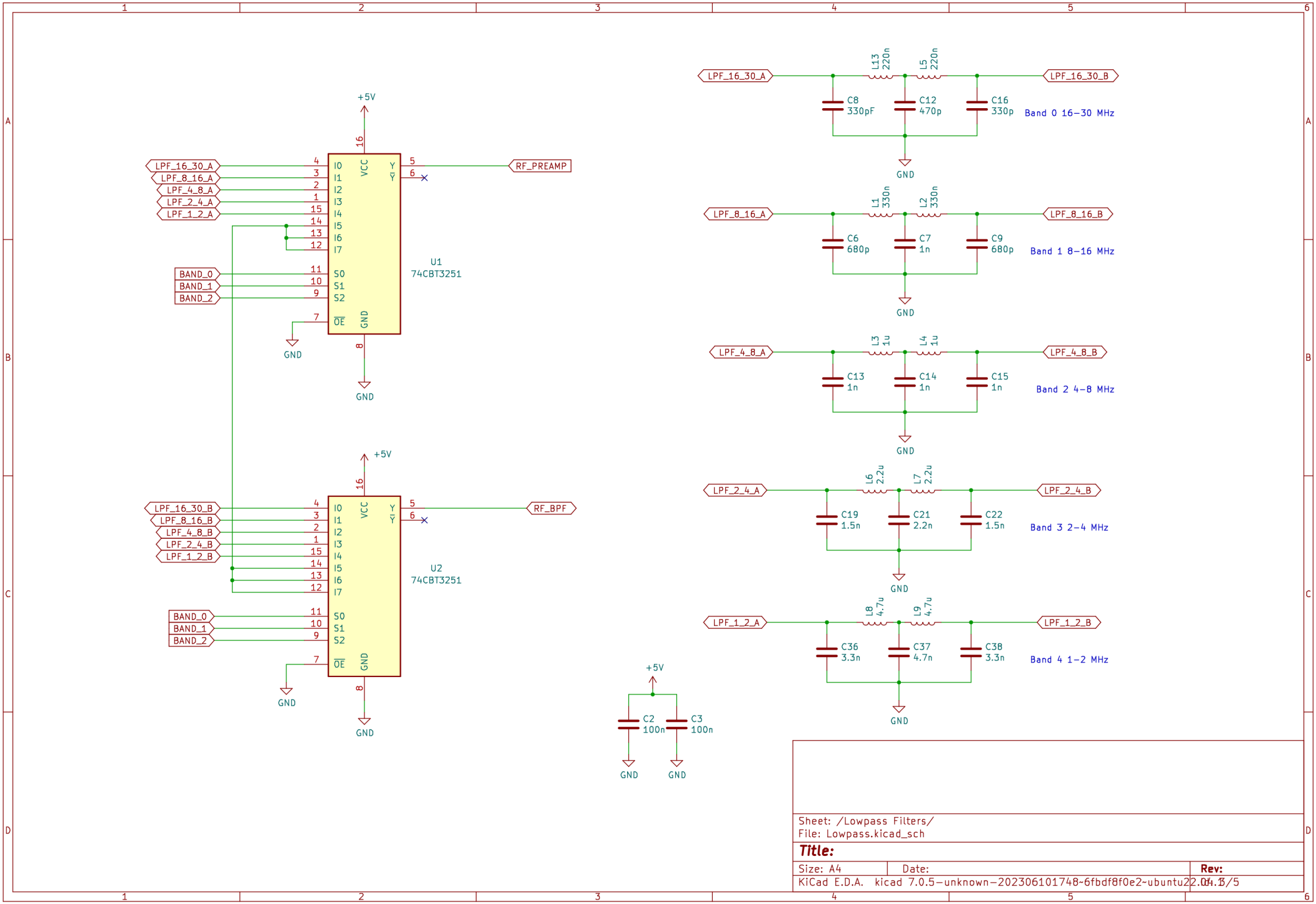


Sheet: /Preamplifier/
File: Preamplifier.kicad_sch

Title:

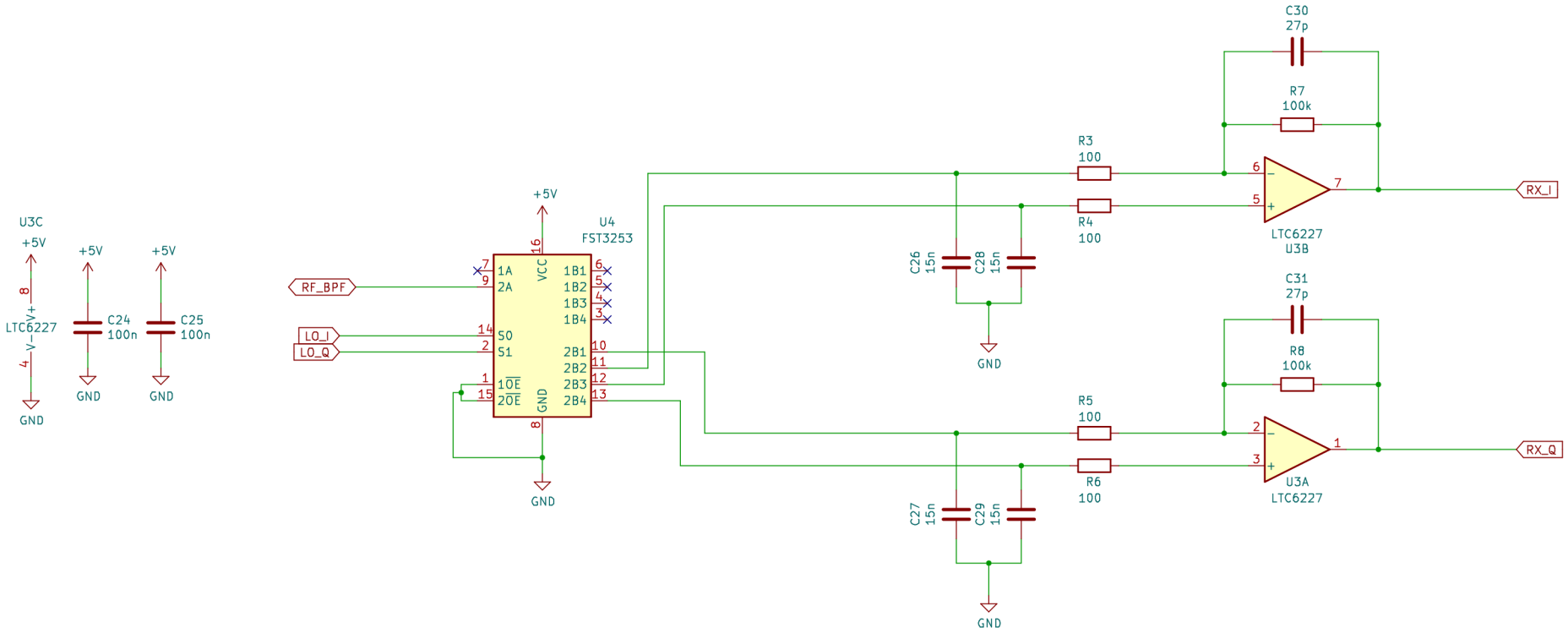
Size: A4 | Date: | **Rev:**

KiCad E.D.A. kicad 7.0.5-unknown-202306101748-6fbdf8f0e2~ubuntu22.04.1 | Id: 2/5


+5V
LPF_16_30_A
LPF_8_16_A
LPF_4_8_A
LPF_2_4_A
LPF_1_2_A
BAND_0
BAND_1
BAND_2
RF_PREAMP
U1
74CBT3251
GND
LPF_16_30_B
LPF_8_16_B
LPF_4_8_B
LPF_2_4_B
LPF_1_2_B
RF_BPF
U2
L13 220n
L5 220n
C8 330pF
C12 470p
C16 330p
Band 0 16–30 MHz
L1 330n
L2 330n
C6 680p
C7 1n
C9 680p
Band 1 8–16 MHz
L3 1u
L4 1u
C13 1n
C14 1n
C15 1n
Band 2 4–8 MHz
L6 2.2u
L7 2.2u
C19 1.5n
C21 2.2n
C22 1.5n
Band 3 2–4 MHz
L8 4.7u
L9 4.7u
C36 3.3n
C37 4.7n
C38 3.3n
Band 4 1–2 MHz
C2 100n
C3 100n
Sheet: /Lowpass Filters/
File: Lowpass.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. kicad 7.0.5-unknown-202306101748-6fbdf8f0e2~ubuntu22.04.1
Id: 1/5

R, C values determine LPF cutoff
1/(2 * pi * 27e-9 * 100) ~= 59MHz

R, values determine gain
100k/100 = 1000x
20*log10(100k/100) = 60dB

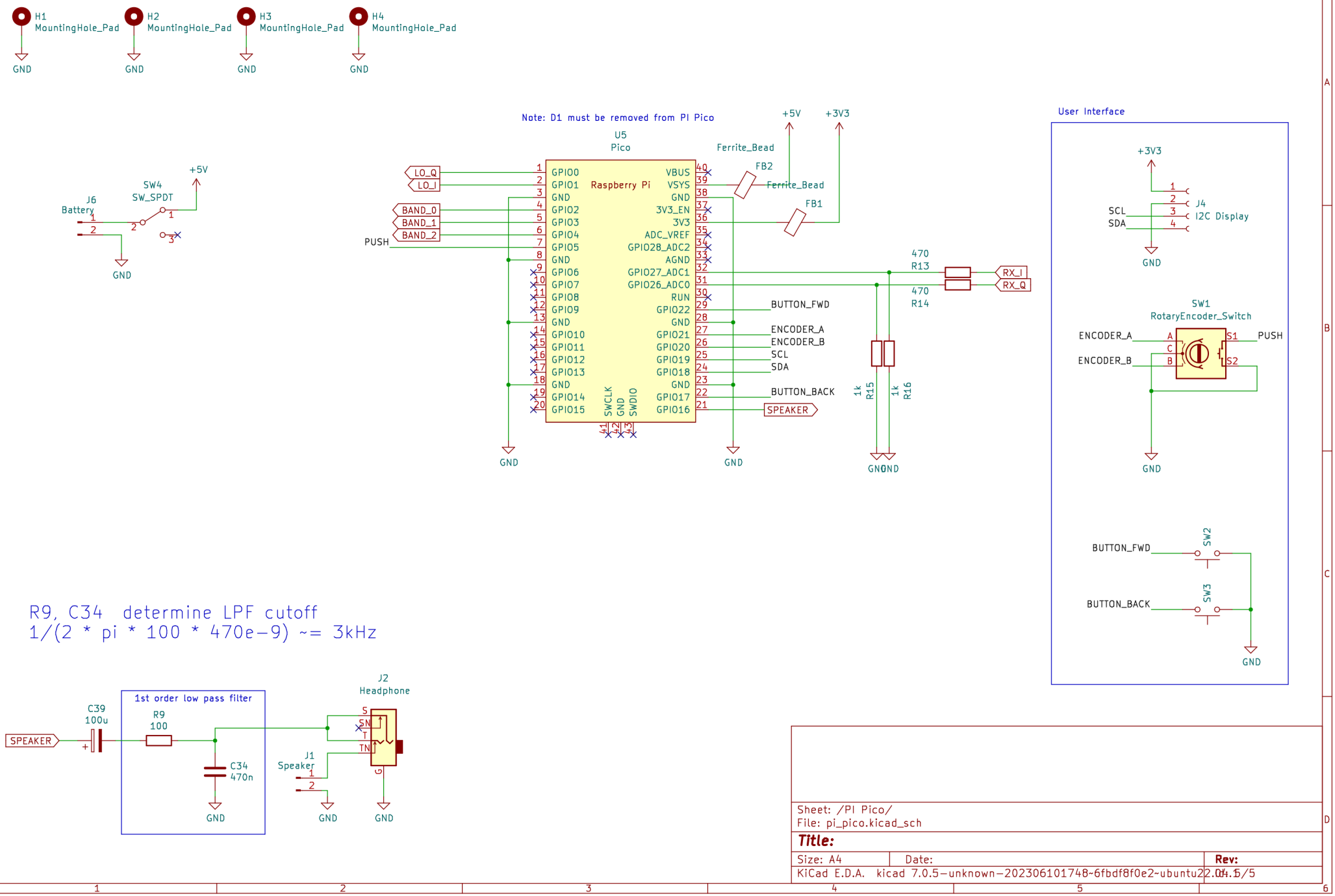


Sheet: /Quadrature Sampling Detector/
File: qsd.kicad_sch

Title:

Size: A4 | Date: | **Rev:**

KiCad E.D.A. kicad 7.0.5-unknown-202306101748-6fbdf8f0e2~ubuntu22.04.1 | Id: 1/5



Sheet: /PI Pico/		
File: pi_pico.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.5-unknown-202306101748-6fbdf8f0e2~ubuntu22.04.1		Id: 1/5