PLL_VCO

PLL_VCO.sch

power_supply

power_supply.sch

Sheet5ECB4291

demodulation_buffer.sch

APQ

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Sheet: /
File: RF_frequency_modulator.sch

Title: RF frequency modulator 80 MHz / 200 MHz

Size: A4	Date: 2020—10—06	Rev: 1.2
KiCad E.D.A. kicad (5.1.2)—1		Id: 1/4

J1 / C64AC connector pin labels (left side, top to bottom):

1A, A1 / 1C, C1 / 2A, A2 / 2C, C2 / 3A, A3 / 3C, C3 / 4A, A4 / 4C, C4 / 5A, A5 / 5C, C5 / 6A, A6 / 6C, C6 / 7A, A7 / 7C, C7 / 8A, A8 / 8C, C8 / 9A, A9 / 9C, C9 / 10A, A10 / 10C, C10 / 11A, A11 / 11C, C11 / 12A, A12 / 12C, C12 / 13A, A13 / 13C, C13 / 14A, A14 / 14C, C14 / 15A, A15 / 15C, C15 / 16A, A16 / 16C, C16 / 17A, A17 / 17C, C17 / 18A, A18 / 18C, C18 / 19A, A19 / 19C, C19 / 20A, A20 / 20C, C20 / 21A, A21 / 21C, C21 / 22A, A22 / 22C, C22 / 23A, A23 / 23C, C23 / 24A, A24 / 24C, C24 / 25A, A25 / 25C, C25 / 26A, A26 / 26C, C26 / 27A, A27 / 27C, C27 / 28A, A28 / 28C, C28 / 29A, A29 / 29C, C29 / 30A, A30 / 30C, C30 / 31A, A31 / 31C, C31 / 32A, A32 / 32C, C32

PWR_FLAG → +15V
PWR_FLAG → GND
PWR_FLAG → −15V

U1A LT3032−12
14 INP, 12 SHDNP, OUTP 1, BYPP 3, GND 4
+15V input, C1 10u
C7 10n/C0G, C9 10u
TP1 +12V → +12V

U1B LT3032−12
10 SHDNN, 6 INN, BYPN 11, OUTN 7, GND 5
−15V input, C2 10u
C8 10n/C0G, C10 10u
TP3 −12V → −12V
TP2 GND → GND

C3 10u, C5 470n, R1 33k
C11 10u, TP4 +3.3V → +3.3V
+15V input
GND

C4 10u, C6 470n, R2 49.9k
C12 10u, TP5 +5.0V → +5.0V
+15V input
GND

U13 LM7905_TO220
2 VI, VO 3, GND 1
−15V input
100u C41, C42 100n, 100u C43, C44 100n
GND

J2 DDS_Supply
1, 2, 3
GND

Connect all LM78xx thermally to the case.

U10 LM7812_TO220 — 1 VI, VO 3, GND 2
U11 LM7809_TO220 — 1 VI, VO 3, GND 2
U12 LM7805_TO220 — 1 VI, VO 3, GND 2
+15V input
C33 100u, C34 100n, C35 100u, C36 100n, C37 100u, C38 100n, C39 100u, C40 100n
GND

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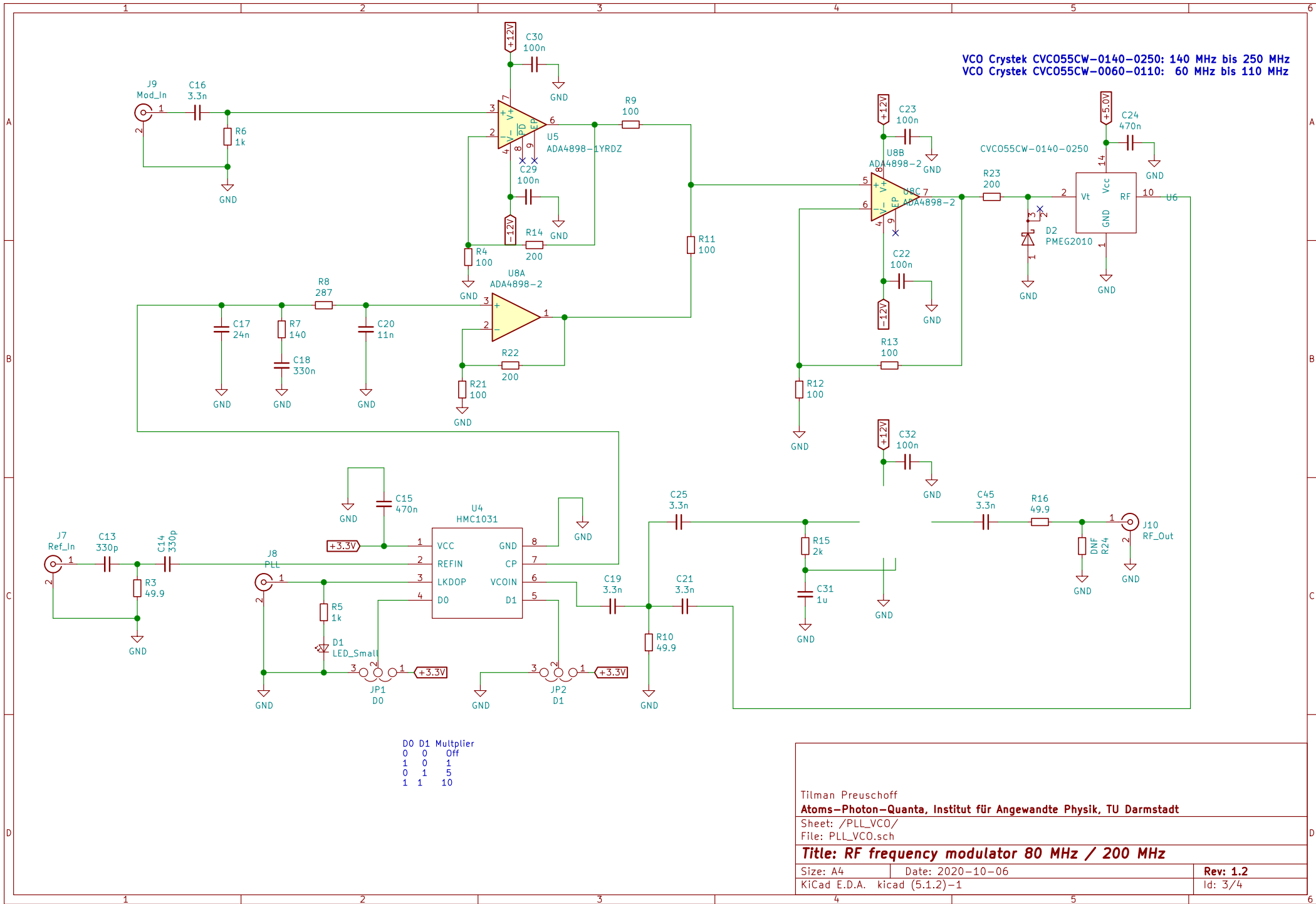Sheet: /power_supply/
File: power_supply.sch
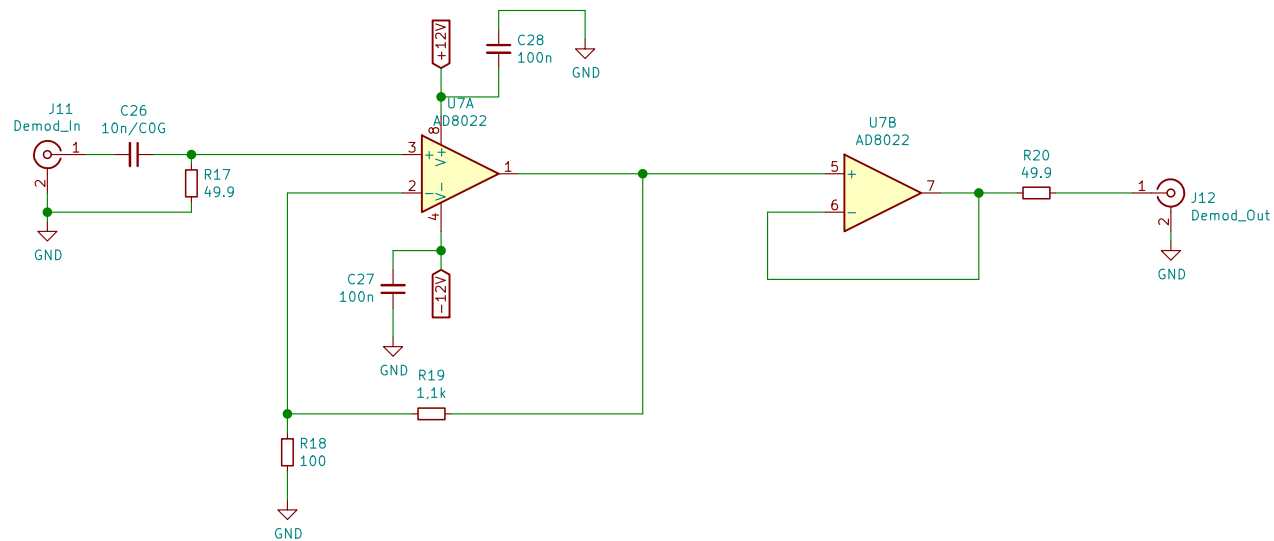*Title: RF frequency modulator 80 MHz / 200 MHz*
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KiCad E.D.A. kicad (5.1.2)−1   Id: 2/4

VCO Crystek CVCO55CW-0140-0250: 140 MHz bis 250 MHz
VCO Crystek CVCO55CW-0060-0110: 60 MHz bis 110 MHz

D0	D1	Multplier
0	0	Off
1	0	1
0	1	5
1	1	10

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KiCad E.D.A. kicad (5.1.2)-1   Id: 3/4

J11 Demod_In

C26 10n/C0G

R17 49.9

GND

+12V

C28 100n

GND

U7A AD8022

GND

C27 100n

-12V

GND

R19 1,1k

R18 100

GND

U7B AD8022

R20 49.9

J12 Demod_Out

GND

Title: RF frequency modulator 80 MHz / 200 MHz

Size: A4	Date: 2020—10—06	**Rev: 1.2**
KiCad E.D.A. kicad (5.1.2)—1		Id: 4/4