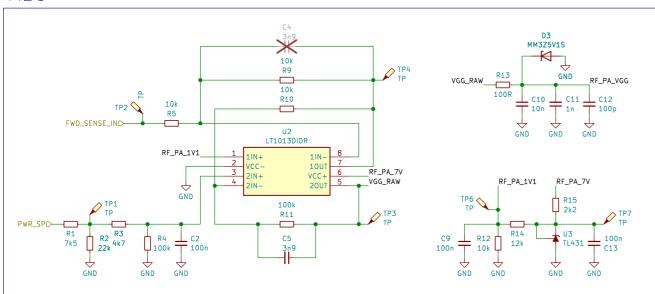
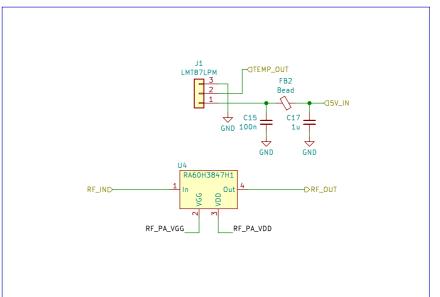
Low power RF tracks: coplanar waveguide Er=4.4, height=0.2104mm 0.25mm track width 0.052mm conductor gap High power RF tracks: coplanar waveguide RF PA RF coupler Circulator Er=4.5, height=1.4858mm 2mm track width RF_OUT ORF_IN RF_OUT[>RF_IN RF IN RF_OUTD 0.52mm conductor gap >PA_EN_A >PA_EN_B FWD_SENSE_IN< >PWR_SP TEMP_OUT OREF_RF >13.8V_IN 5V_IN< DFWD_RF File: rf_pa.kicad_sch File: circ.kicad_sch File: rf_cpl.kicad_sch TX_nCS RX_nCS TX_nCSD RX_nCSD SPI_SCK SPI_MOSI SPI_MISO SPI_SCKD SPI_MOSID RF detectors >REF_RF_IN TEMP_SENSE FWD_RF_IN PA_ENG REF_SENSE_OUT REF_SENSE REF_SENSE< FWD_SENSE OFWD_SENSE_OUT FWD_SENSE FWD_SENSE 3V3_IN< >5V_IN ВООТО File: rf_det.kicad_sch MCU_TX< File: interface.kicad_sch MCU_RX< Power supply воото TEMP_SENSE< PA_ENG D5V_OUT RF_PWR_SP[013.8V_0UT 3V3_IN REF_SENSE REF_SENSE< File: psu.kicad_sch FWD_SENSE FWD_SENSE< nRST nRST RF input filter >40M_IN 3.3V_IN< RX_nCS
SPI_SCK
SPI_MISO
SPI_MOSI
RX_SAMP_CLK ->nksi ->spi_ncs ->spi_sck -dspi_miso ->spi_mosi -drx_samp_clk RX_SAMP_CLK< File: mcu.kicad_sch File: rx.kicad_sch File: rf_in_flt.kicad_sch Mechanical Wojciech Kaczmarski, SP5WWP M17 Project Sheet: / File: m17-rru-rf.kicad_sch Title: Remote Radio Unit - RF board Size: A3 Date: 20-01-2024 KiCad E.D.A. kicad 7.0.8 File: mech.kicad_sch

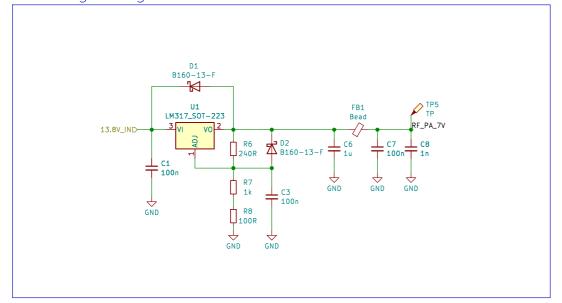
ALC



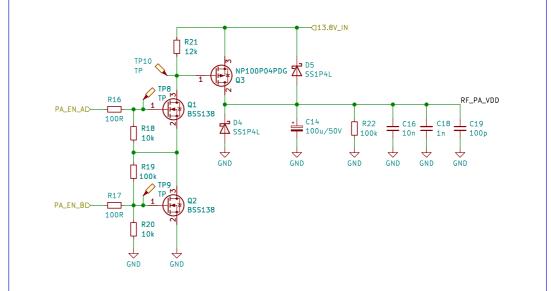
RF PA



Voltage reg.



Supply switching



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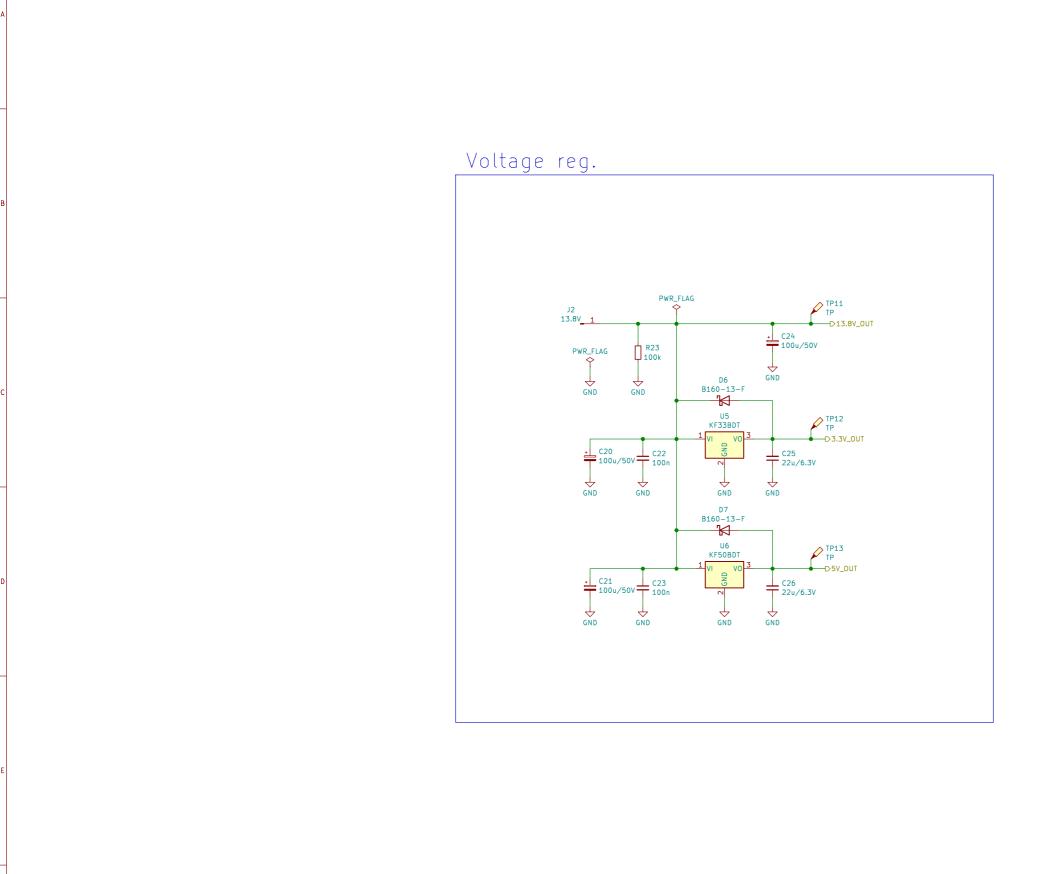
M17 Project

Sheet: /RF PA/
File: rf_pa.kicad_sch

Title: Remote Radio Unit - RF board

Size: A3 Date: 20-01-2024 Rev: B

KiCad E.D.A. kicad 7.0.8



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M17 Project

Sheet: /Power supply/
File: psu.kicad_sch

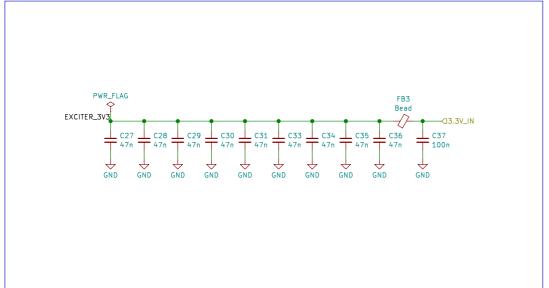
Title: Remote Radio Unit — RF board

Size: A3 Date: 20-01-2024 Rev: B

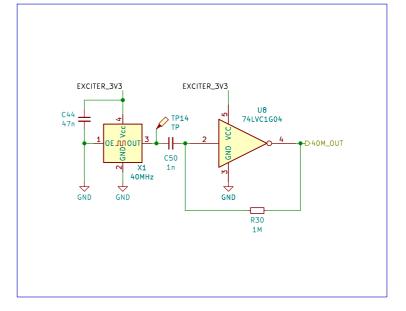
KiCad E.D.A. kicad 7.0.8 Id: 3/12

Exciter R24 100R R25 100R R26 100R _EXCITER_3V3 SPI_nCSD— SPI_SCKD— SPI_MOSID— SPI_MISO ()— AVDD_II AVDD_IF AVDD_RF AVDD_PFD_CHP AVDD_XOSC AVDD_SYNTH1 AVDD_SYNTH2 TX_SAMP_CLK < XOSC_Q1 DCPL_VCO EXT_XOSC DCPL_PFD_CHP DCPL_XOSC _EXCITER_3V3 40M_0UT⊲ R28 56k L4 22n 1n5 C32 39p C42 C47 5p1

Decoupling



40MHz reference



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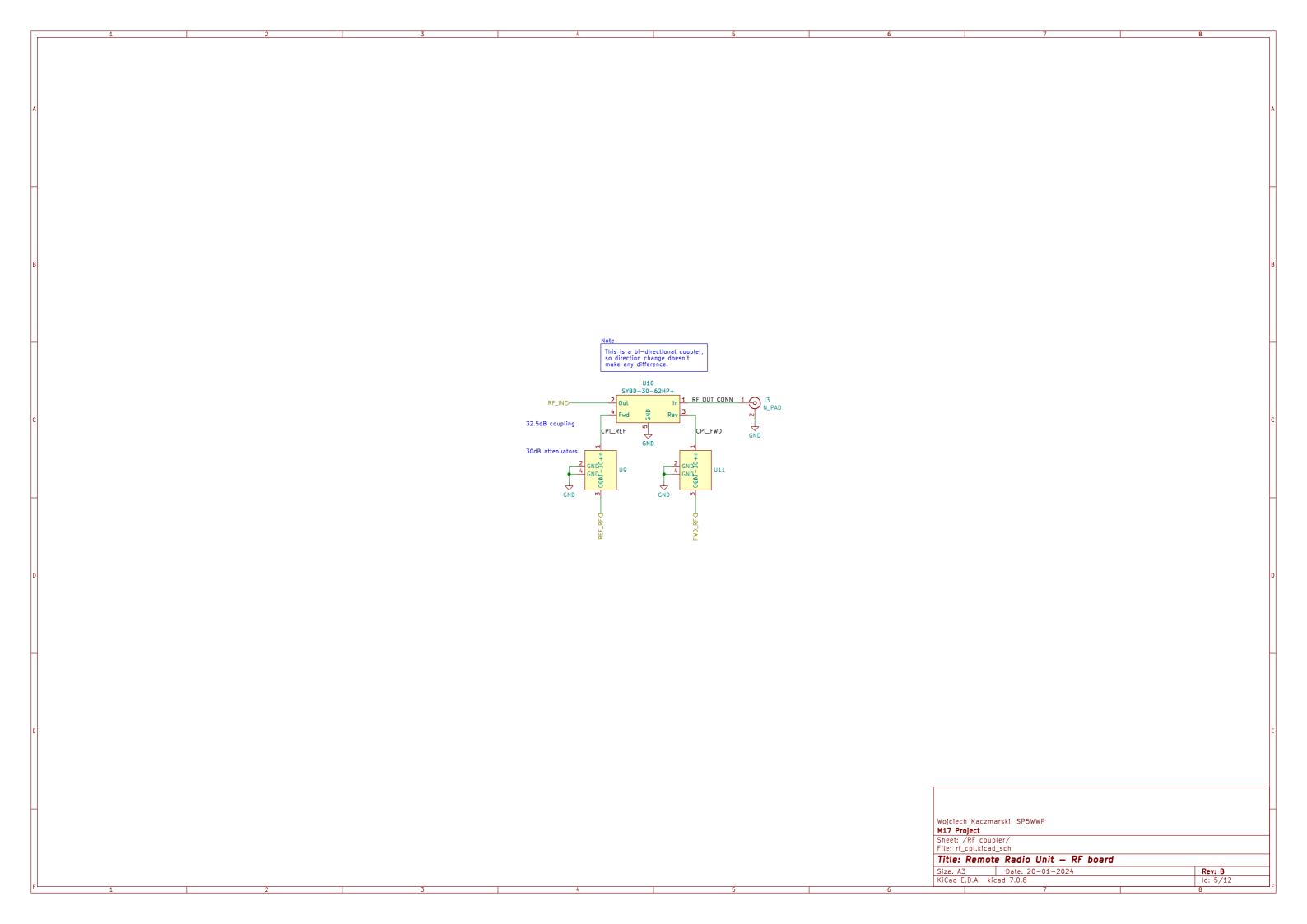
M17 Project

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File: exciter.kicad_sch

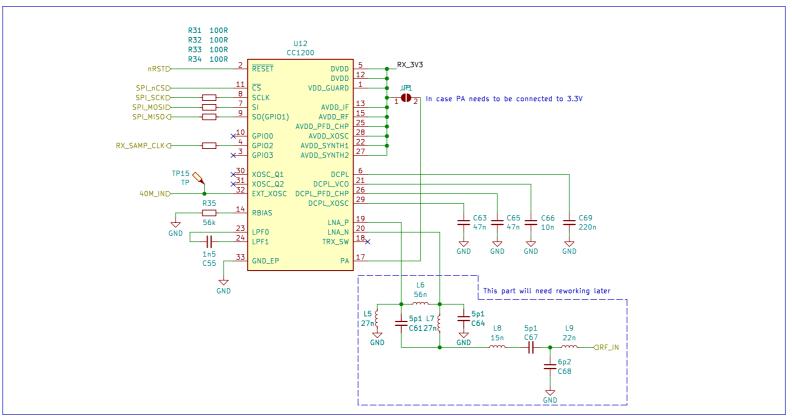
Title: Remote Radio Unit - RF board

Size: A3 Date: 20-01-2024 Rev: B

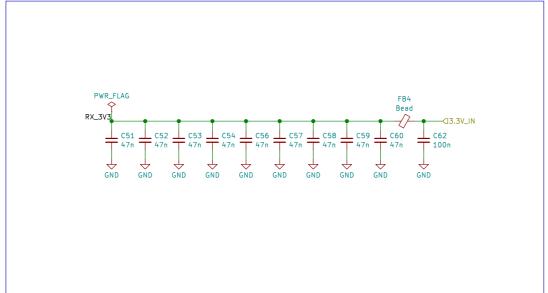
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Receiver



Decoupling

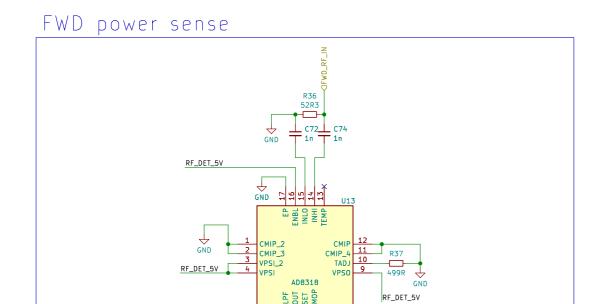


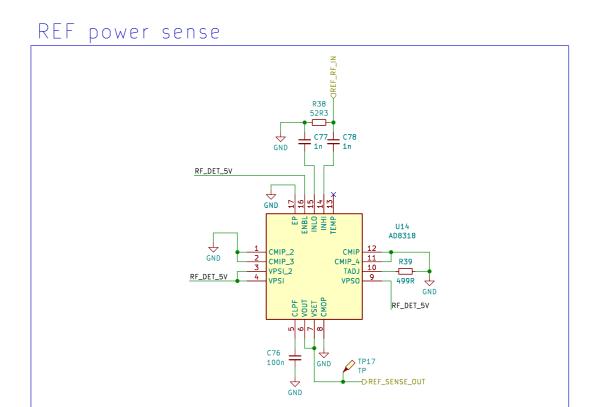
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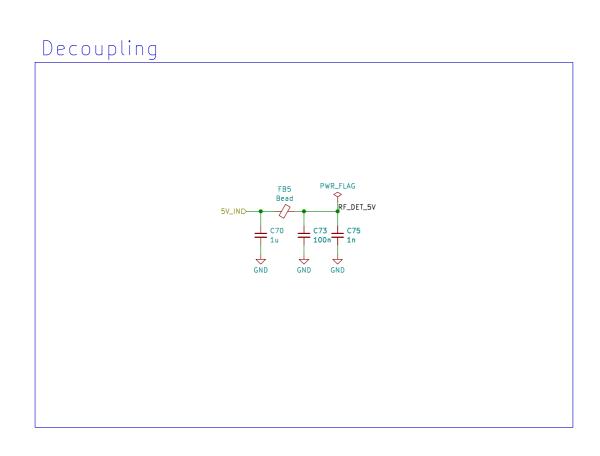
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Title: Remote Radio Unit — RF board

Size: A3 Date: 20-01-2024 KiCad E.D.A. kicad 7.0.8







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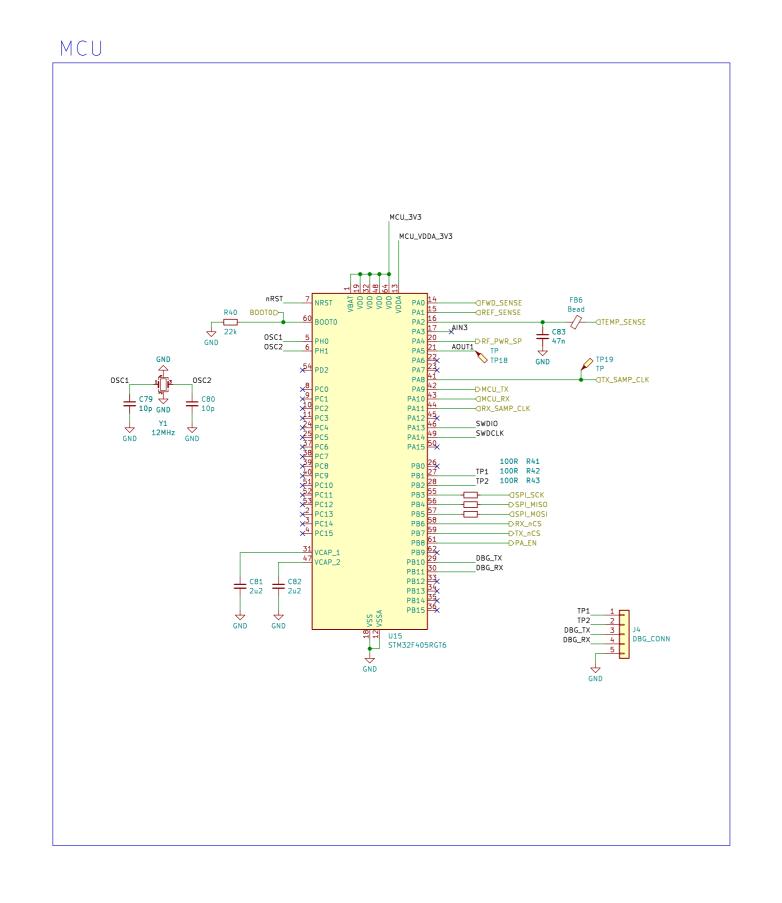
M17 Project

Sheet: /RF detectors/
File: rf_det.kicad_sch

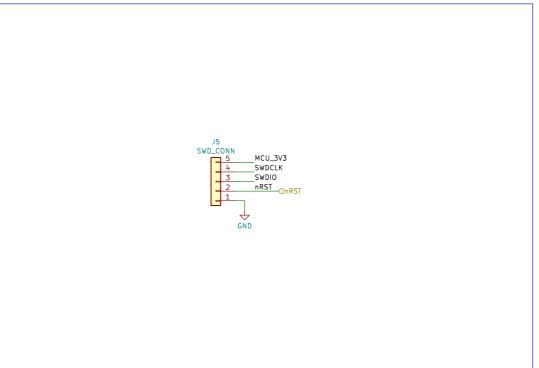
Title: Remote Radio Unit - RF board

Size: A3 Date: 20-01-2024 Rev: B

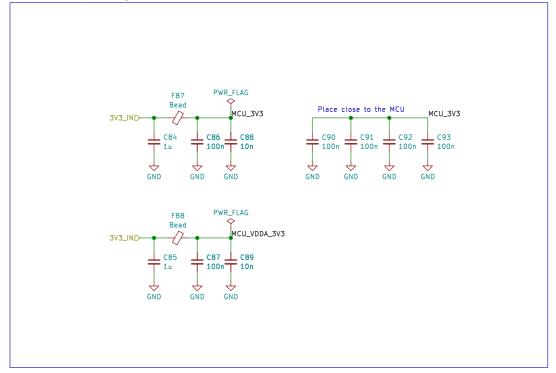
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Decoupling



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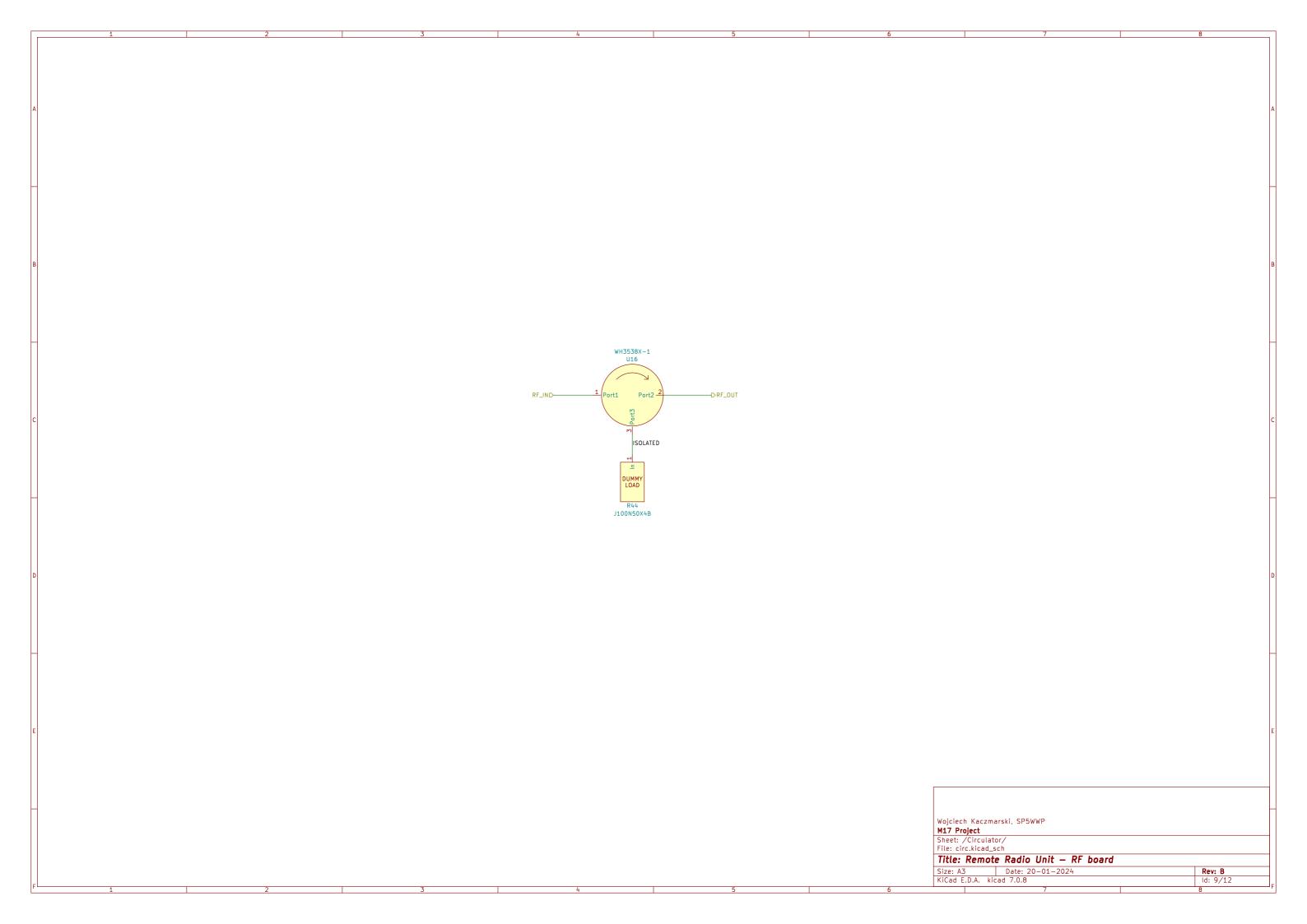
M17 Project

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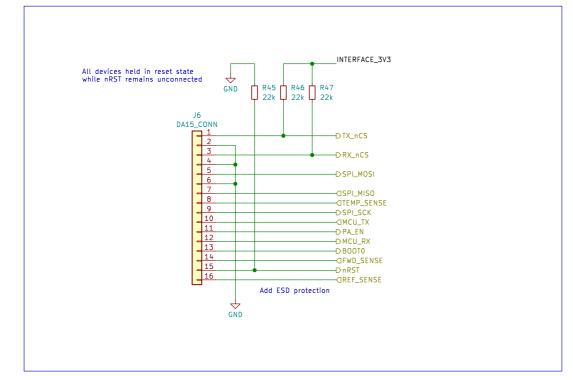
Title: Remote Radio Unit — RF board

Size: A3 Date: 20-01-2024 Rev: B

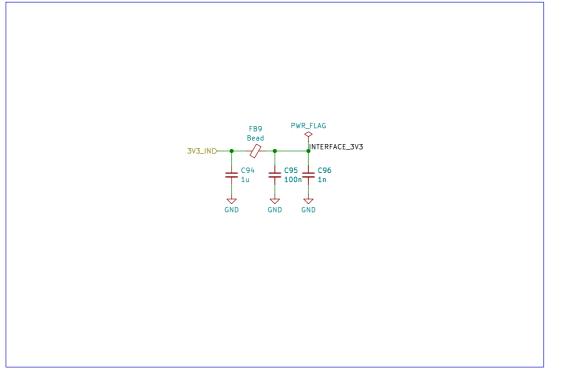
KiCad E.D.A. kicad 7.0.8 Id: 8/12



External connector



Decoupling



Wojciech Kaczmarski, SP5WWP M17 Project Sheet: /Interface/ File: interface.kicad_sch

Title: Remote Radio Unit - RF board
Size: A3 Date: 20-01-2024
KiCad E.D.A. kicad 7.0.8

