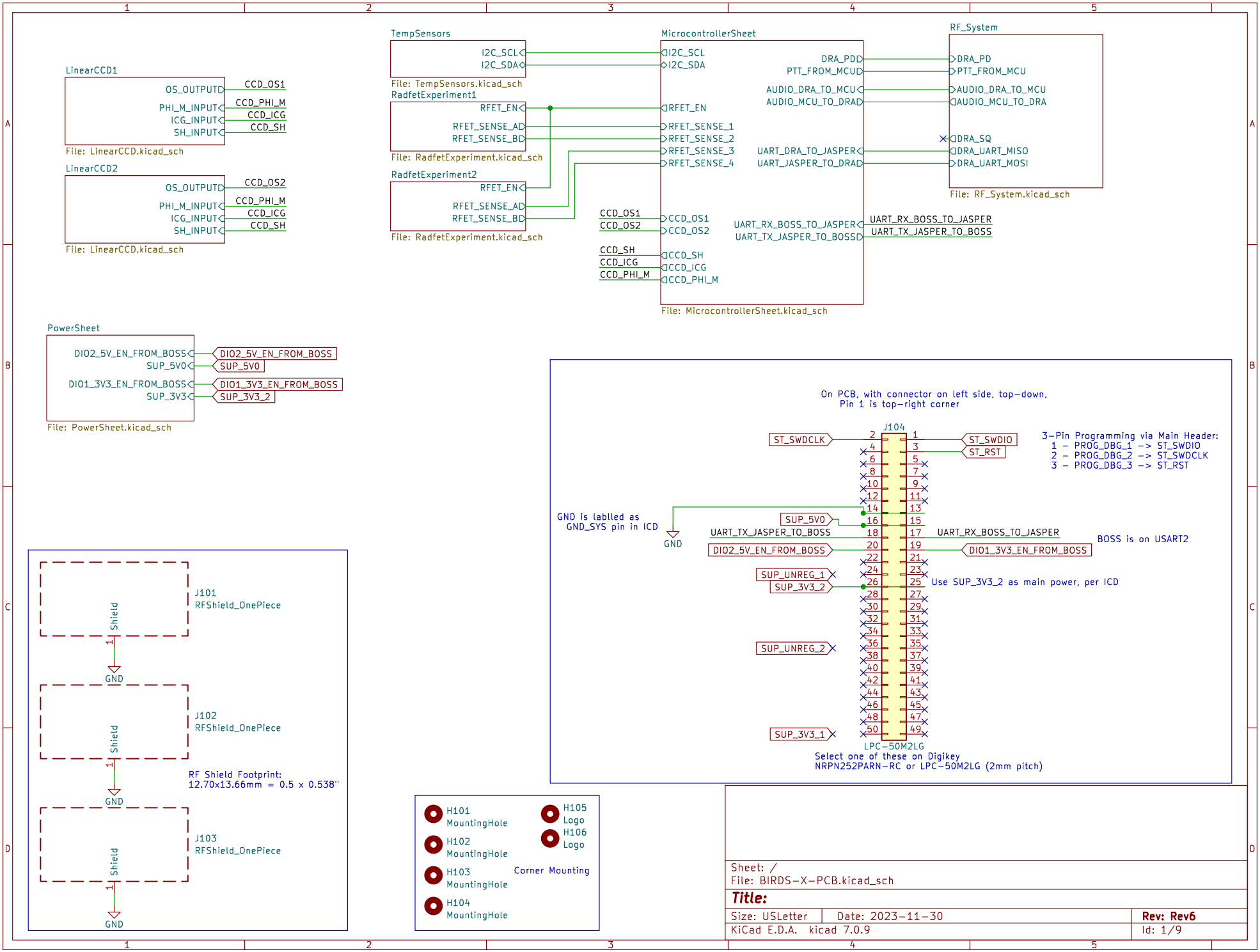
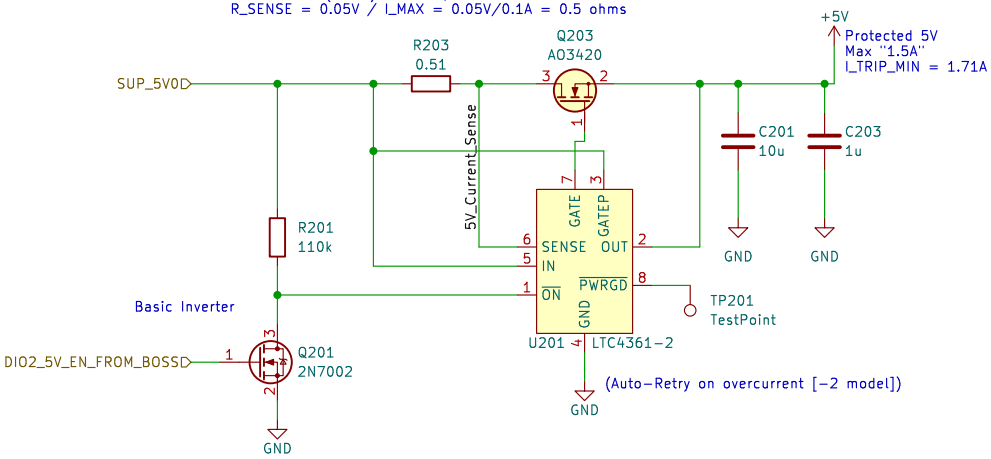
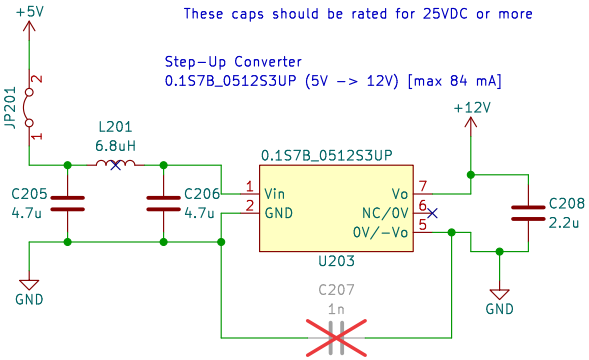

LinearCCD1
OS_OUTPUT
PHI_M_INPUT
ICG_INPUT
SH_INPUT
CCD_OS1
CCD_PHI_M
CCD_ICG
CCD_SH
File: LinearCCD.kicad_sch
LinearCCD2
OS_OUTPUT
PHI_M_INPUT
ICG_INPUT
SH_INPUT
CCD_OS2
CCD_PHI_M
CCD_ICG
CCD_SH
File: LinearCCD.kicad_sch
TempSensors
I2C_SCL
I2C_SDA
File: TempSensors.kicad_sch
RadfetExperiment1
RFET_EN
RFET_SENSE_AD
RFET_SENSE_BD
File: RadfetExperiment.kicad_sch
RadfetExperiment2
RFET_EN
RFET_SENSE_AD
RFET_SENSE_BD
File: RadfetExperiment.kicad_sch
MicrocontrollerSheet
I2C_SCL
I2C_SDA
RFET_EN
RFET_SENSE_1
RFET_SENSE_2
RFET_SENSE_3
RFET_SENSE_4
CCD_OS1
CCD_OS2
CCD_SH
CCD_ICG
CCD_PHI_M
DRA_PDD
PTT_FROM_MCU
AUDIO_DRA_TO_MCU
AUDIO_MCU_TO_DRA
UART_DRA_TO_JASPER
UART_JASPER_TO_DRA
UART_RX_BOSS_TO_JASPER
UART_TX_JASPER_TO_BOSS
File: MicrocontrollerSheet.kicad_sch
RF_System
DRA_PD
PTT_FROM_MCU
AUDIO_DRA_TO_MCU
AUDIO_MCU_TO_DRA
DRA_SQ
DRA_UART_MISO
DRA_UART_MOSI
File: RF_System.kicad_sch
UART_RX_BOSS_TO_JASPER
UART_TX_JASPER_TO_BOSS
PowerSheet
DIO2_5V_EN_FROM_BOSS
SUP_5V0
DIO1_3V3_EN_FROM_BOSS
SUP_3V3
DIO2_5V_EN_FROM_BOSS
SUP_5V0
DIO1_3V3_EN_FROM_BOSS
SUP_3V3_2
File: PowerSheet.kicad_sch
On PCB, with connector on left side, top-down,
Pin 1 is top-right corner
J104
ST_SWDCLK
ST_SWDIO
ST_RST
3-Pin Programming via Main Header:
1 - PROG_DBG_1 -> ST_SWDIO
2 - PROG_DBG_2 -> ST_SWDCLK
3 - PROG_DBG_3 -> ST_RST
GND is lablled as
GND_SYS pin in ICD
GND
SUP_5V0
UART_TX_JASPER_TO_BOSS
UART_RX_BOSS_TO_JASPER
BOSS is on USART2
DIO2_5V_EN_FROM_BOSS
DIO1_3V3_EN_FROM_BOSS
SUP_UNREG_1
SUP_3V3_2
Use SUP_3V3_2 as main power, per ICD
SUP_UNREG_2
SUP_3V3_1
LPC-50M2LG
Select one of these on Digikey
NRPN252PARN-RC or LPC-50M2LG (2mm pitch)
J101
RFShield_OnePiece
Shield
GND
J102
RFShield_OnePiece
Shield
GND
RF Shield Footprint:
12.70x13.66mm = 0.5 x 0.538"
J103
RFShield_OnePiece
Shield
GND
H101
MountingHole
H102
MountingHole
H103
MountingHole
H104
MountingHole
H105
Logo
H106
Logo
Corner Mounting
Sheet: /
File: BIRDS-X-PCB.kicad_sch
Title:
Size: USLetter
Date: 2023-11-30
Rev: Rev6
KiCad E.D.A. kicad 7.0.9
Id: 1/9

For the LTC4361 (per datasheet page 5):
R_SENSE = (0.05V) / I_SENSE

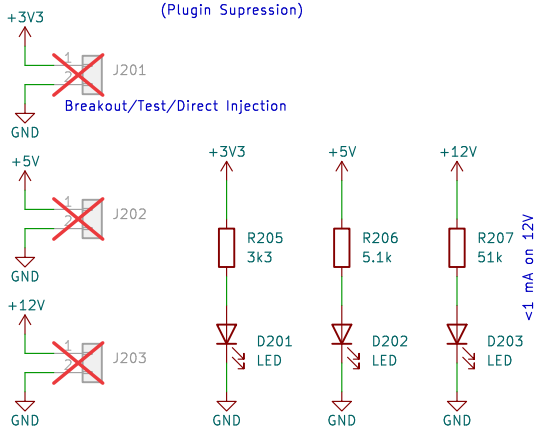
5V Current Limit:
Max Power = 0.5W (good for experiment safety)
Max Current (at 5V) = 0.5W / 5V = 0.1A
R_SENSE = 0.05V / I_MAX = 0.05V/0.1A = 0.5 ohms

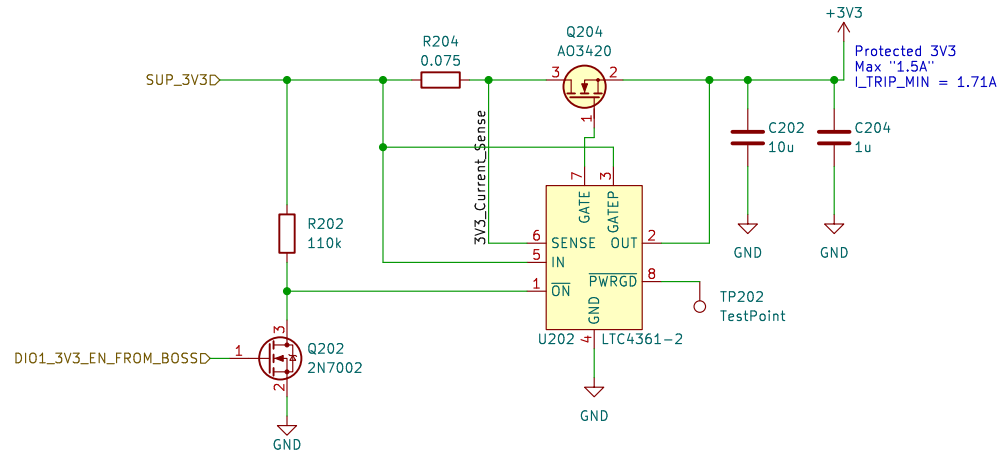


These caps should be rated for 25VDC or more



C206 should be 4kVDC
Vishay HGZ102MBP
TDK CD45-E2GA102M-GKA
(Plugin Supression)

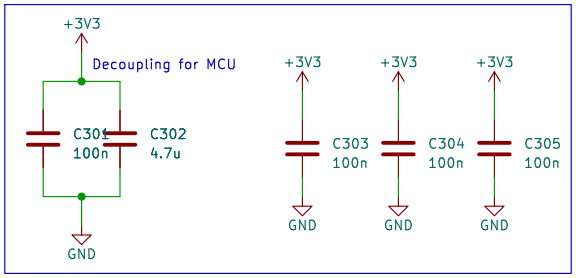




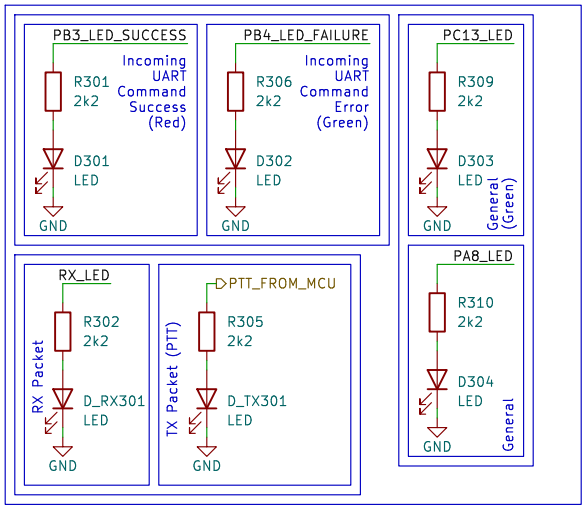
3V3 Current Limit:
Max Power = 2W (a little over the 1.75W max)
Max Current (at 3V3) = 2W/3V3 = 0.61A
R_SENSE = 0.05V / I_MAX = 0.05V/0.61A = 0.081 ohms

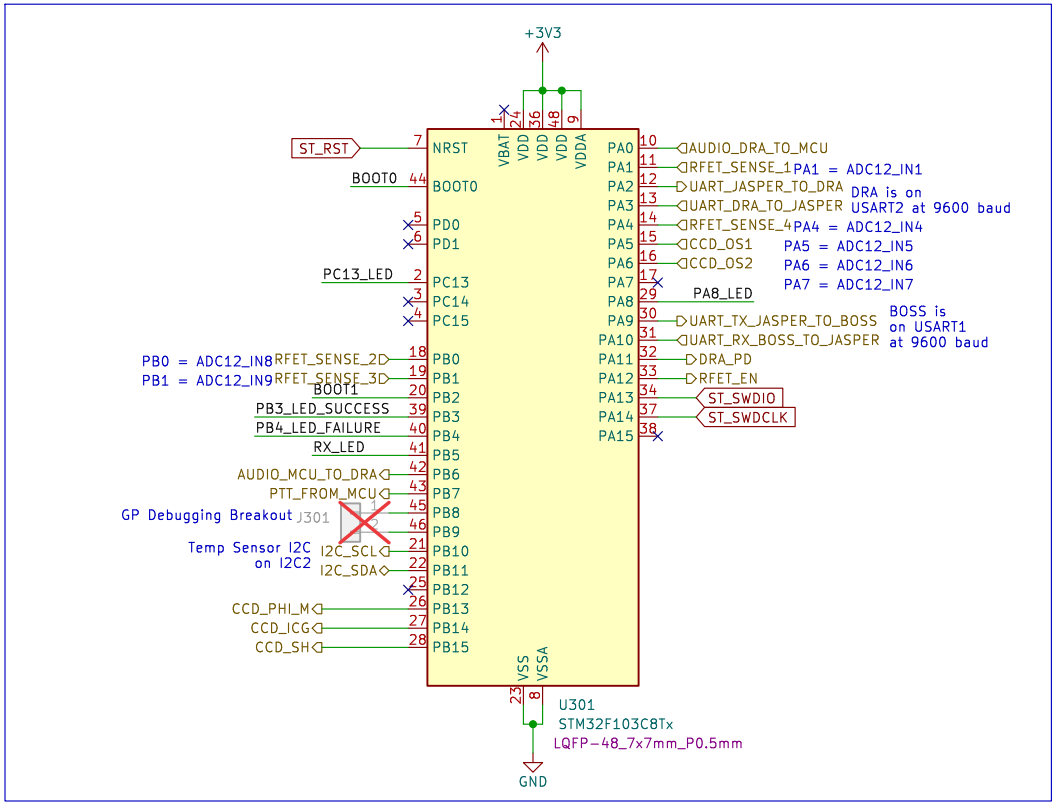
0.075 ohms => 0.66A => 2.2W

Sheet: /PowerSheet/		
File: PowerSheet.kicad_sch		
Title:		
Size: USLetter	Date: 2023-11-30	**Rev: Rev6**
KiCad E.D.A. kicad 7.0.9		Id: 2/9



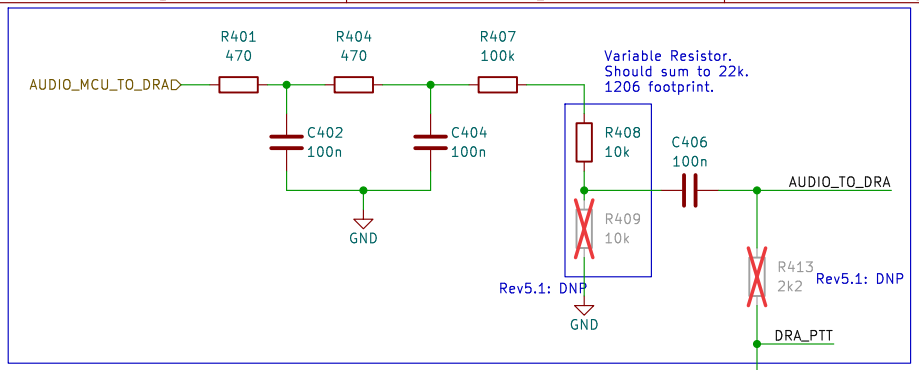
NOTE: Red is used to indicate success,
and green is used to indicate failure.

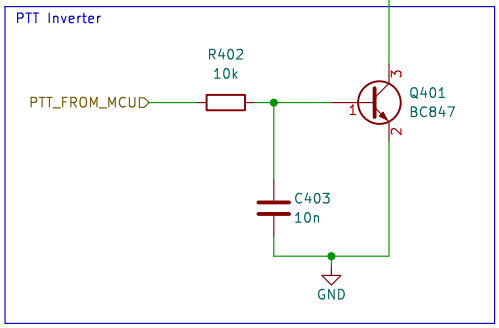


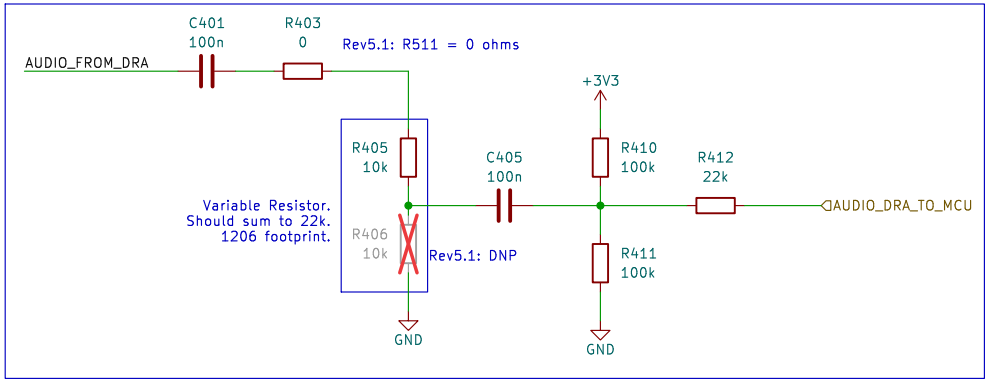


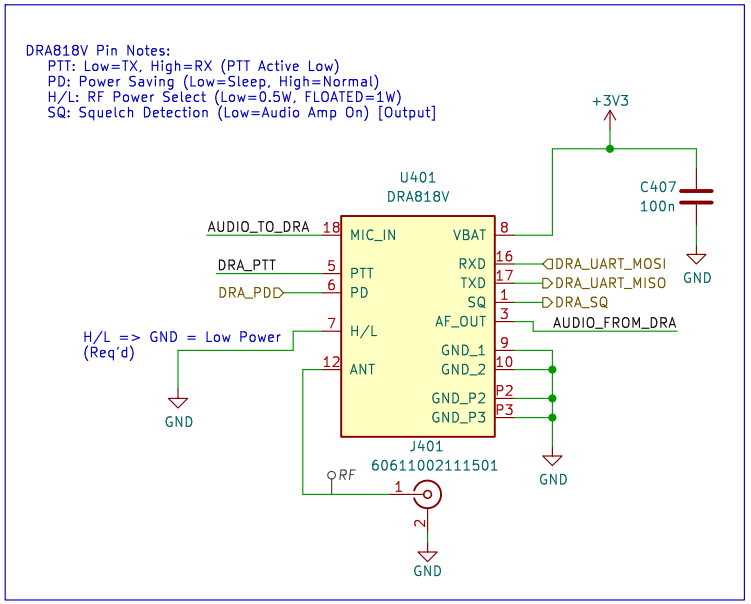
Sheet: /MicrocontrollerSheet/	
File: MicrocontrollerSheet.kicad_sch	
Title:	
Size: USLetter	Date: 2023-11-30
KiCad E.D.A. kicad 7.0.9	Id: 3/9

Rev: Rev6



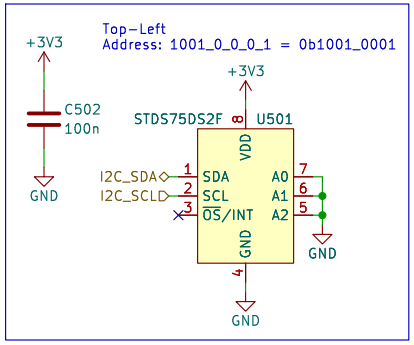


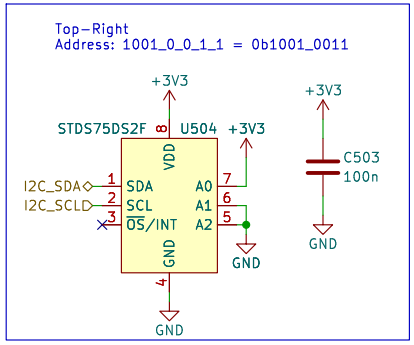


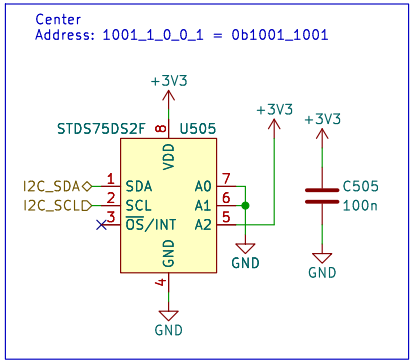


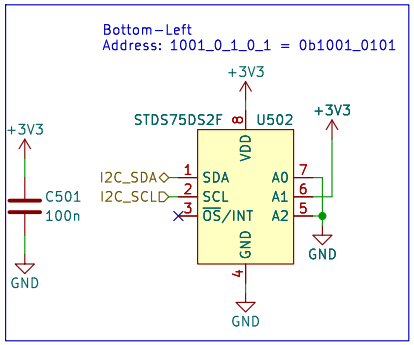
Sheet: /RF_System/		
File: RF_System.kicad_sch		
Title:		
Size: USLetter	Date: 2023-11-30	**Rev: Rev6**
KiCad E.D.A. kicad 7.0.9		Id: 4/9

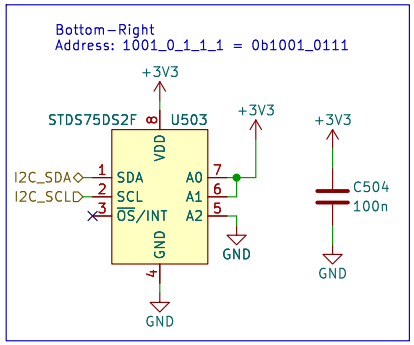
Address: 1001_A2_A1_A0_R/W
When R/W=1, READ mode

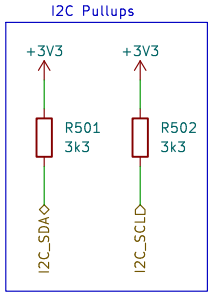




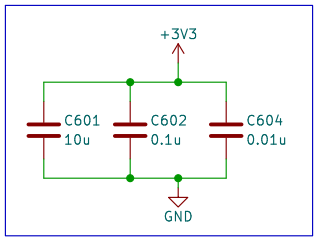


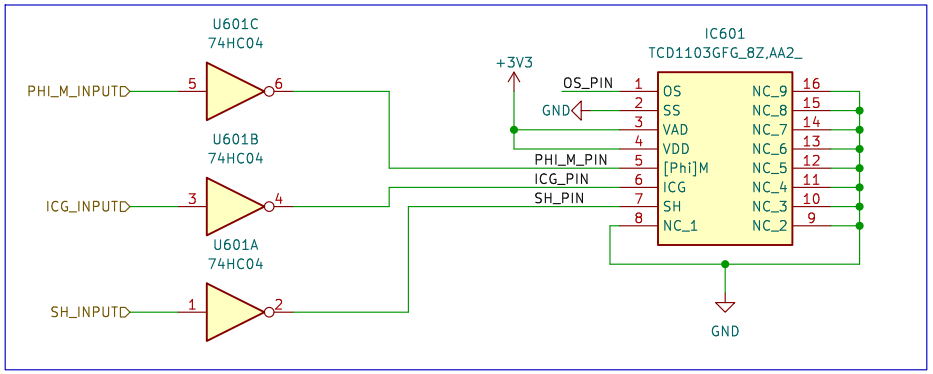


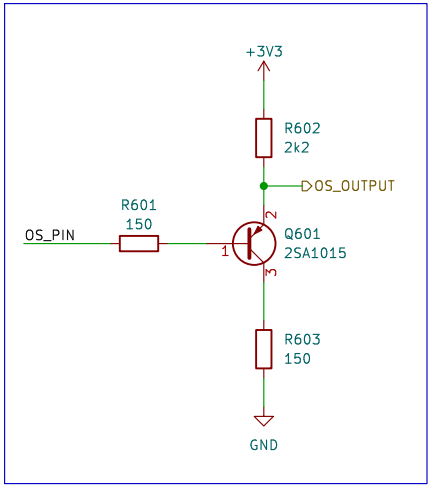


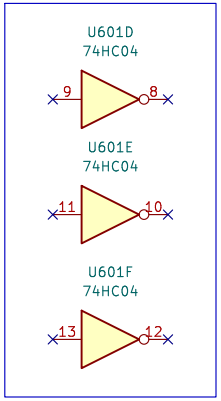


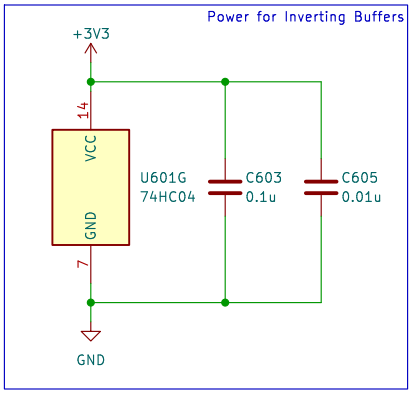
Sheet: /TempSensors/		
File: TempSensors.kicad_sch		
Title:		
Size: USLetter	Date: 2023-11-30	**Rev: Rev6**
KiCad E.D.A. kicad 7.0.9		Id: 5/9







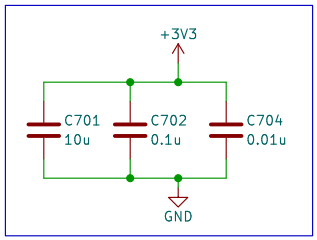


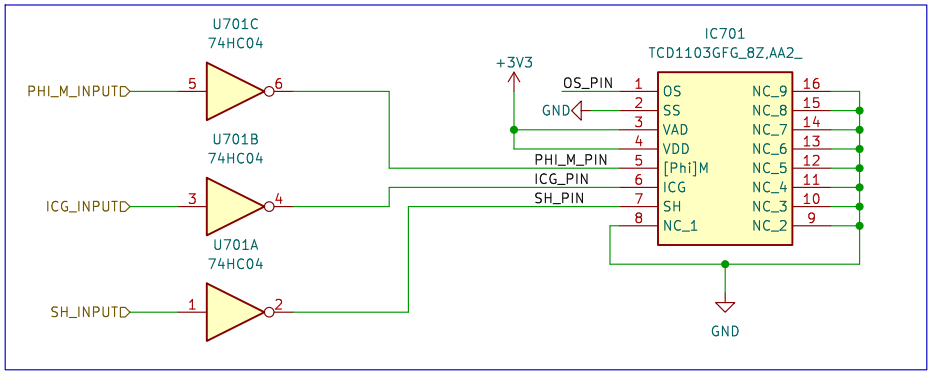


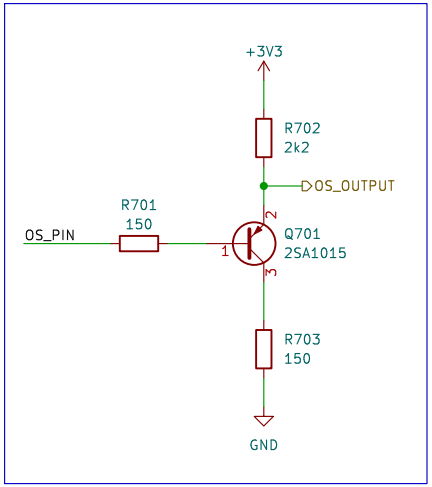
Sheet: /LinearCCD1/
File: LinearCCD.kicad_sch

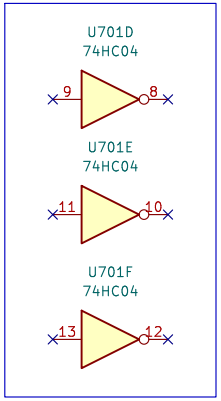
Title:

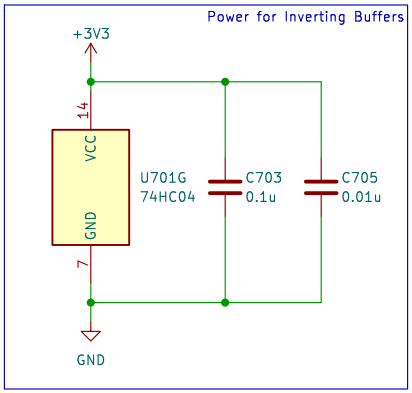
Size: USLetter	Date: 2023-11-30	**Rev: Rev6**
KiCad E.D.A. kicad 7.0.9		Id: 6/9







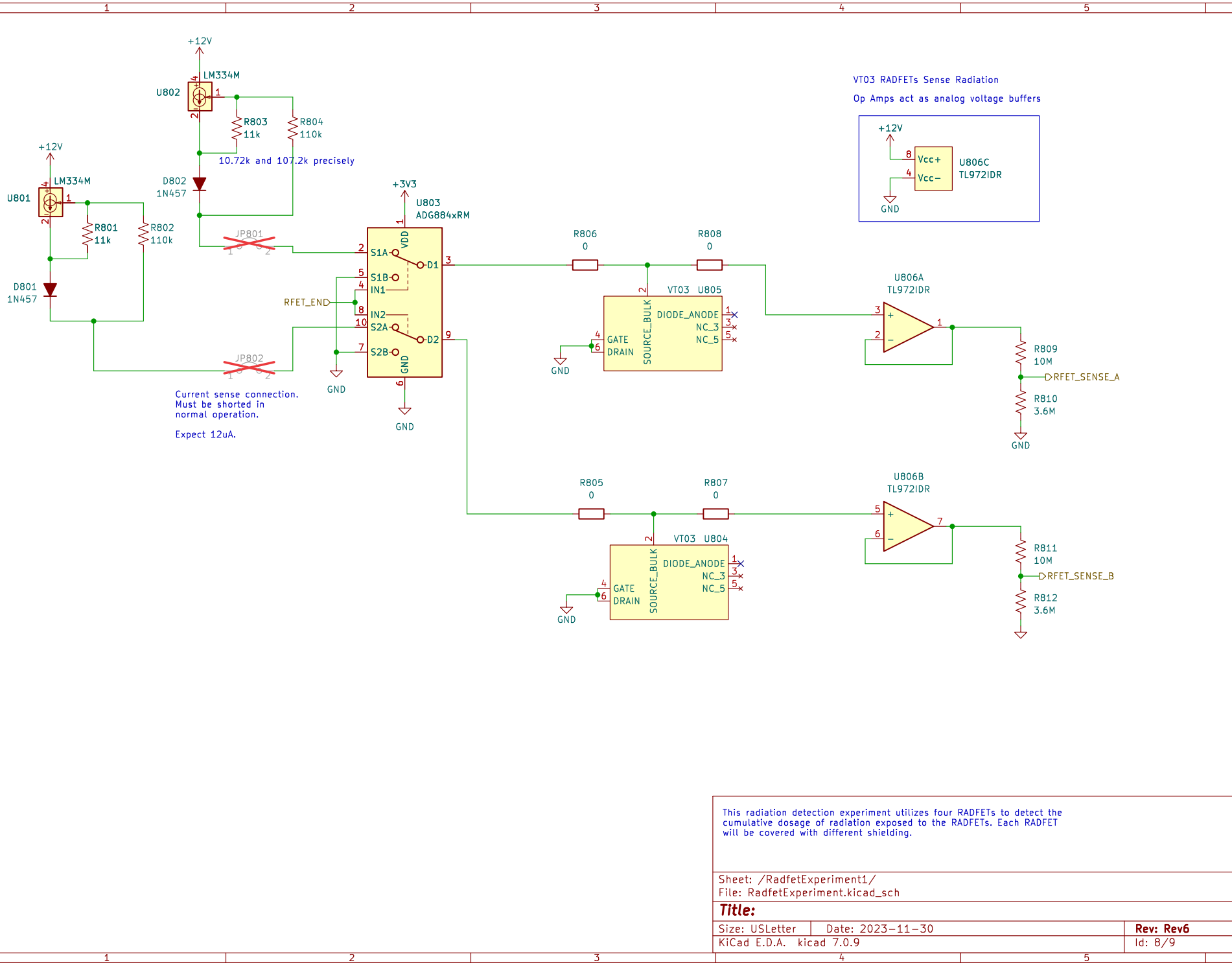




Sheet: /LinearCCD2/
File: LinearCCD.kicad_sch

Title:

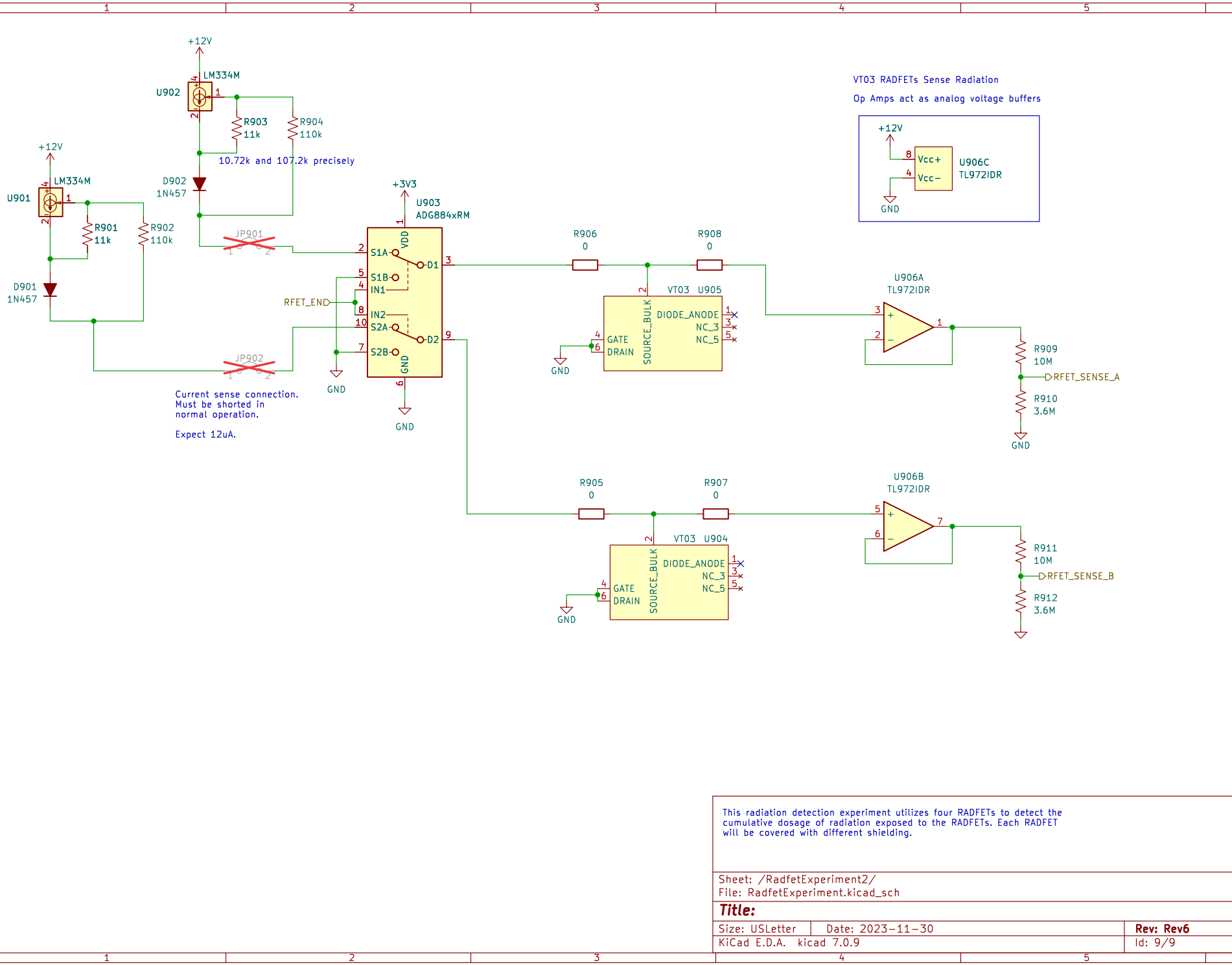
Size: USLetter	Date: 2023-11-30	**Rev: Rev6**
KiCad E.D.A. kicad 7.0.9		Id: 7/9



This radiation detection experiment utilizes four RADFETs to detect the cumulative dosage of radiation exposed to the RADFETs. Each RADFET will be covered with different shielding.

Sheet: /RadfetExperiment1/	
File: RadfetExperiment.kicad_sch	
Title:	
Size: USLetter	Date: 2023-11-30
KiCad E.D.A. kicad 7.0.9	Id: 8/9

Rev: Rev6



This radiation detection experiment utilizes four RADFETs to detect the cumulative dosage of radiation exposed to the RADFETs. Each RADFET will be covered with different shielding.

Sheet: /RadfetExperiment2/
File: RadfetExperiment.kicad_sch

Title:

Size: USLetter	Date: 2023-11-30	**Rev: Rev6**
KiCad E.D.A. kicad 7.0.9		Id: 9/9