primary_power

File: primary_power.kicad_sch

TX_ax5043

File: TX_ax5043.kicad_sch

Power_Divider

File: Power_Divider.kicad_sch

Power_AMP

File: Power_Amp.kicad_sch

RX_1_ax5044

File: RX_1_ax5043.kicad_sch

Clocks

File: Clocks.kicad_sch

RX_2_ax5045

File: RX_2_ax5043.kicad_sch

SPI_CTL

File: SPI_CTL.kicad_sch

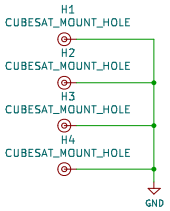
TODO: ANALOG SIGNAL CONDITIONING ON ALL I/O
Check clock generaators
Assign clock frequencies
develope frequency plan
check settings for PSK modulation
Check Power supplies

RX_3_ax5045

File: RX_3_ax5043.kicad_sch

RX_4_ax5045

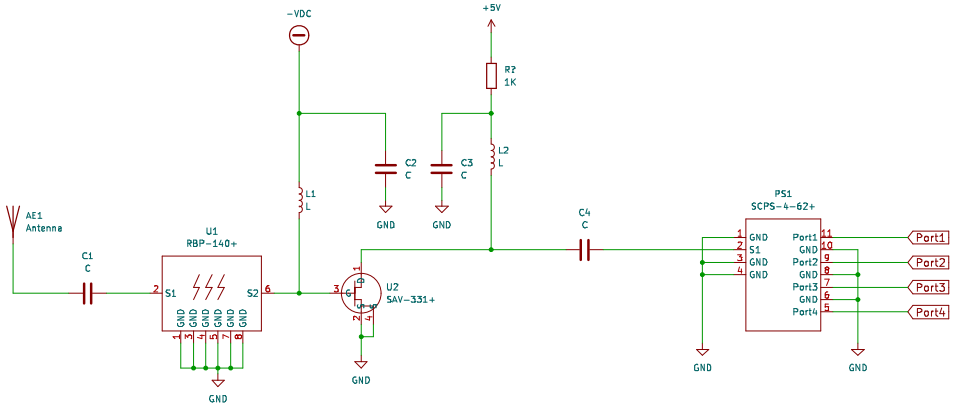
File: RX_4_ax5043.kicad_sch



Z. Metzinger
AMSAT-NA
Sheet: /
File: Pacsat_AX0053_only.kicad_sch

Title: Radiation Tolerant Internal Housekeeping Unit (IHU)

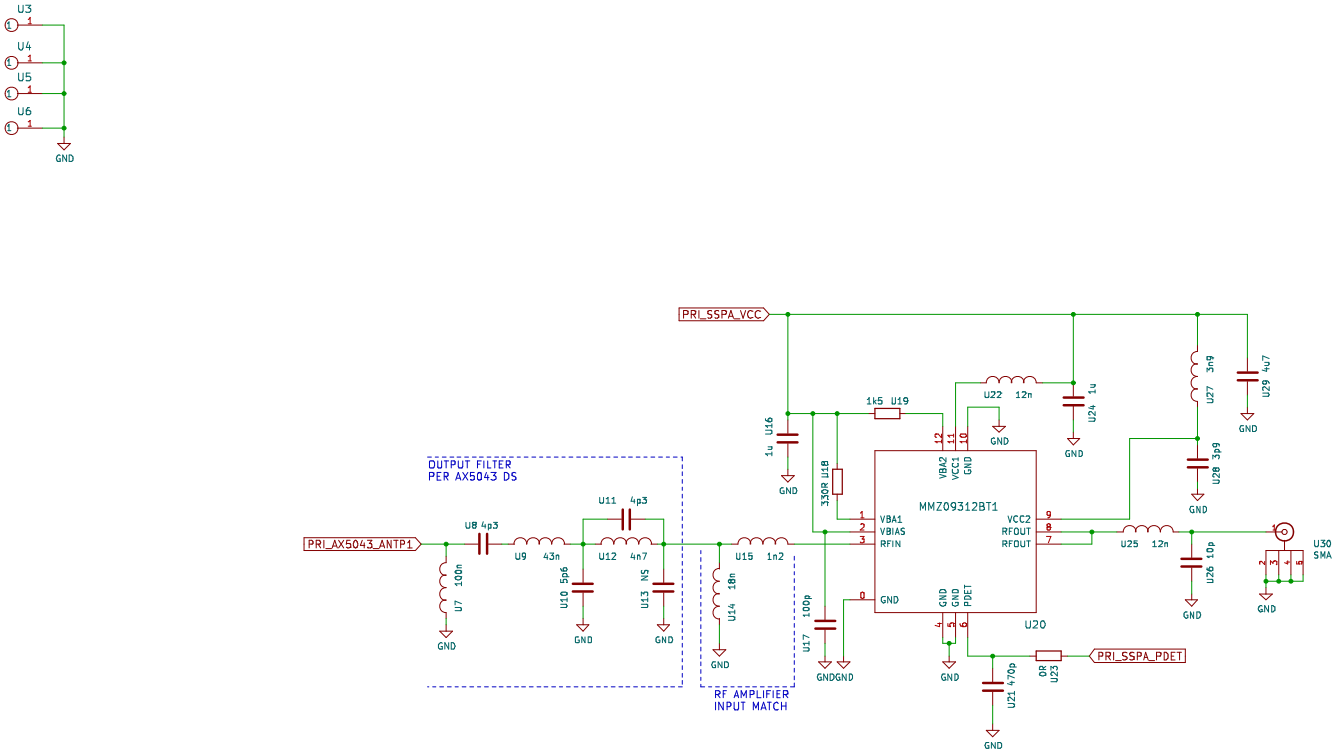
Size: USLedger	Date: 2019-12-23	**Rev: 1.1**
KiCad E.D.A. kicad 6.0.8-f2edbf62ab-116-ubuntu20.04.1		Id: 1/11



Z. Metzinger
AMSAT-NA
Sheet: /Power_Divider/
File: Power_Divider.kicad_sch

Title: Radiation Tolerant Internal Housekeeping Unit (IHU)

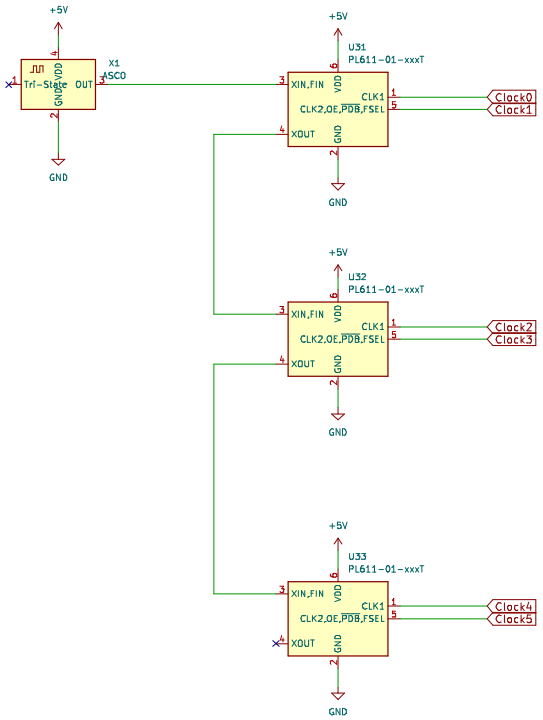
Size: USLedger	Date: 2019-12-23	**Rev: 1.1**
KiCad E.D.A. kicad 6.0.8-f2edbf62ab-116-ubuntu20.04.1		Id: 2/11



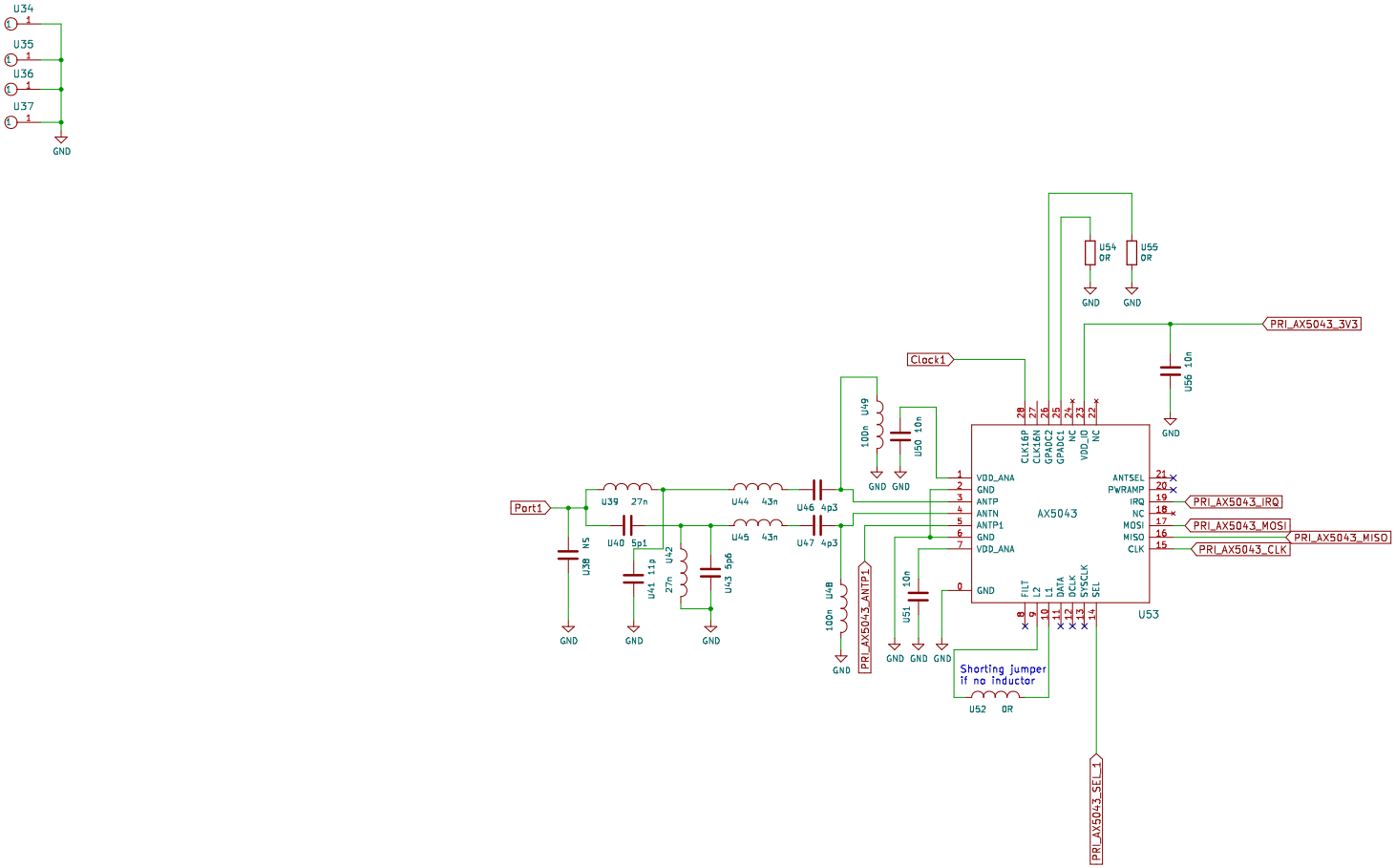
Z. Metzinger
AMSAT-NA
Sheet: /Power_AMP/
File: Power_Amp.kicad_sch

Title: Radiation Tolerant Internal Housekeeping Unit (IHU)

Size: USLedger	Date: 2019-12-23	**Rev: 1.1**
KiCad E.D.A. kicad 6.0.8-f2edbf62ab-116-ubuntu20.04.1		Id: 3/11



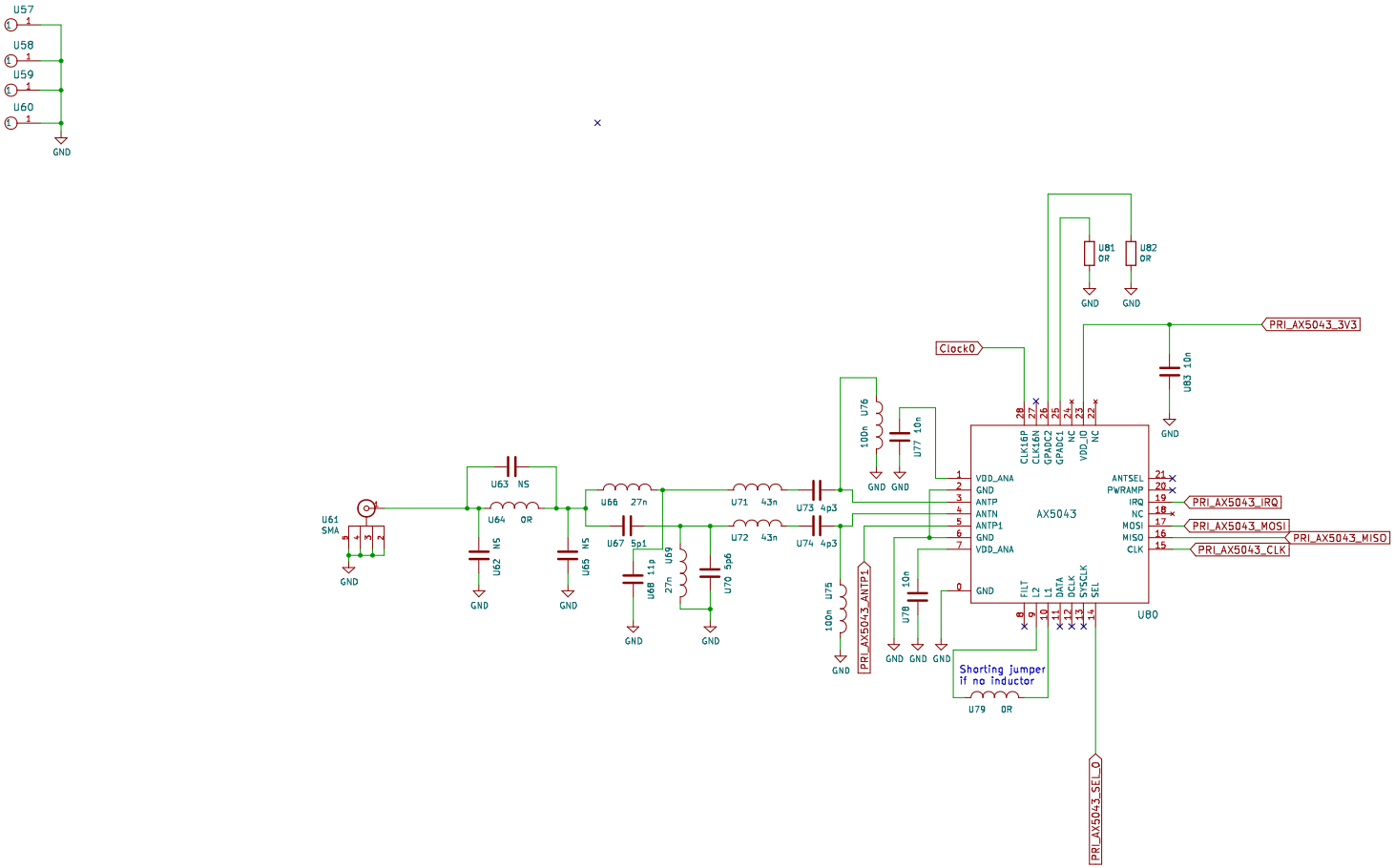
Z. Metzinger	
AMSAT-NA	
Sheet: /Clocks/	
File: Clocks.kicad_sch	
Title: Radiation Tolerant Internal Housekeeping Unit (IHU)	
Size: USLedger | Date: 2019-12-23	**Rev: 1.1**
KiCad E.D.A. kicad 6.0.8-f2edbf62ab-116-ubuntu20.04.1	Id: 4/11



Z. Metzinger
AMSAT-NA
Sheet: /RX_1_ax5044/
File: RX_1_ax5043.kicad_sch

Title: Radiation Tolerant Internal Housekeeping Unit (IHU)

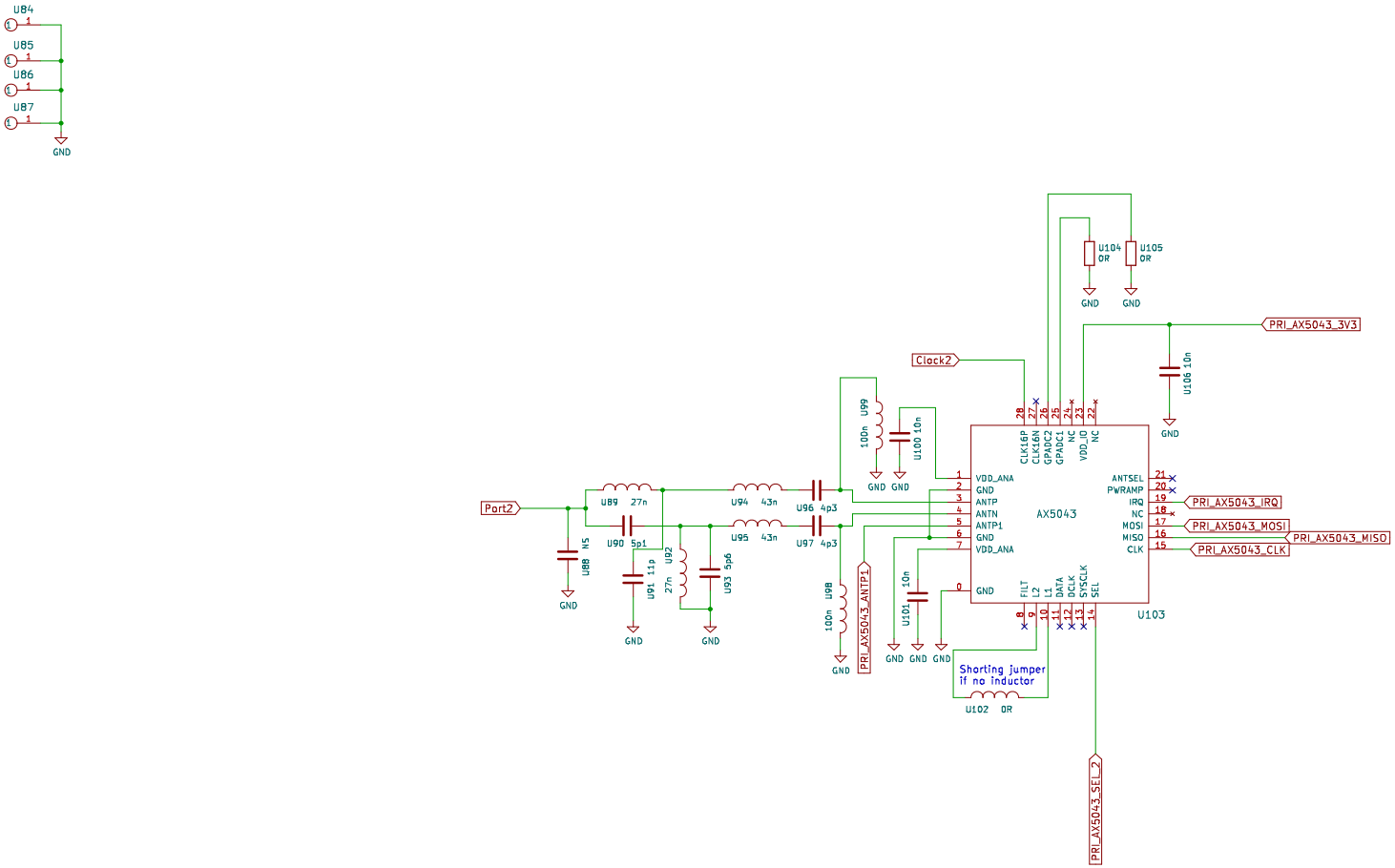
Size: USLedger	Date: 2019-12-23	**Rev: 1.1**
KiCad E.D.A. kicad 6.0.8-f2edbf62ab-116-ubuntu20.04.1		Id: 5/11



Z. Metzinger
AMSAT-NA
Sheet: /TX_ax5043/
File: TX_ax5043.kicad_sch

Title: Radiation Tolerant Internal Housekeeping Unit (IHU)

Size: USLedger	Date: 2019-12-23	**Rev: 1.1**
KiCad E.D.A. kicad 6.0.8-f2edbf62ab-116-ubuntu20.04.1		Id: 6/11



Z. Metzinger	
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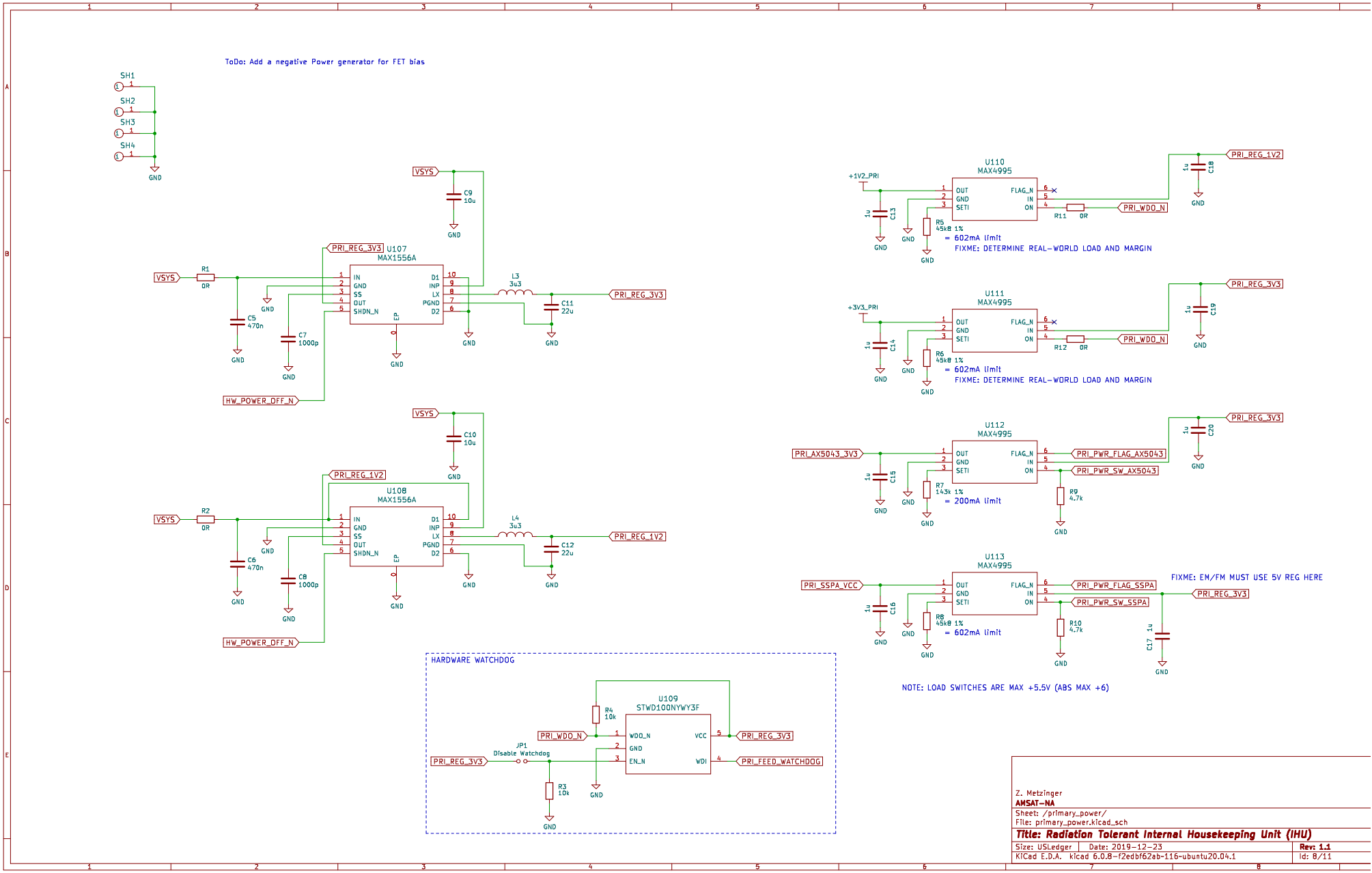
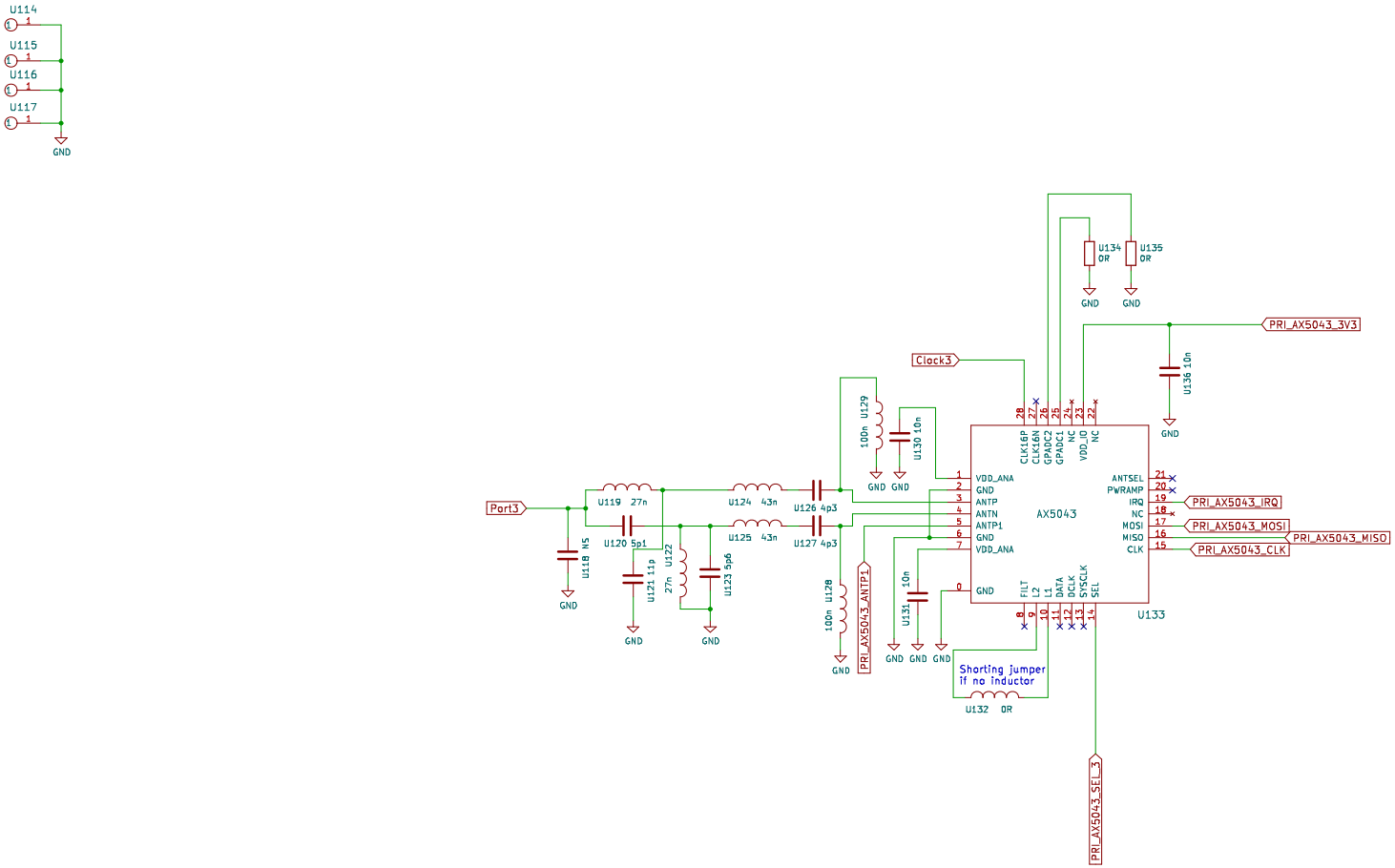
File: RX_2_ax5043.kicad_sch	
Title: Radiation Tolerant Internal Housekeeping Unit (IHU)	
Size: USLedger | Date: 2019-12-23	**Rev: 1.1**
KiCad E.D.A. kicad 6.0.8-f2edbf62ab-116-ubuntu20.04.1	Id: 7/11


ToDo: Add a negative Power generator for FET bias
SH1
SH2
SH3
SH4
GND
VSYS
C9
10u
PRI_REG_3V3
U107
MAX1556A
R1
0R
C5
470n
C7
1000p
L3
3u3
C11
22u
HW_POWER_OFF_N
C10
10u
PRI_REG_1V2
U108
MAX1556A
R2
0R
C6
470n
C8
1000p
L4
3u3
C12
22u
HARDWARE WATCHDOG
U109
STWD100NYWY3F
R4
10k
PRI_WDO_N
JP1
DIsable Watchdog
R3
10k
PRI_FEED_WATCHDOG
U110
MAX4995
+1V2_PRI
C13
1u
R5
45kΩ 1%
= 602mA limit
FIXME: DETERMINE REAL-WORLD LOAD AND MARGIN
R11
0R
C18
1u
U111
MAX4995
+3V3_PRI
C14
1u
R6
45kΩ 1%
= 602mA limit
FIXME: DETERMINE REAL-WORLD LOAD AND MARGIN
R12
0R
C19
1u
U112
MAX4995
PRI_AX5043_3V3
C15
1u
R7
143k 1%
= 200mA limit
PRI_PWR_FLAG_AX5043
PRI_PWR_SW_AX5043
R9
4.7k
C20
1u
U113
MAX4995
PRI_SSPA_VCC
C16
1u
R8
45kΩ 1%
= 602mA limit
PRI_PWR_FLAG_SSPA
PRI_PWR_SW_SSPA
R10
4.7k
C17
1u
FIXME: EM/FM MUST USE 5V REG HERE
NOTE: LOAD SWITCHES ARE MAX +5.5V (ABS MAX +6)
Z. Metzinger
AMSAT-NA
Sheet: /primary_power/
File: primary_power.kicad_sch
Title: Radiation Tolerant Internal Housekeeping Unit (IHU)
Size: USLedger
Date: 2019-12-23
Rev: 1.1
KiCad E.D.A. kicad 6.0.8-f2edbf62ab-116-ubuntu20.04.1
Id: 8/11



Z. Metzinger
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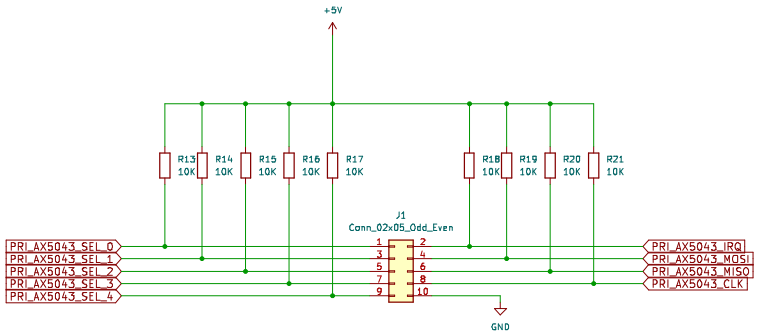
File: RX_3_ax5043.kicad_sch

Title: Radiation Tolerant Internal Housekeeping Unit (IHU)

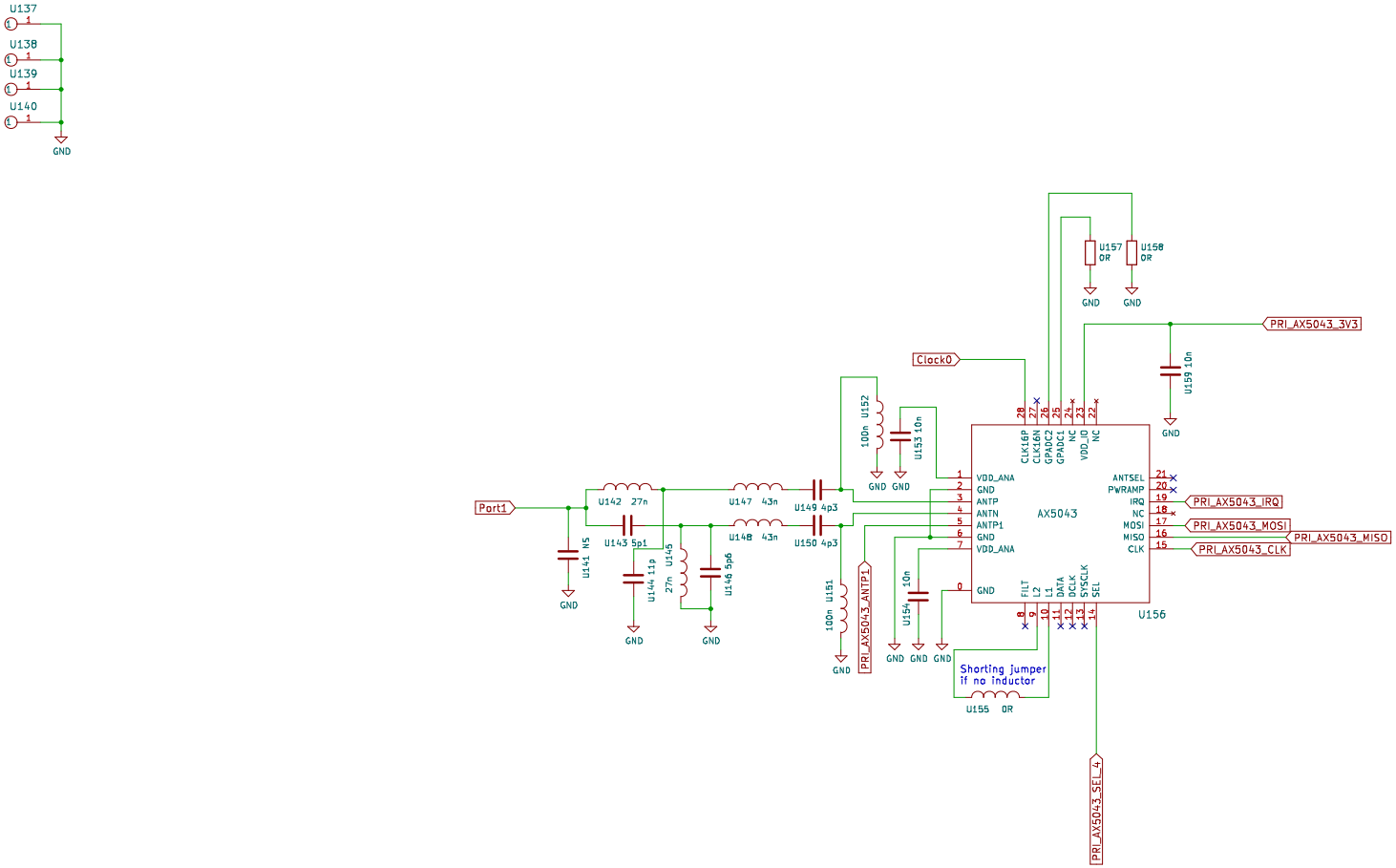
Size: USLedger	Date: 2019-12-23	**Rev: 1.1**
KiCad E.D.A. kicad 6.0.8-f2edbf62ab-116-ubuntu20.04.1		Id: 9/11



Z. Metzinger
AMSAT-NA
Sheet: /SPI_CTL/
File: SPI_CTL.kicad_sch

Title: Radiation Tolerant Internal Housekeeping Unit (IHU)

Size: USLedger	Date: 2019-12-23	**Rev: 1.1**
KiCad E.D.A. kicad 6.0.8-f2edbf62ab-116-ubuntu20.04.1		Id: 10/11



Z. Metzinger
AMSAT-NA
Sheet: /RX_4_ax5045/
File: RX_4_ax5043.kicad_sch

Title: Radiation Tolerant Internal Housekeeping Unit (IHU)

Size: USLedger	Date: 2019-12-23	**Rev: 1.1**
KiCad E.D.A. kicad 6.0.8-f2edbf62ab-116-ubuntu20.04.1		Id: 11/11