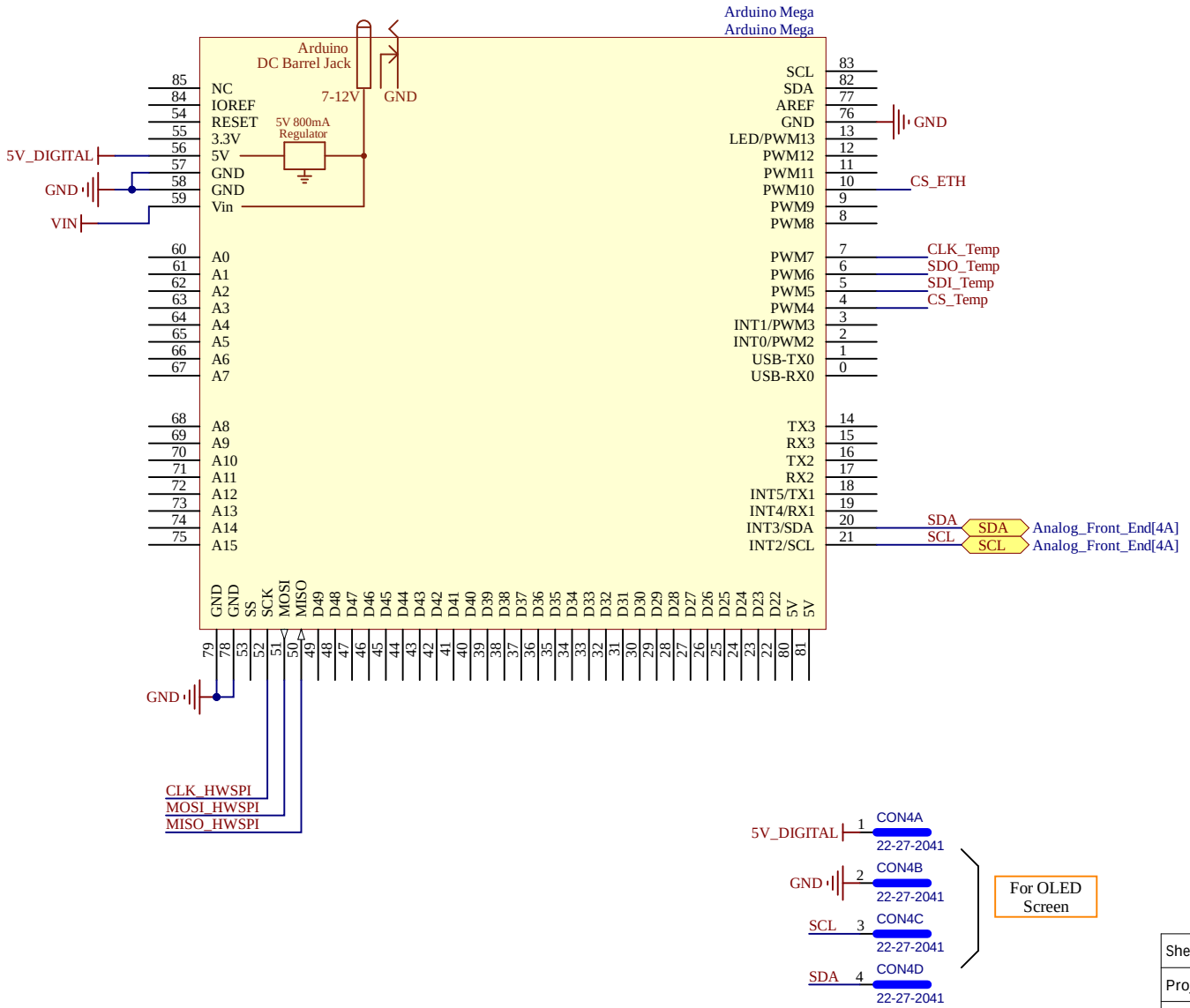
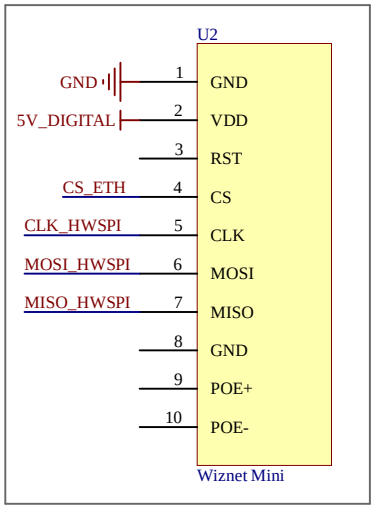
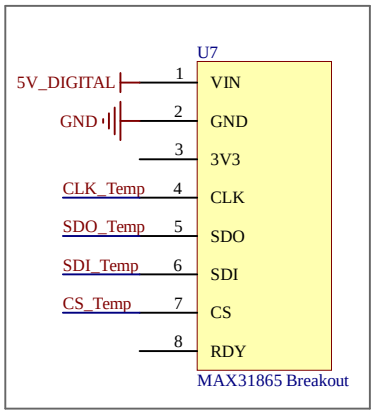


W5100 Ethernet Controller

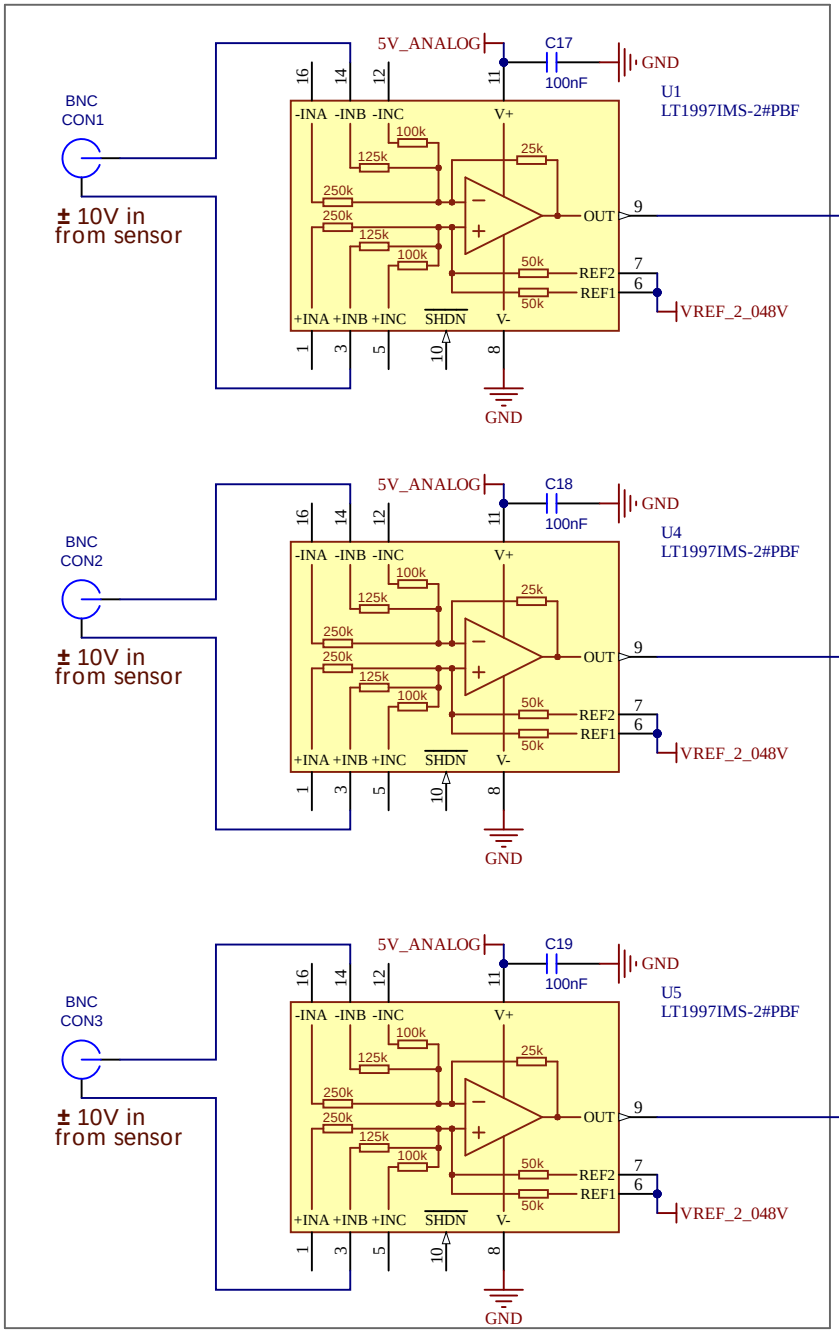


PT100 SPI temperature converter



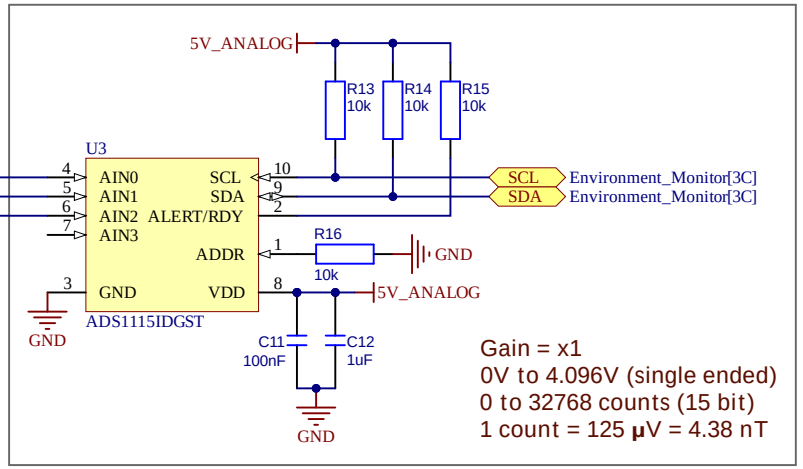
Sheet Title: Environment Monitor			Quantum Systems & Devices
Project: Environment_Monitor.PrjPcb			
Drawn By: T Barrett	Size: A4	Sheet: 1 of 3	University of Sussex
File: Environment_Monitor.SchDoc	Rev. *	Date: 22/03/2023	Altium

Scale and Shift (Gain = x0.2 , shift by +2.048V)

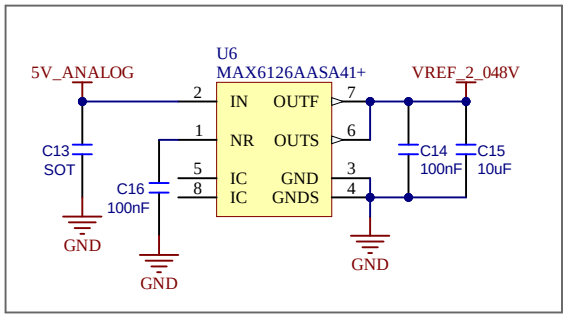


0.048V to 4.048V to match ADC input

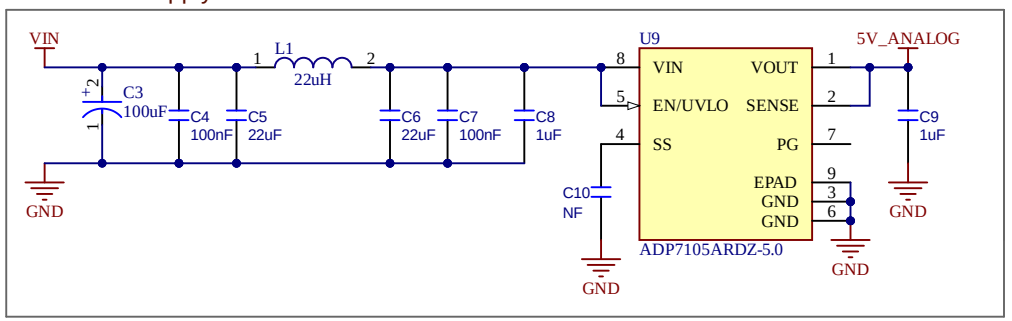
Analog-> Digital converter



2.048V Voltage Reference , 3ppm/°C

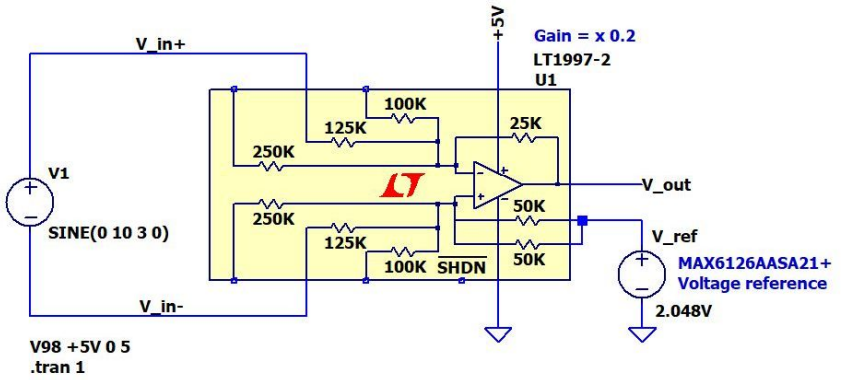


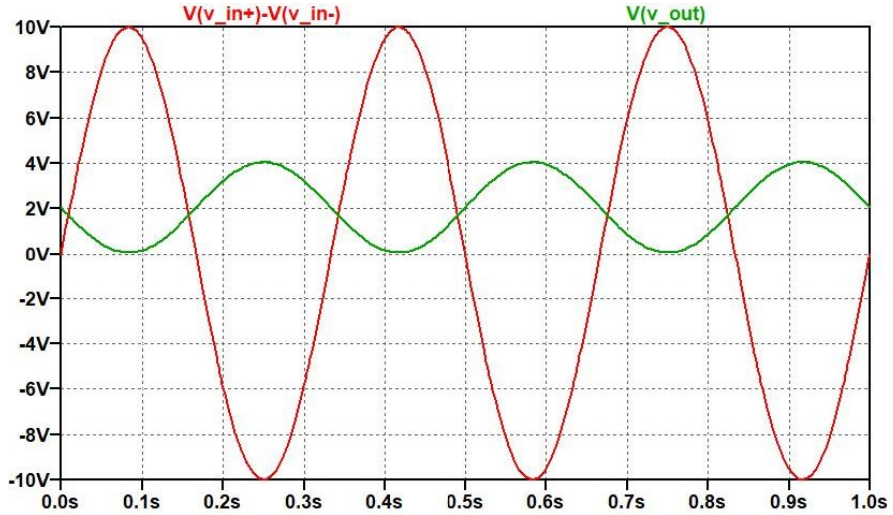
5V Power Supply

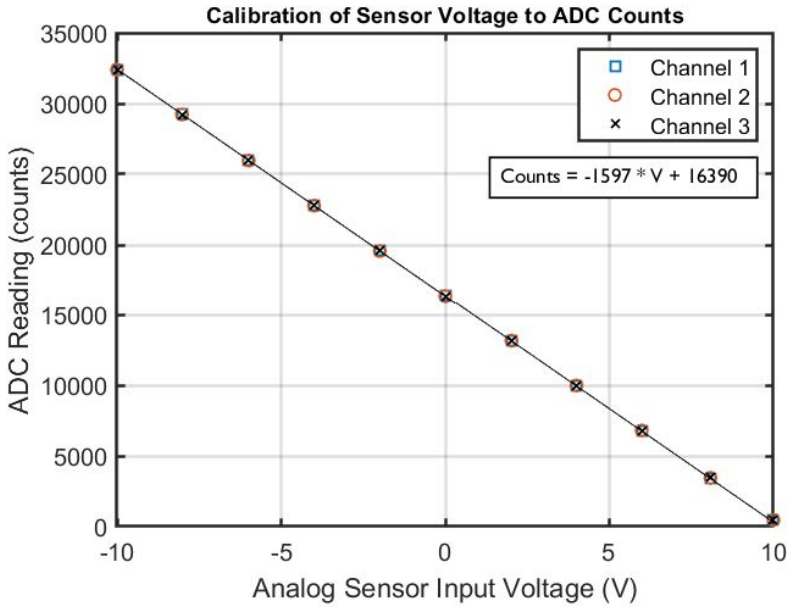


Sheet Title: Analog Front End			Quantum Systems & Devices
Project: Environment_Monitor.PrjPcb			
Drawn By: T. Barrett	Size: A4	Sheet: 2 of 3	University of Sussex
File: Analog_Front_End.SchDoc	Rev. *	Date: 22/03/2023	Altium

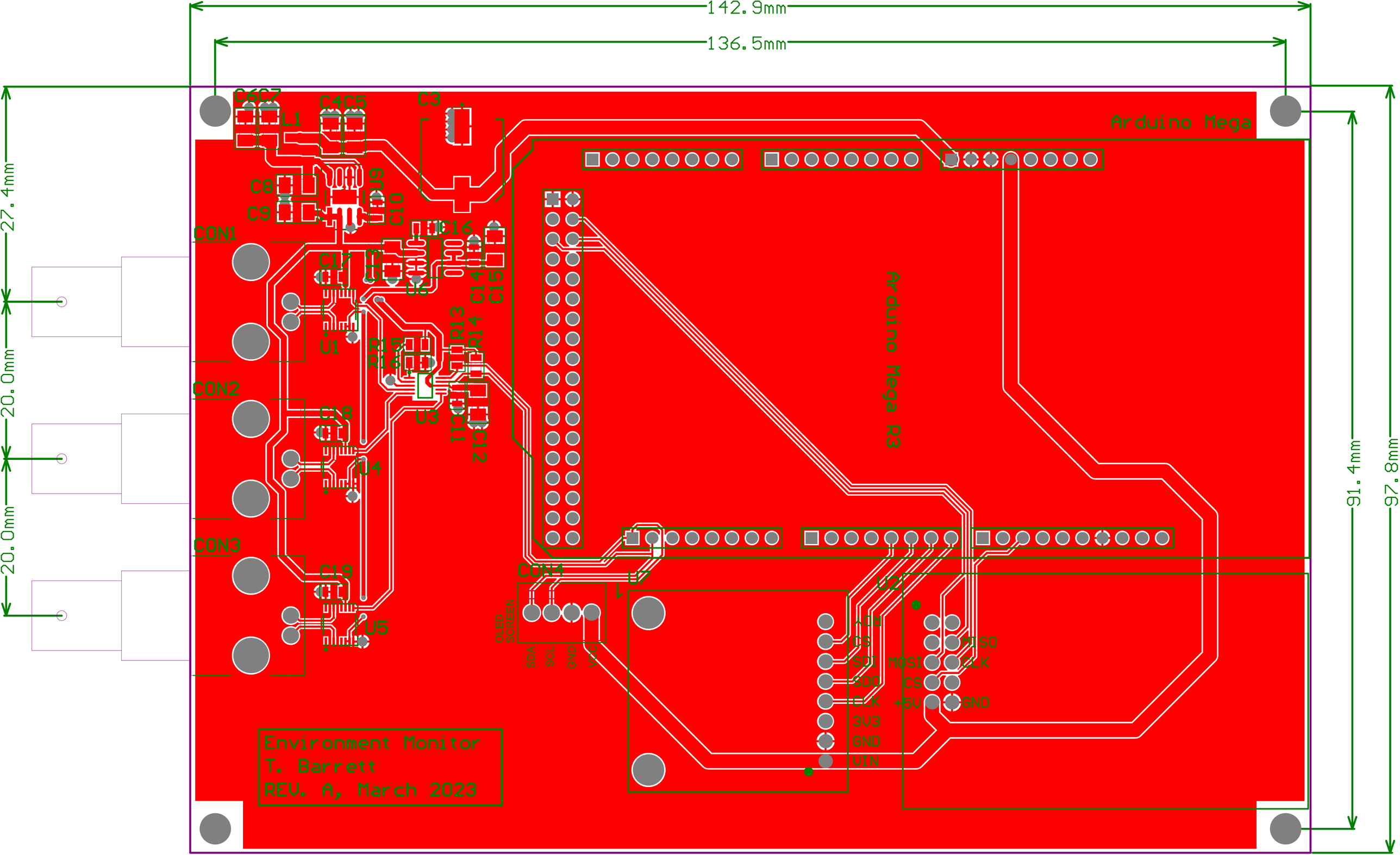
LTSpice simulation of analog front end

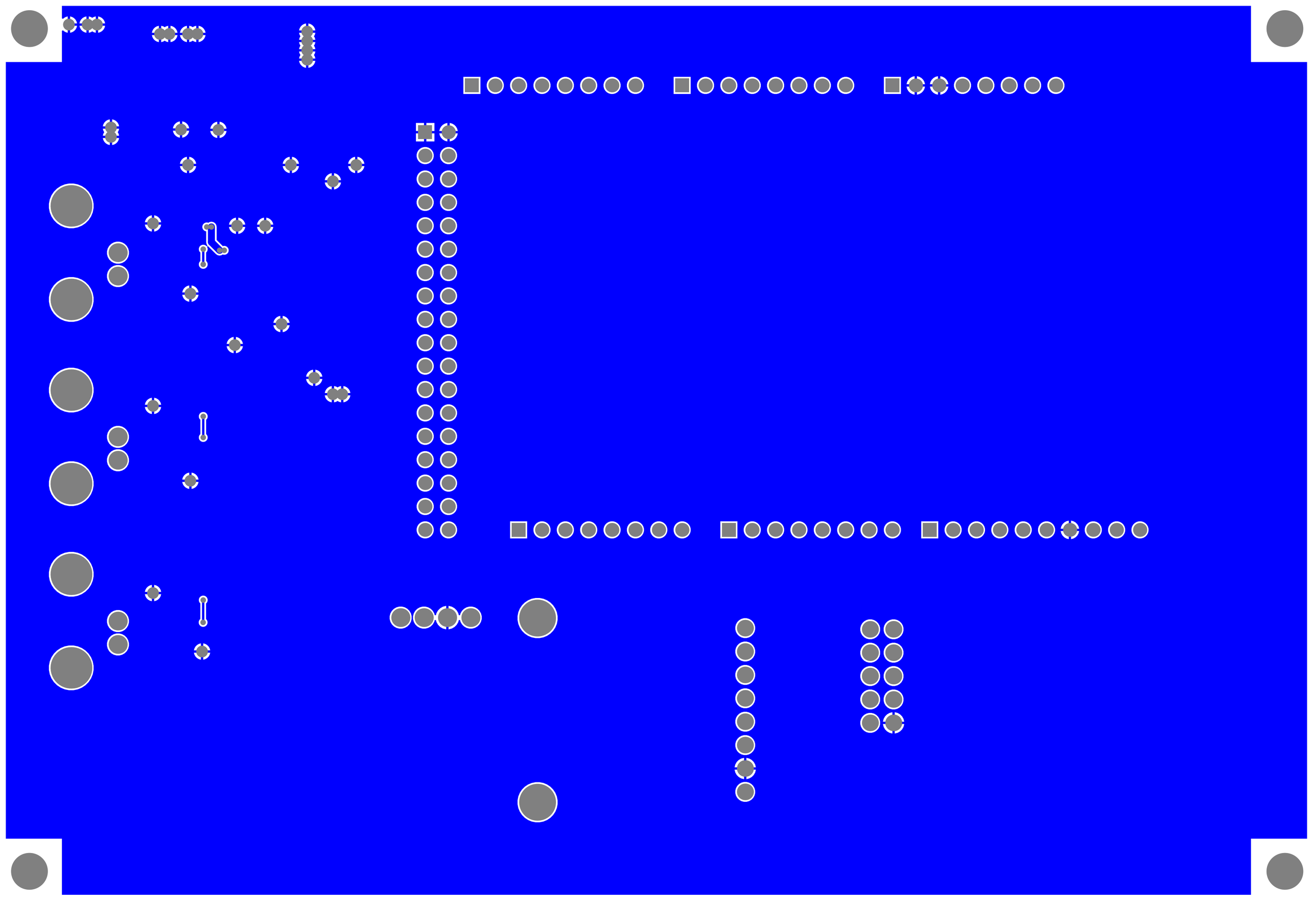


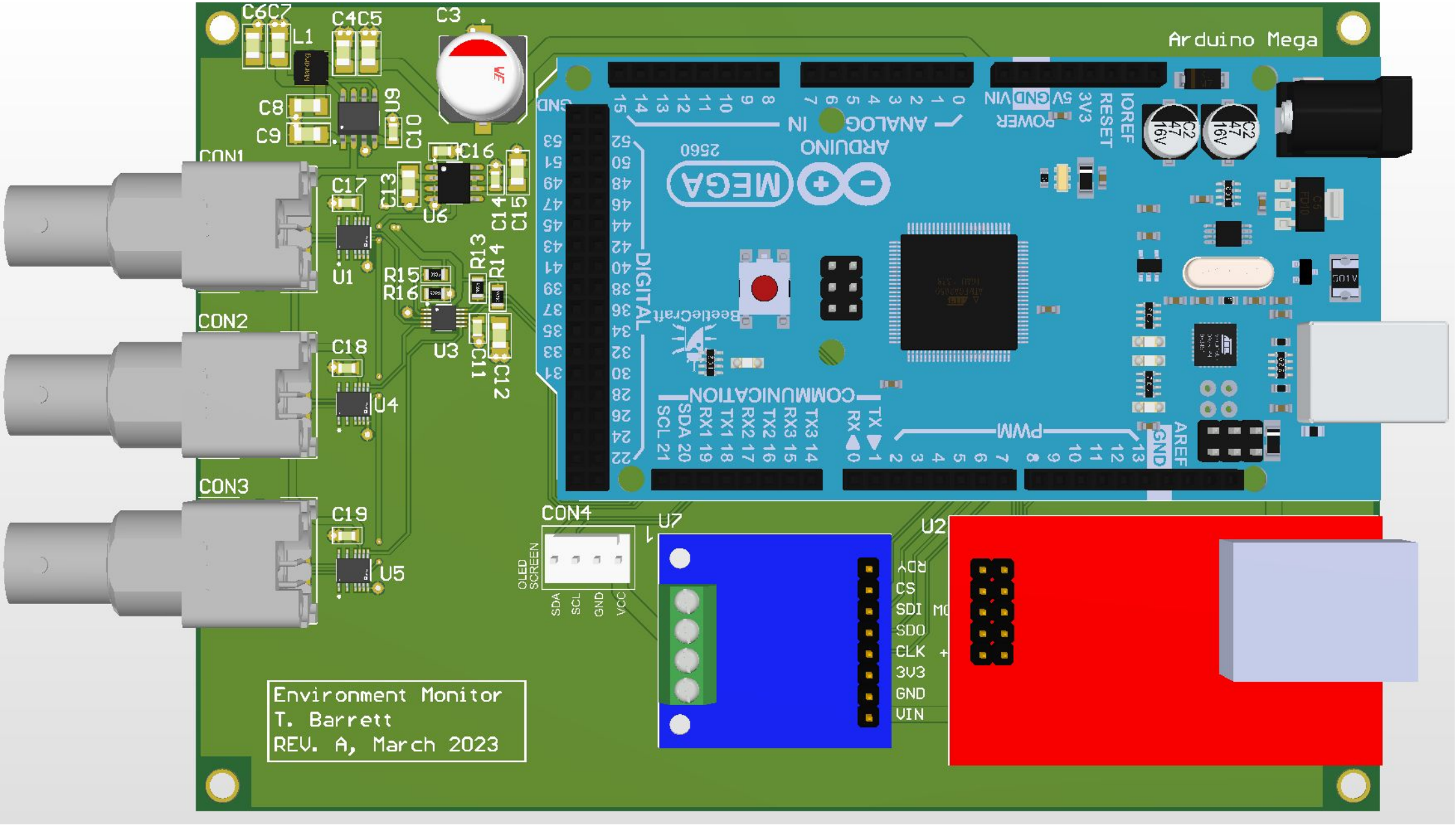


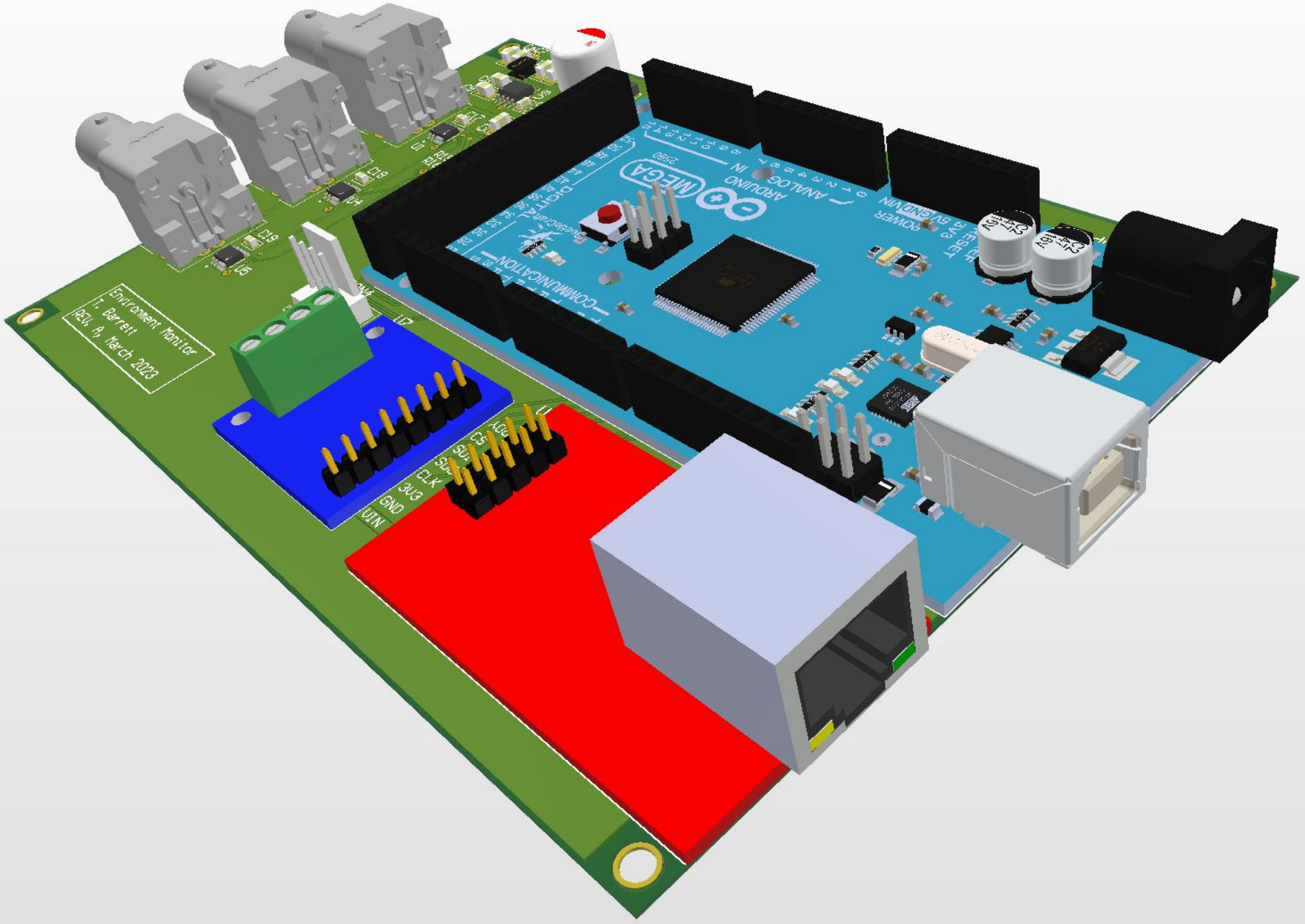


Sheet Title: Analog Front End Characterisation				Quantum Systems & Devices
Project: Environment_Monitor.PrjPcb				
Drawn By: T. Barrett	Size: A4	Sheet: 3 of 3		University of Sussex
File: Analog_Front_End_Characterisation.SchDoc		Rev. *	Date: 22/03/2023	Altium


142.9mm
136.5mm
27.4mm
20.0mm
20.0mm
4mm
91.4mm
8mm
97.8mm
C6C7
C4C5
C3
L1
C8
C9
U9
C10
CON1
C16
C17
U2
C14
C15
U1
R13
R14
R15
R16
CON2
C18
U3
C11
C12
U4
CON3
C19
U5
CON4
U7
OLED SCREEN
SDA
SCL
GND
VCC
U2
CS
SDI
SDO
CLK
3V3
GND
VIN
MOSI
MISO
CLK
CS
+5V
GND
Arduino Mega
Arduino Mega R3
Environment Monitor
T. Barrett
REV. A, March 2023




Arduino Mega
C6C7
C4C5
C3
L1
C8
C9
U9
C10
C16
C17
C13
U6
C14
C15
CON1
U1
R15
R16
R13
R14
CON2
C18
U3
C11
C12
U4
CON3
C19
U5
CON4
OLED SCREEN
SDA
SCL
GND
VCC
U7
U2
Environment Monitor
T. Barrett
REV. A, March 2023


Environment Monitor
T. Barrett
6th March 2023
MEGA
ARDUINO
ANALOG IN
POWER
COMMUNICATION
DIGITAL (PWM~)
3V3
GND
VIN