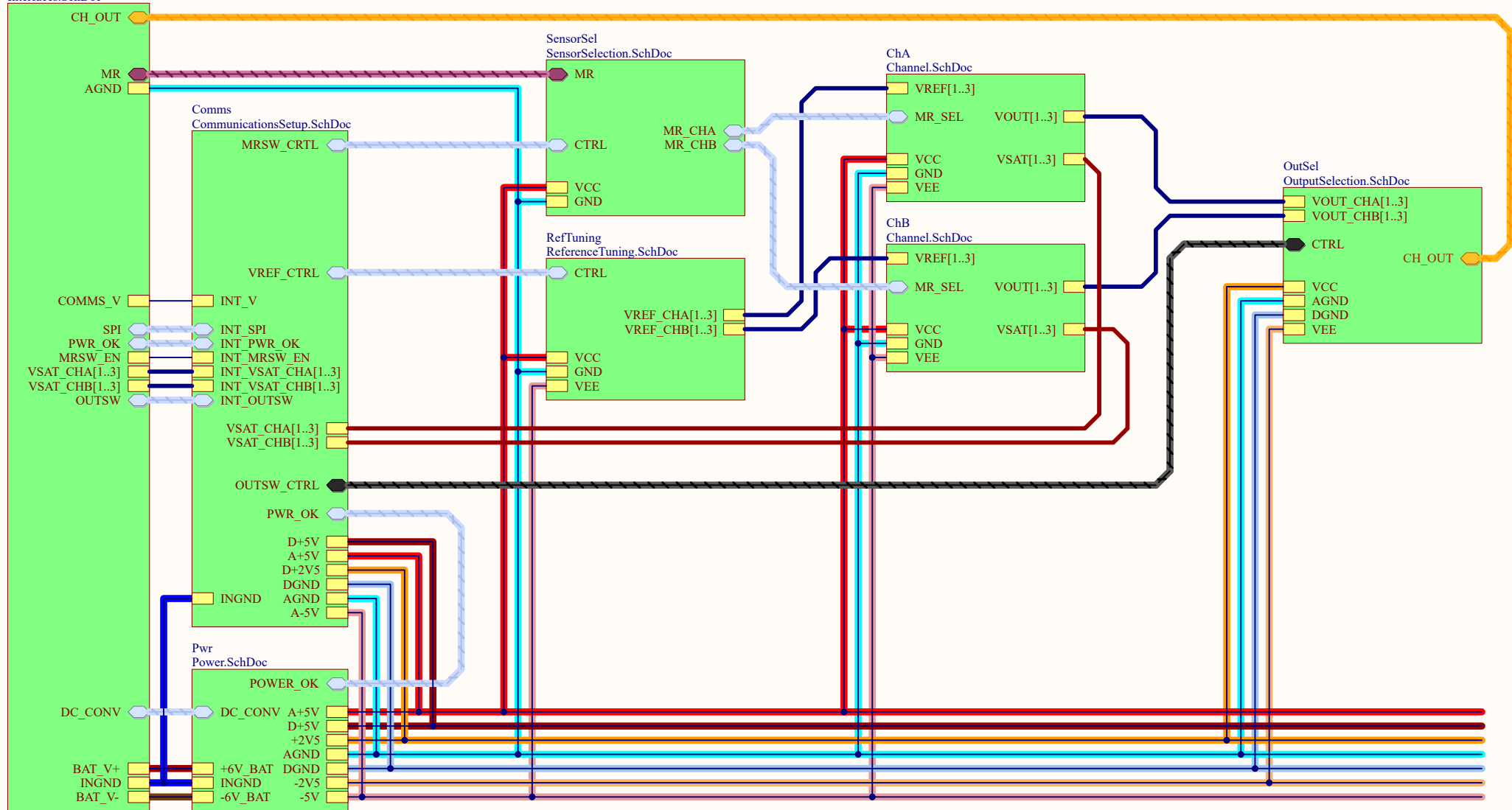


Interfaces
Interfaces.SchDoc



Title: Cytometer v3 - Overview

Author: Artur Rafael

Size: A4 Number: 1 Revision: 0
Date: 11/05/2023 Sheet: 1 - 15
File: Overview.SchDoc



A

A

B

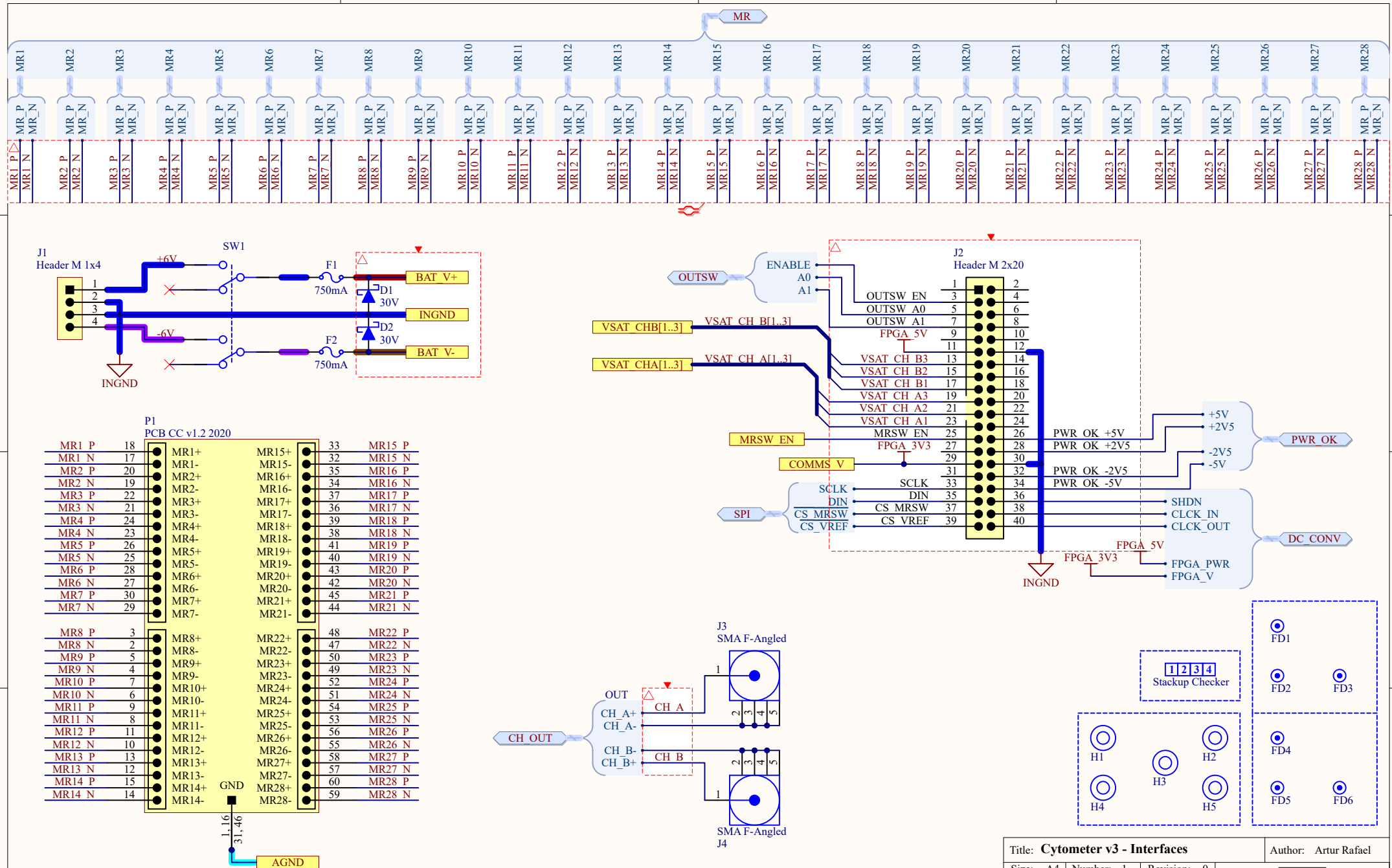
B

C

C

D

D



Title: Cytometer v3 - Interfaces

Author: Artur Rafael

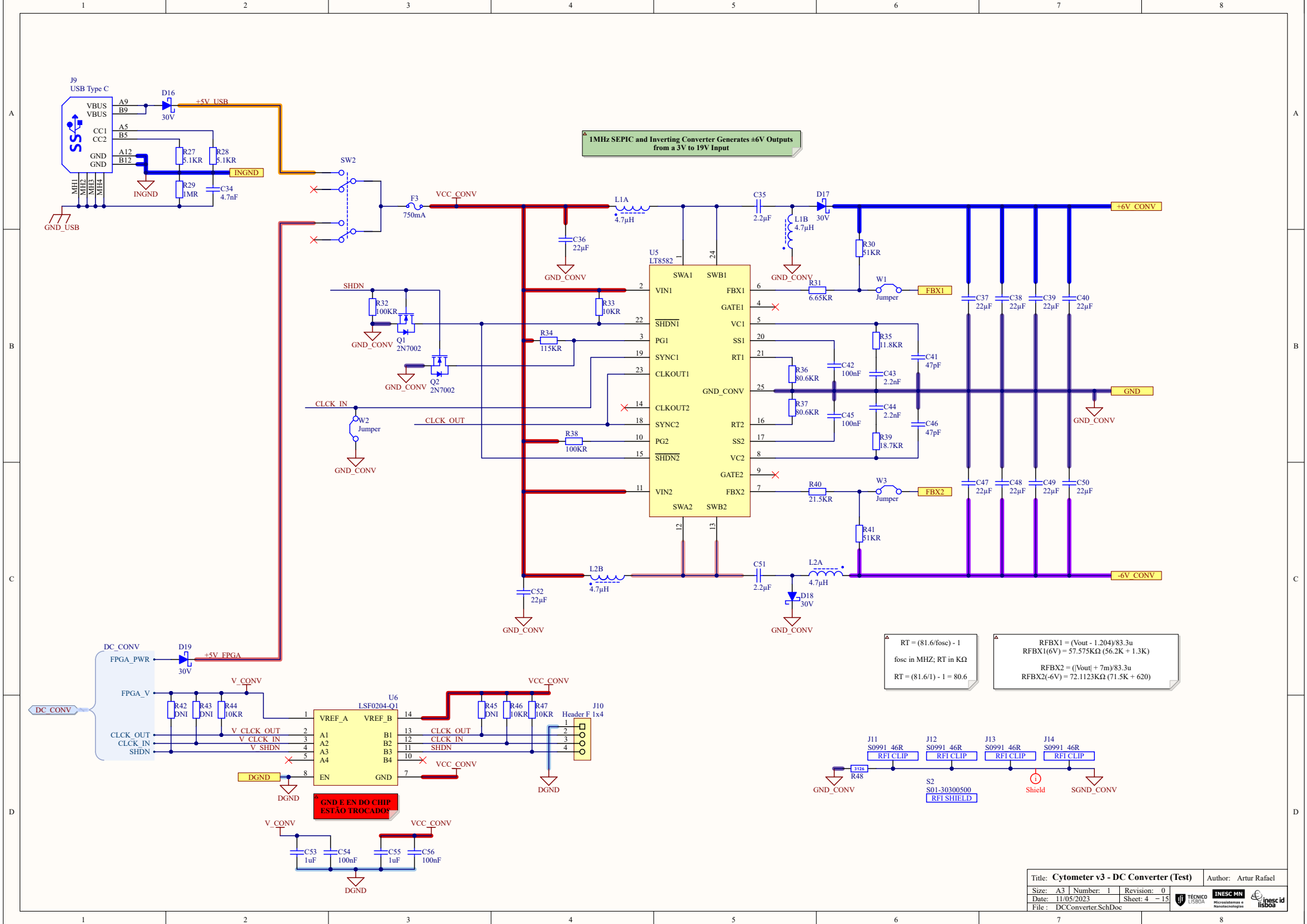
Size: A4 Number: 1 Revision: 0

Date: 11/05/2023 Sheet: 2 - 15

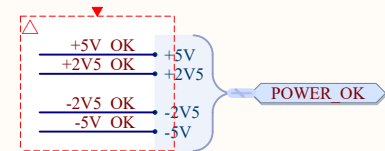
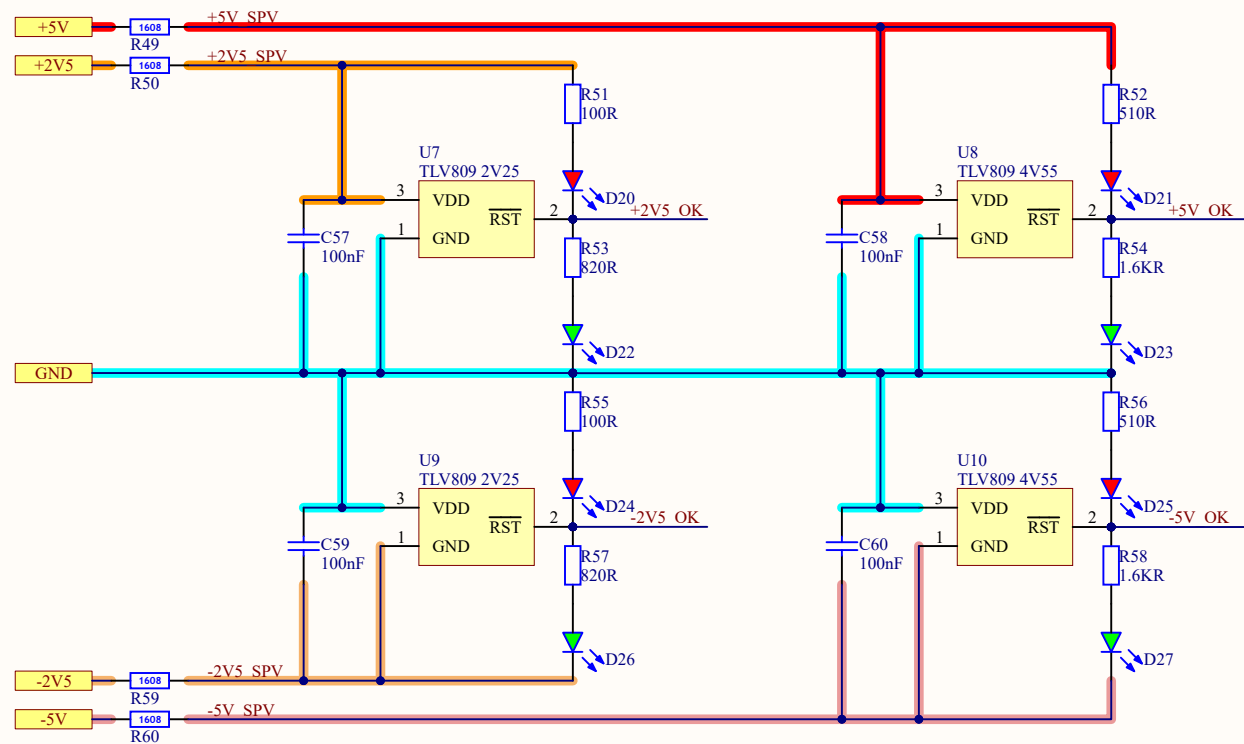
File: Interfaces.SchDoc



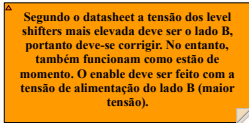


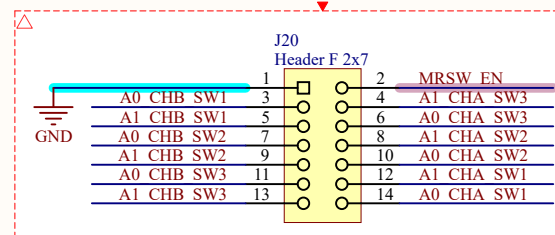
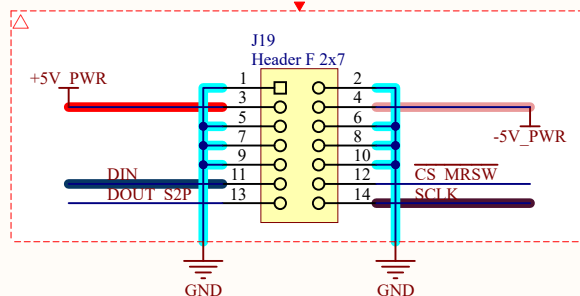


Arranjar uns supervisors que vejam um intervalo de voltagens, em vez de apenas a tensão acima de um valor (como é o caso destes)

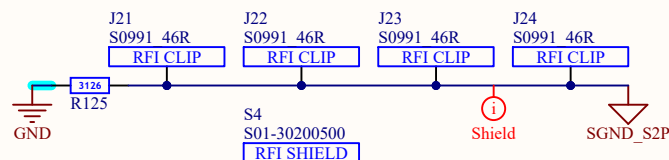
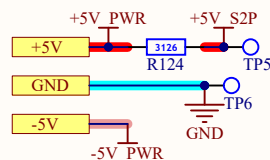
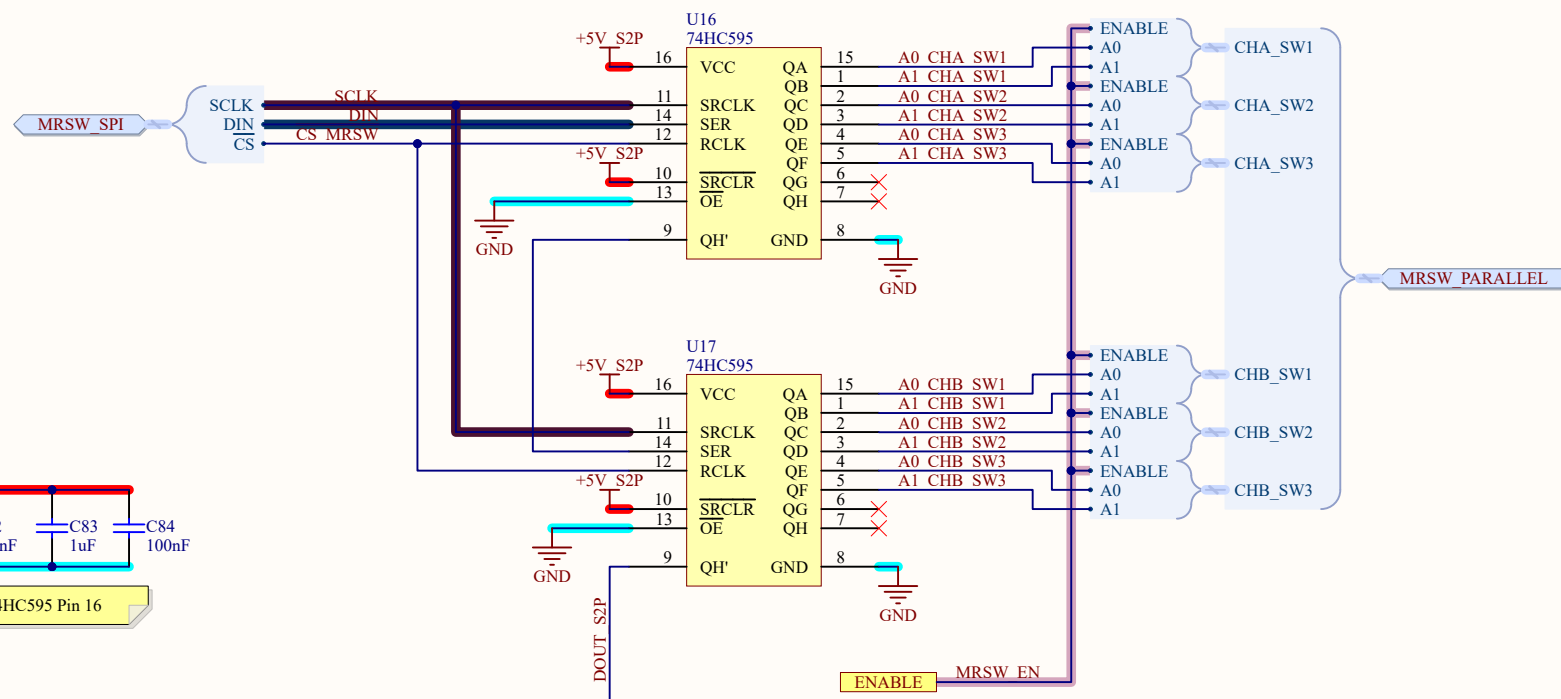


LEDs VERMELHOS NÃO ACENDEM COM OS LEVEL SHIFTERS SOLDADOS PORQUE TÊM UM SISTEMA DE PROTEÇÃO DE INPUTS, É NECESSÁRIO TRANSFORMAR O SINAL DE RST A VARIAR ENTRE 0 E 5 VOLTS





OE dos shift registers devia ser um jumper para se poder programar a tensão manualmente através do header, sem haver conflitos de tensões com a saída dos shift registers.



Title: Cytometer v3 - Serial To Parallel

Author: Artur Rafael

Size: A4 Number: 1 Revision: 0

Date: 11/05/2023 Sheet: 7 - 15

File: SerialToParallel.SchDoc

A

B

C

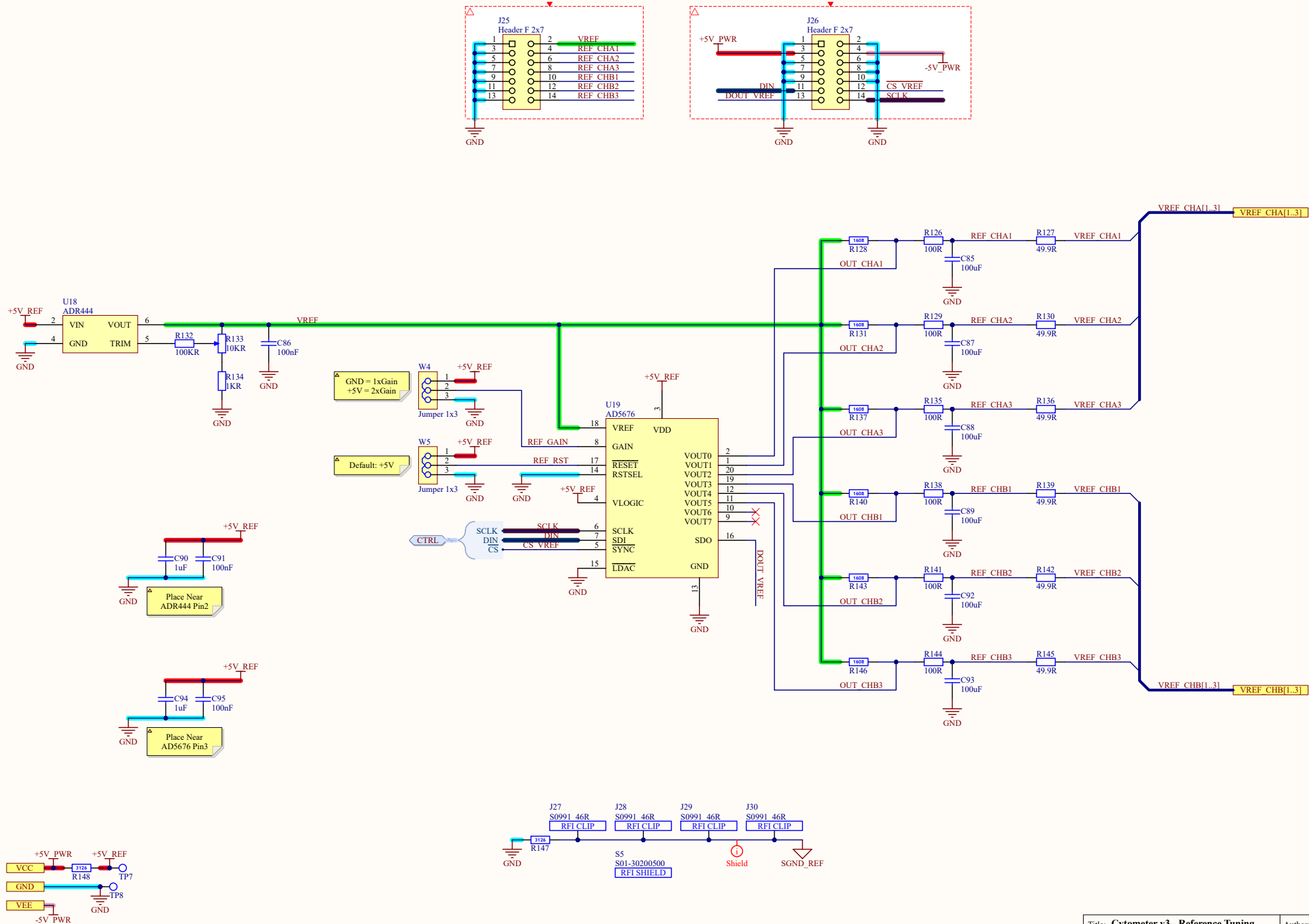
D

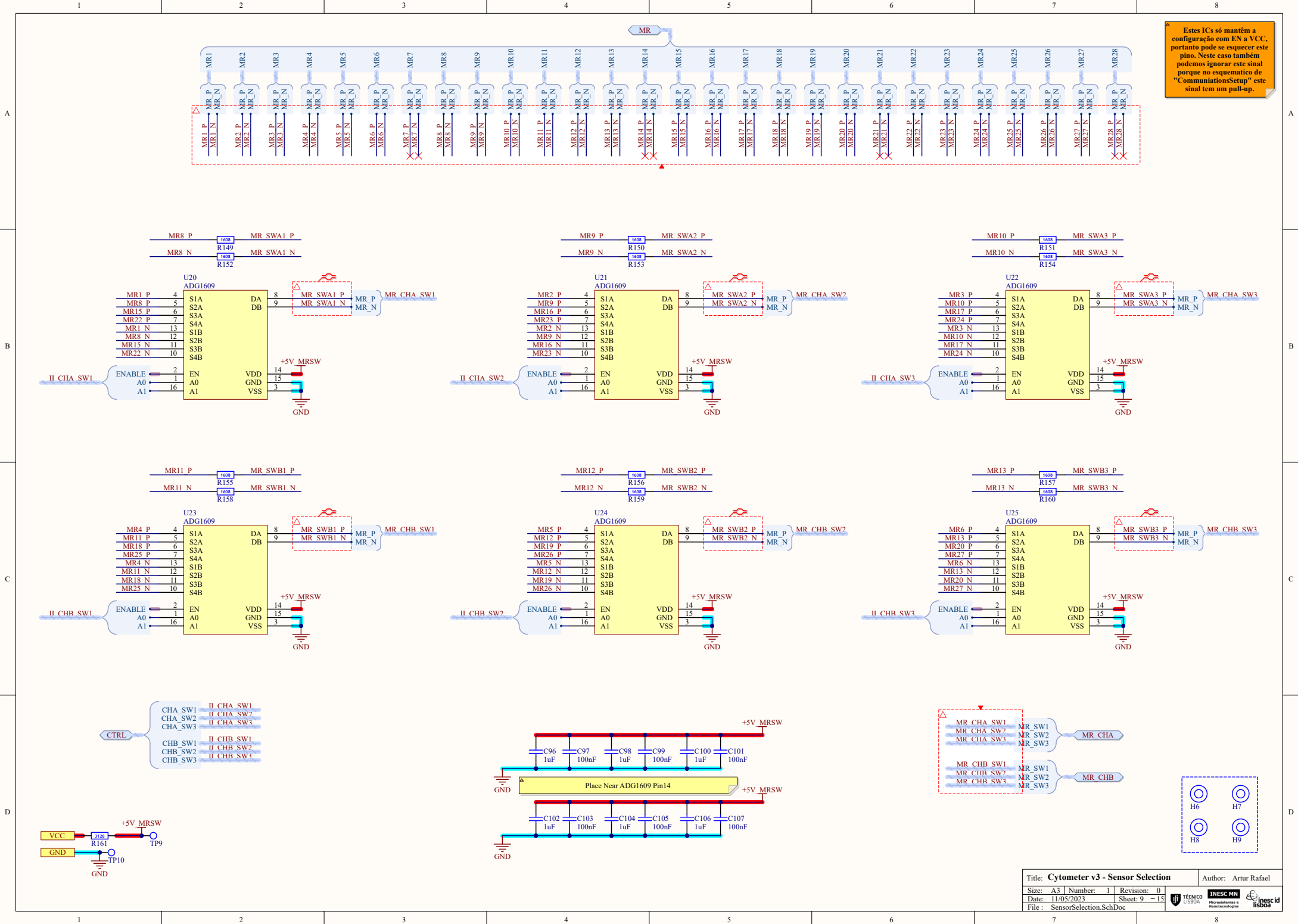
A

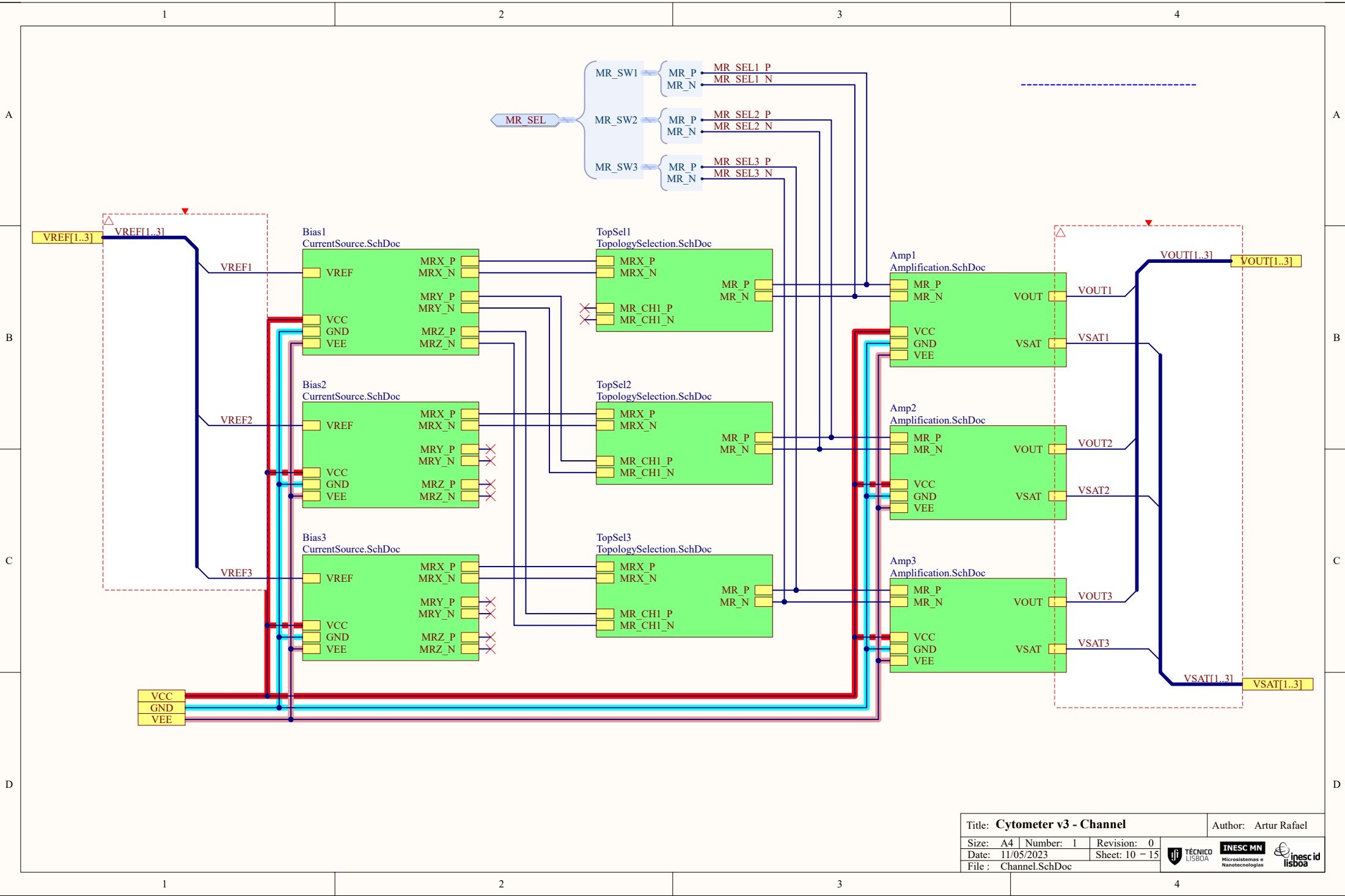
B

C

D







1

2

3

4

A

A

B

B

C

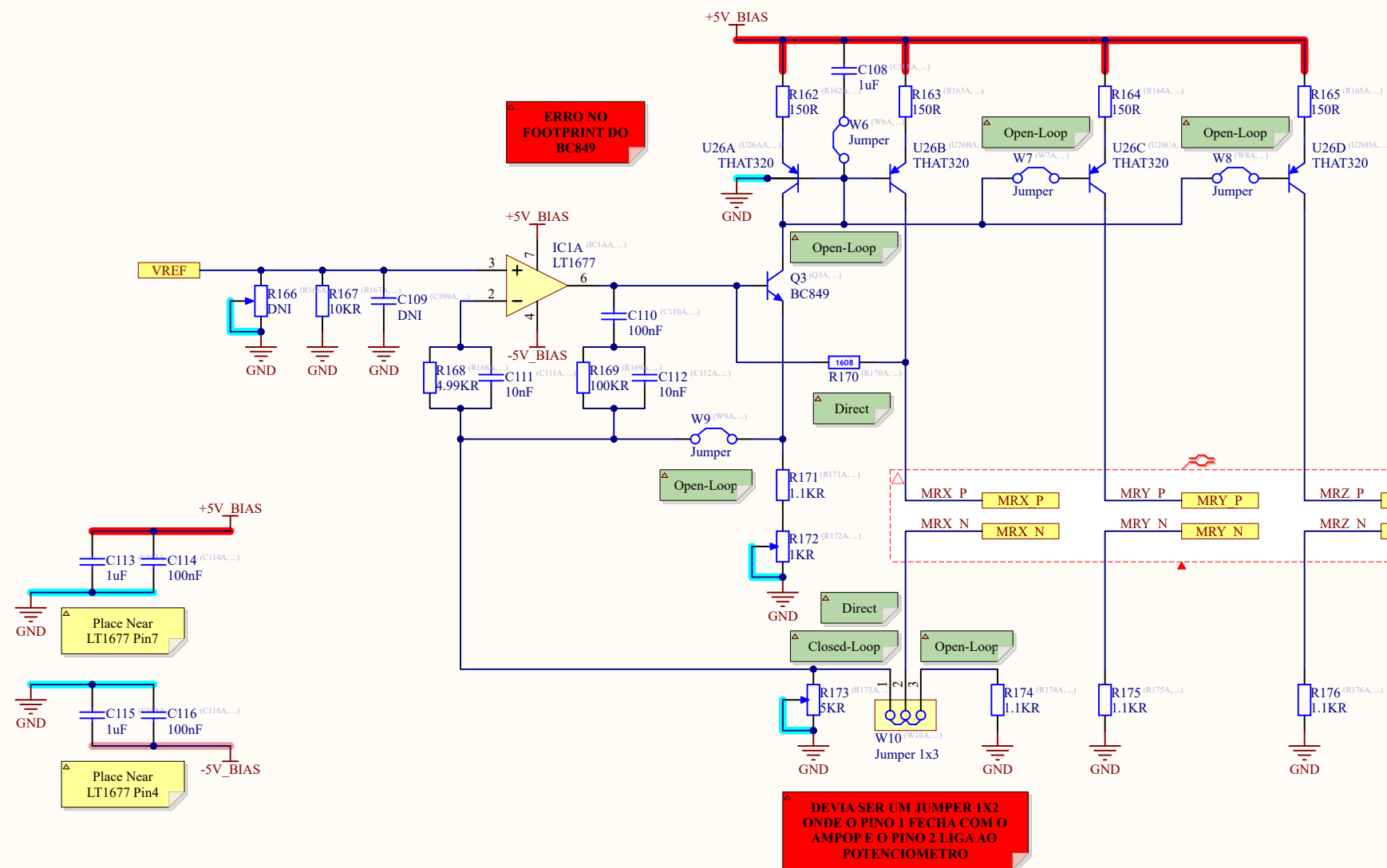
C

D

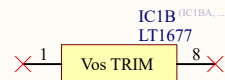
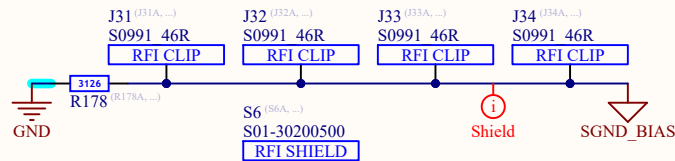
D

**ERRO NO
FOOTPRINT DO
BC849**

As resistencias de load deviam
ser todas um potenciometro.
Mas da para adaptar neste
caso facilmente, para que tal
aconteça.



**DEVIA SER UM JUMPER 1X2
ONDE O PINO 1 FECHA COM O
AMPOP E O PINO 2 LIGA AO
POTENCIOMETRO**



Title: Cytometer v3 - Current Source

Author: Artur Rafael

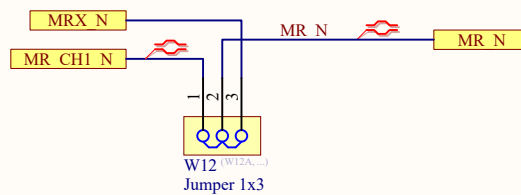
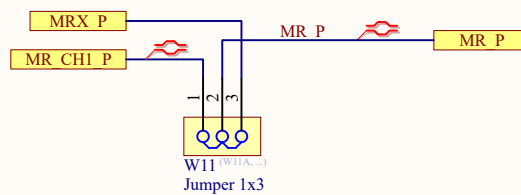
Size: A4 Number: 1 Revision: 0

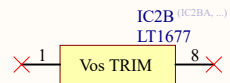
Date: 11/05/2023 Sheet: 11 - 15

File: CurrentSource.SchDoc



MR X - Default
MR Y - CH1 Master

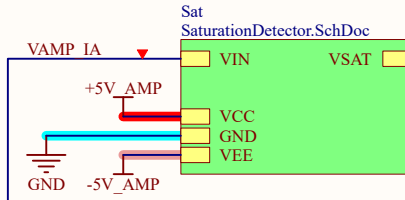




$$G = 1 + (6k / R_G)$$

$$R_G = 12 / 12 = 6R$$

$$G = 1001$$



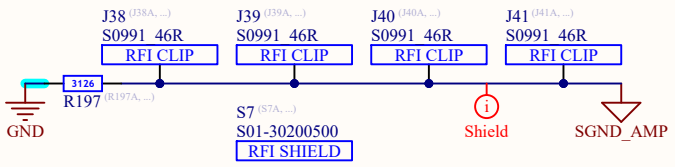
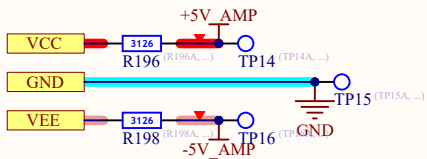
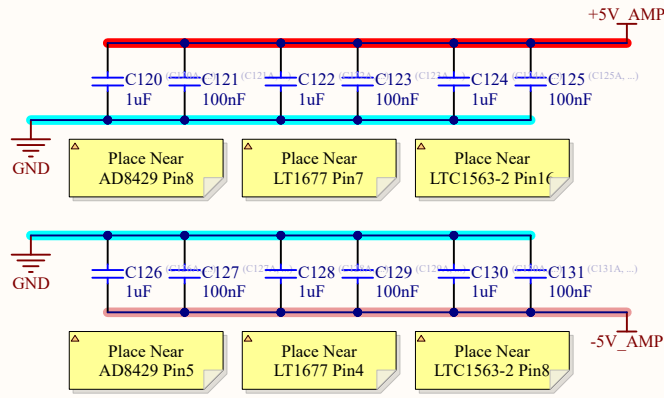
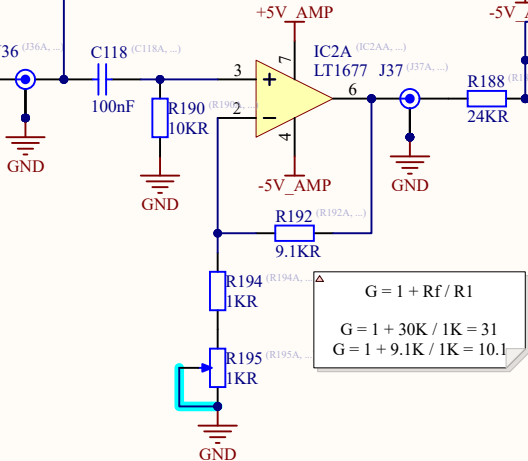
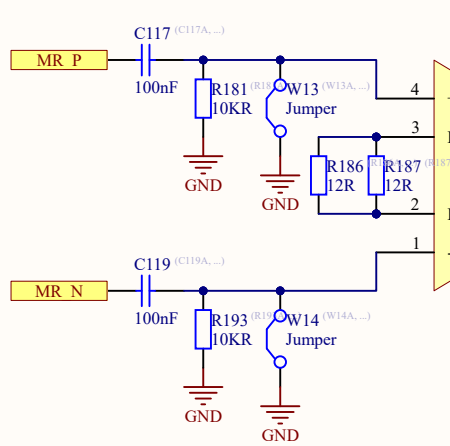
Solder for Low-Power Mode



$$R = 10K * (256K / f_c)$$

$$f_c = (10K * 256K) * R$$

$$f_c (R=249K) = 10K281 \text{ Hz}$$

$$f_c (R=24K) = 106K \text{ Hz}$$



Title: Cytometer v3 - Amplification			Author: Artur Rafael	
Size: A4	Number: 1	Revision: 0		 Microsistemas e Nanotecnologias
Date: 11/05/2023		Sheet: 13 - 15		
File: Amplification.SchDoc				

A

B

C

D

A

B

C

D

