

External Input

Estimated BOM cost: \$0.03

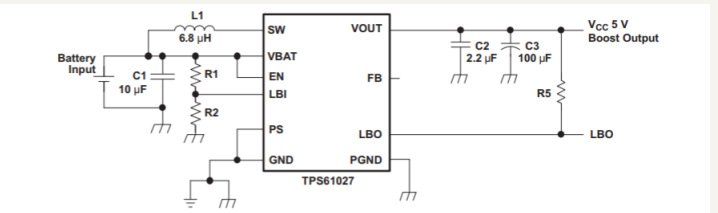


**Alt Power Input**

File: ExternalInput.kicad\_sch

Boost Converters

Estimated BOM cost: \$0.60



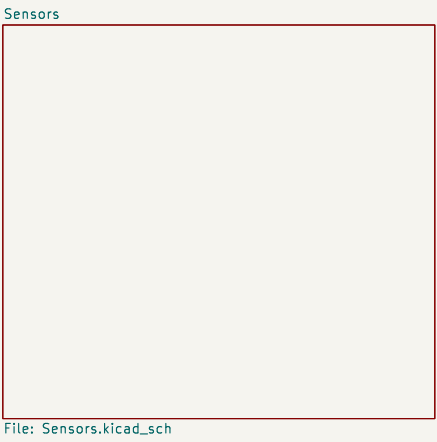
List of Components:  
 U1 = TP961027DNC  
 L1 = EPCOS 602462-64682  
 C1, C2 = X7R,X5R Ceramic  
 C3 = Low ESR Tantalum

Figure 24. Power Supply Solution for Maximum Output Power Operating From a Single Alkaline Cell

**Power Conversion**

File: Boost.kicad\_sch

Sensors



File: Sensors.kicad\_sch

USB Input

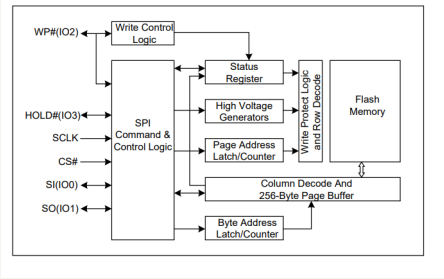
Estimated BOM cost: \$1.00  
 (\$0.02 without serial to usb)



**USB Input  
 (Power/serial)**

File: USB\_Input.kicad\_sch

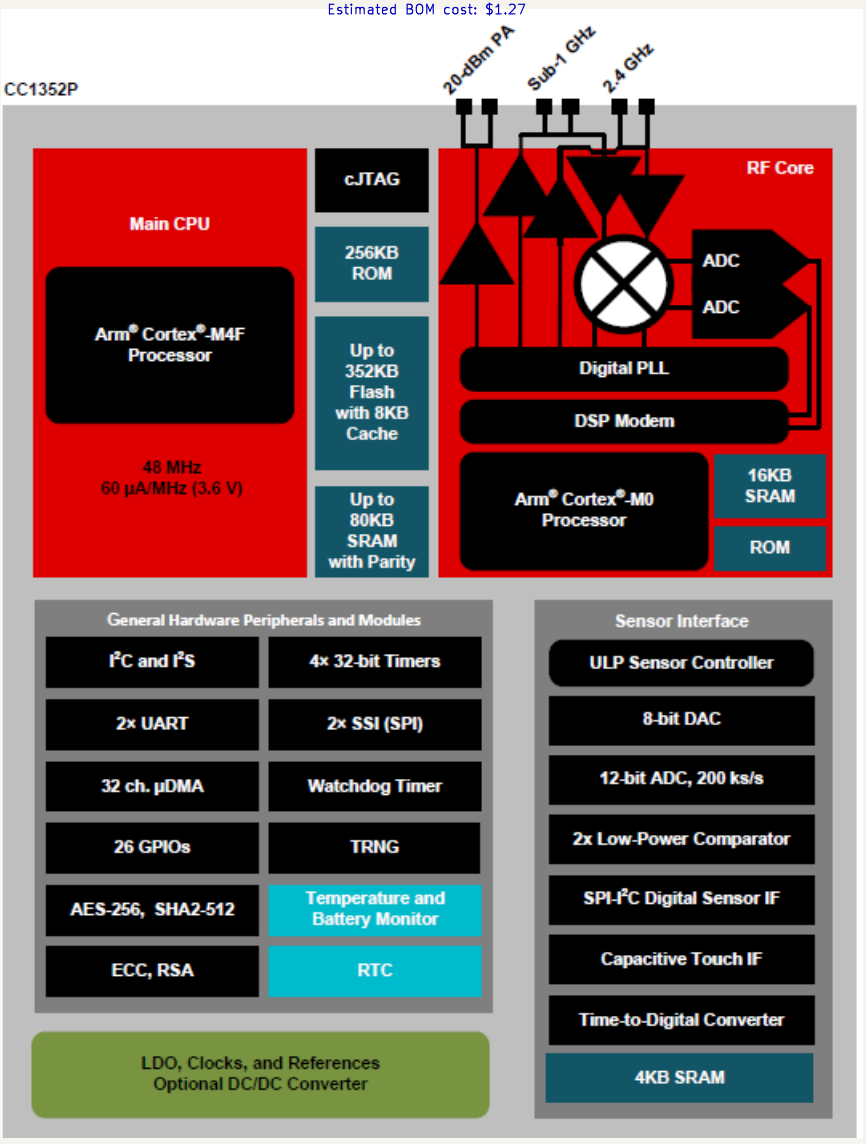
SPI FLASH



File: SPI\_FLASH.kicad\_sch

RF

Estimated BOM cost: \$1.27

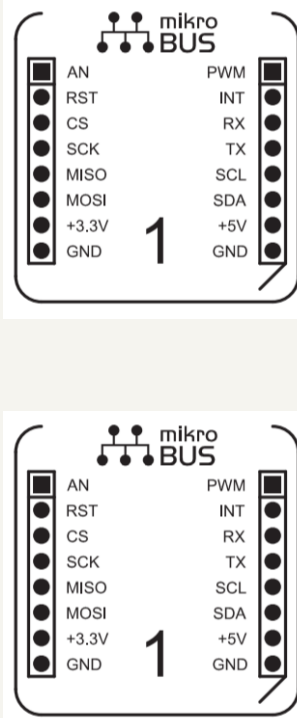


**RF and Processor**

File: RF.kicad\_sch

MikroBus Click

Estimated BOM cost: \$0.15




**MikroBus Headers**

File: MikroBusClick.kicad\_sch

Sheet50099F01

Estimated BOM cost: \$0.03



**Indicators**

File: Indicators.kicad\_sch

User Input/Output

Estimated BOM cost: \$0.05



**User I/O**

File: UserInputOutput.kicad\_sch

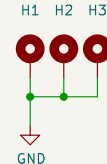
Programming

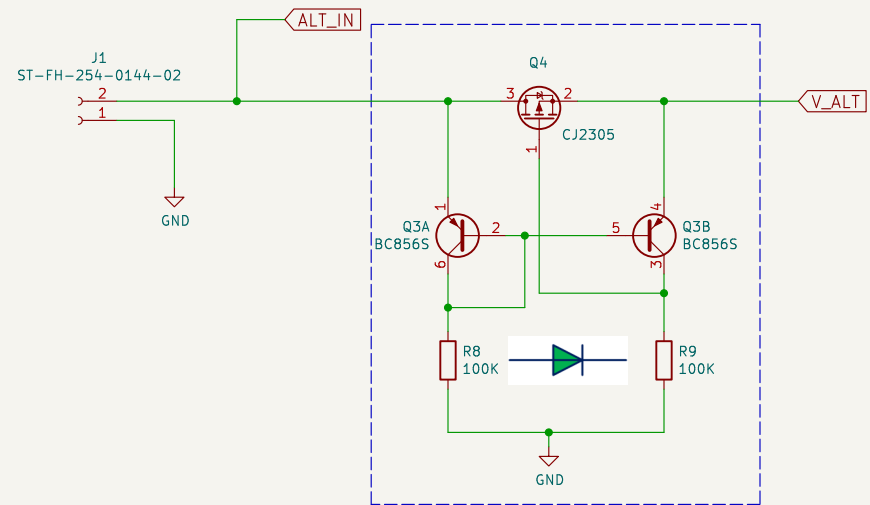
Estimated BOM cost: \$0.00



**Programming**

File: Programming.kicad\_sch





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Sheet: /External Input/  
File: ExternalInput.kicad\_sch

**Title: BeagleConnect Freedom**

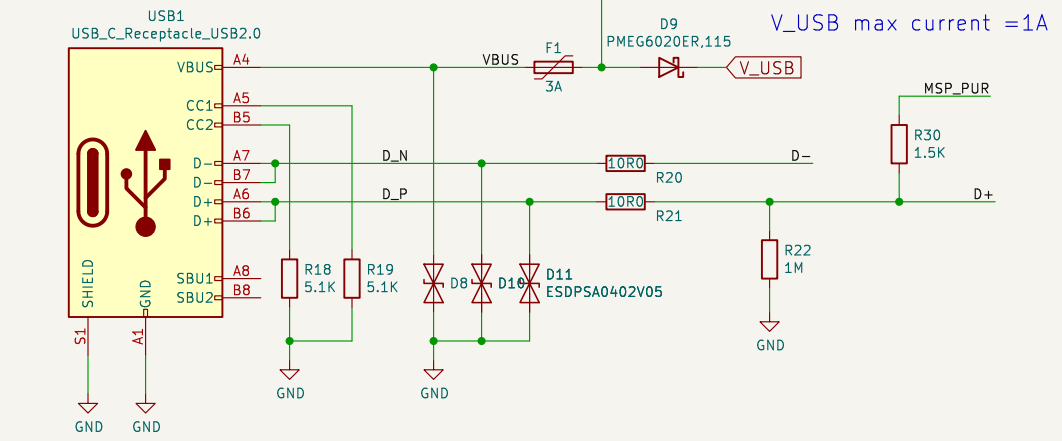
Size: B Date: 2022-11-16

Rev: C7

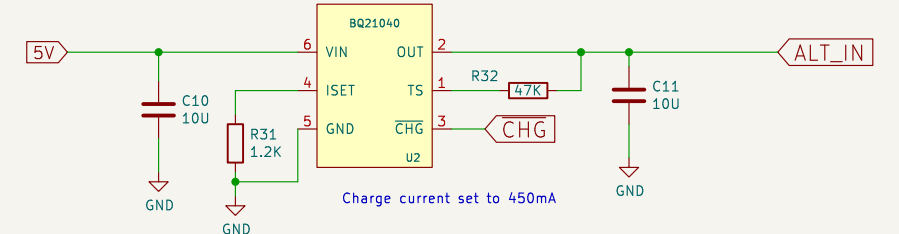
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Id: 2/11

USB C input

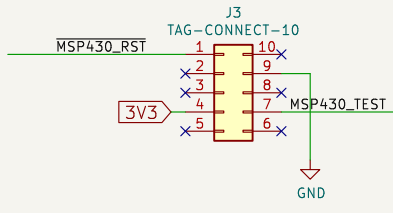


V\_USB max current =1A

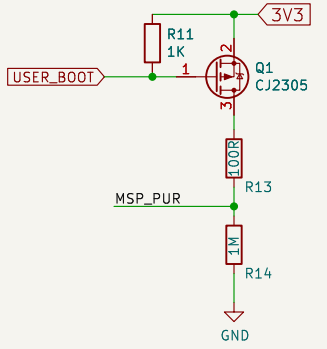


Charge current set to 450mA

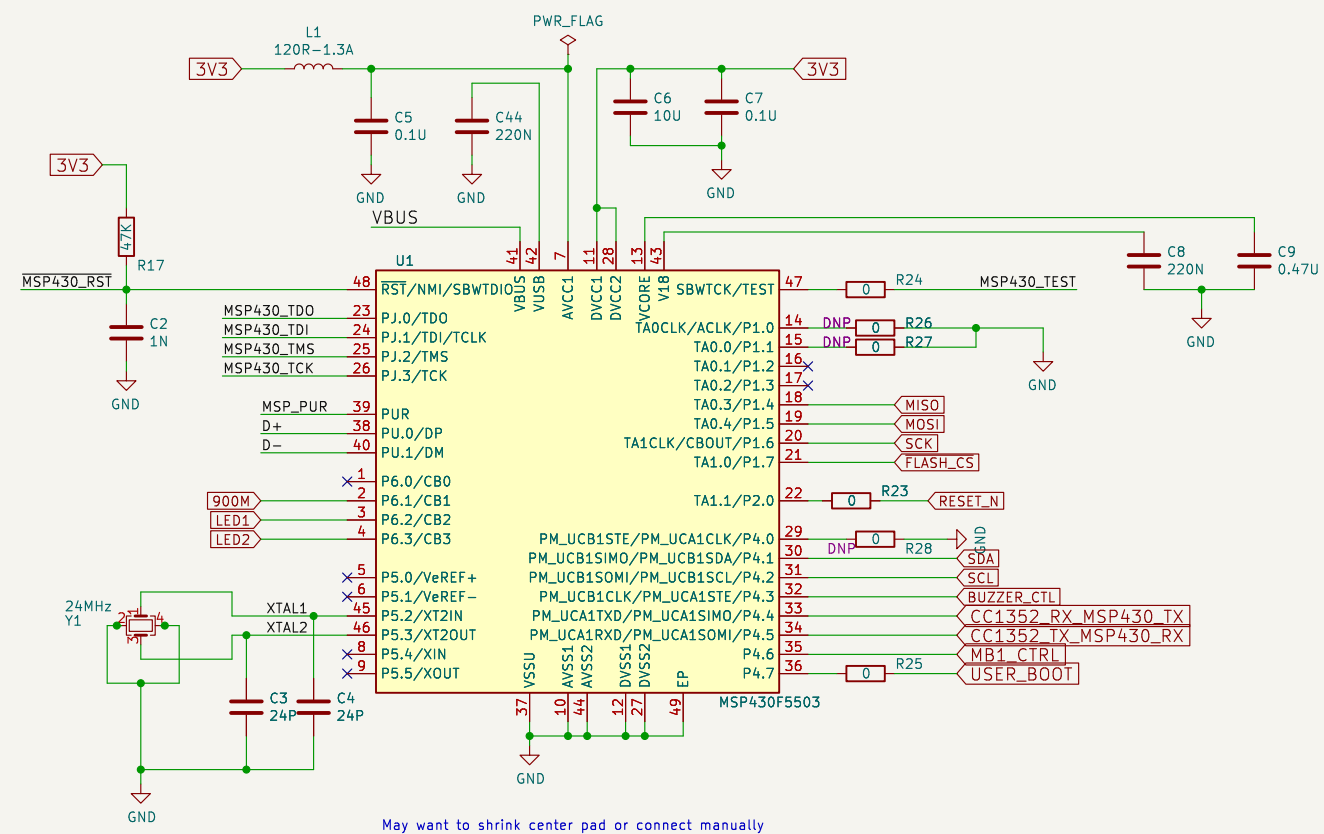
Decoupling cap shared with other prog header



Verify all connections with Erik Larson



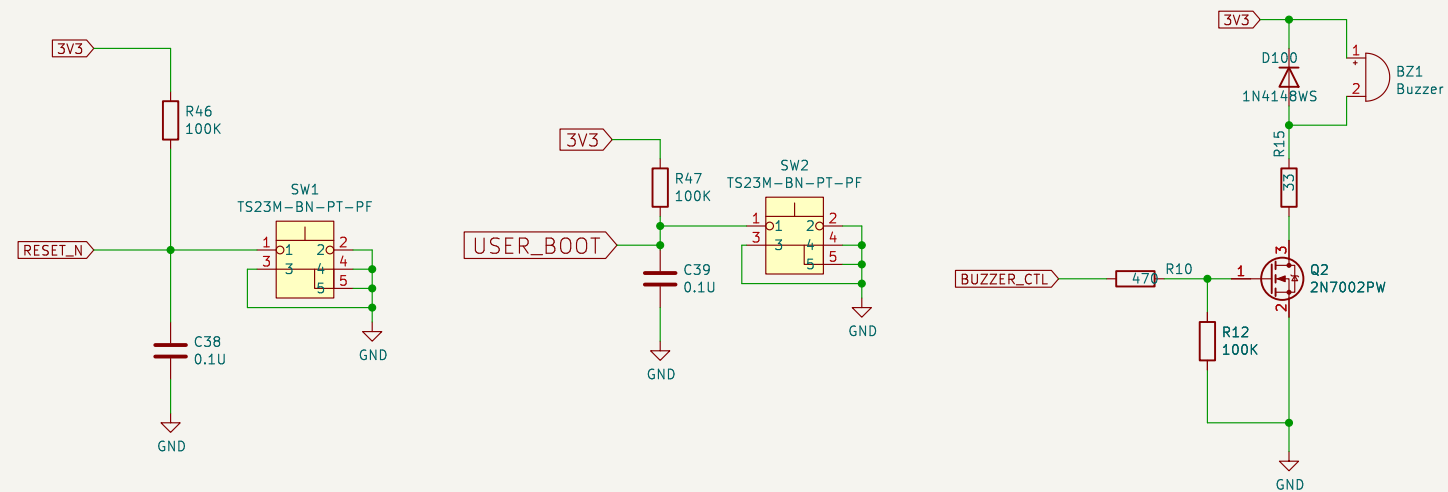
When USER\_BOOT button is pressed during USB power up, it pulls MSP\_PUR high. This puts the MSP430 into programming mode.  
The USER\_BOOT button is also used as an input to the CC1352R for it's programming, but is active low



May want to shrink center pad or connect manually  
On rev B prototype, the soldermask peeled back and many of the pins on the edge of the QFN would short to the center pad after attempted repair to the part (reflow, component replacement)

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Sheet: /USB Input/		Date: 2022-11-16	
File: USB_Input.kicad_sch		Rev: C7	
Size: B	KiCad E.D.A. 9.0.0	Id: 3/11	



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Sheet: /User Input/Output/  
File: UserInputOutput.kicad\_sch

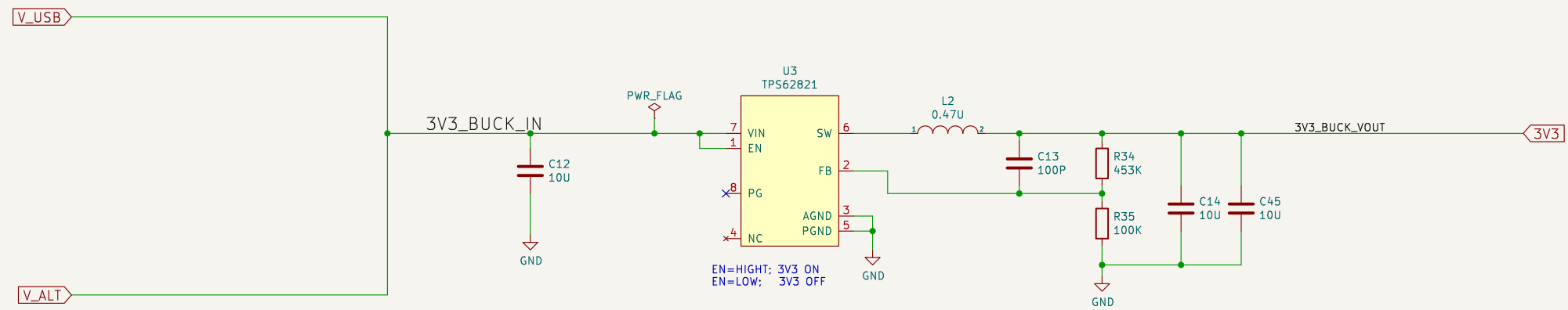
**Title: BeagleConnect Freedom**

Size: B Date: 2022-11-16

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Sheet: /Boost Converters/  
File: Boost.kicad\_sch

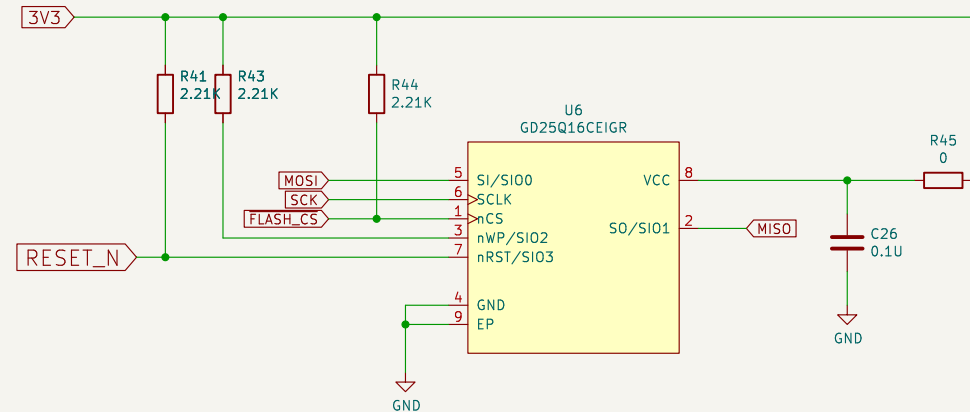
**Title: BeagleConnect Freedom**

Size: B Date: 2022-11-16

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Sheet: /SPI FLASH/  
File: SPI FLASH.kicad\_sch

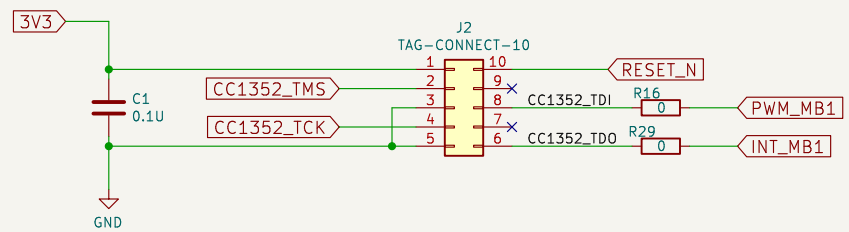
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Size: A4 Date: 2022-11-16

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Id: 6/11



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Sheet: /Programming/  
File: Programming.kicad\_sch

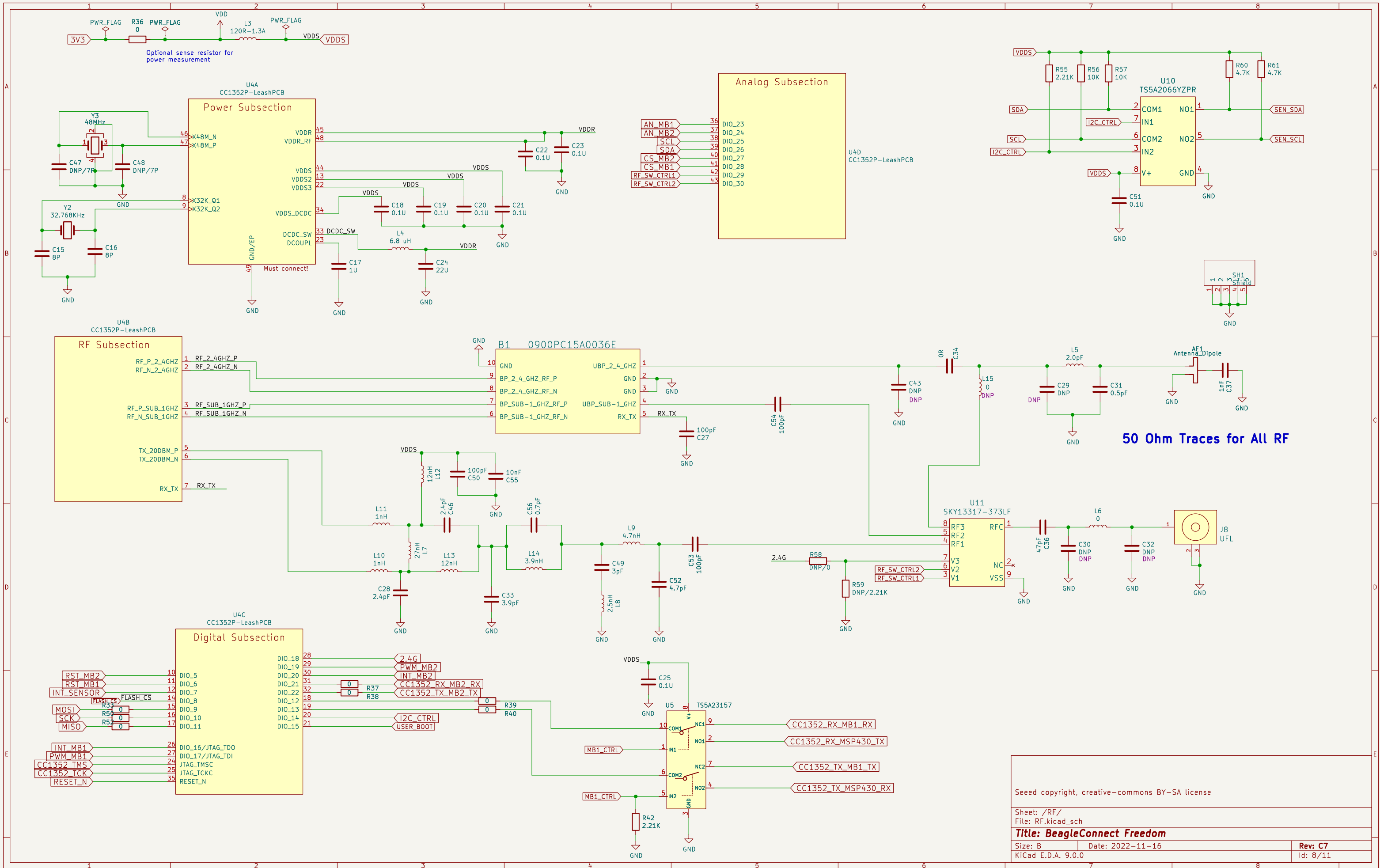
**Title: BeagleConnect Freedom**

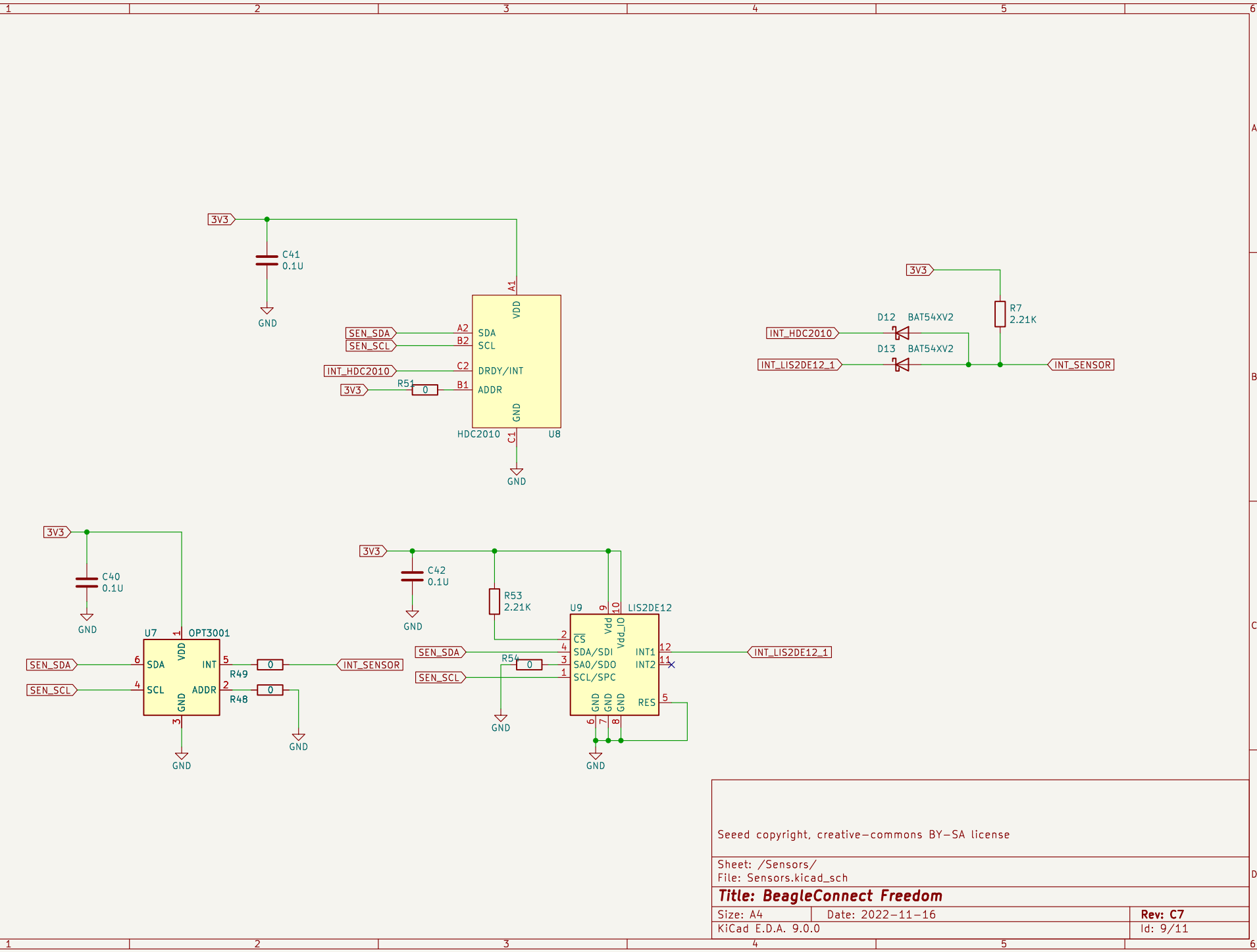
Size: B Date: 2022-11-16

Rev: C7

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Id: 7/11



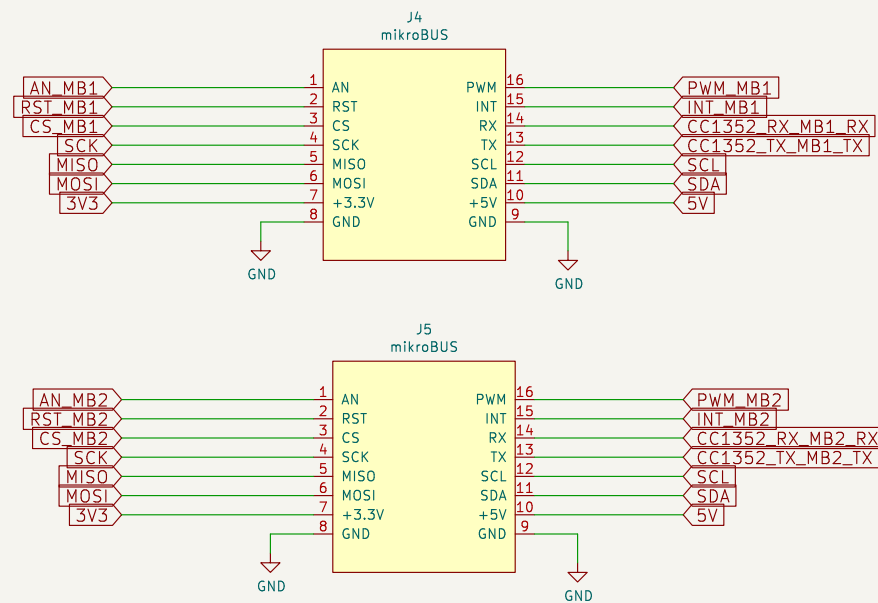


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Sheet: /Sensors/  
File: Sensors.kicad\_sch

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Sheet: /MikroBus Click/  
File: MikroBusClick.kicad\_sch

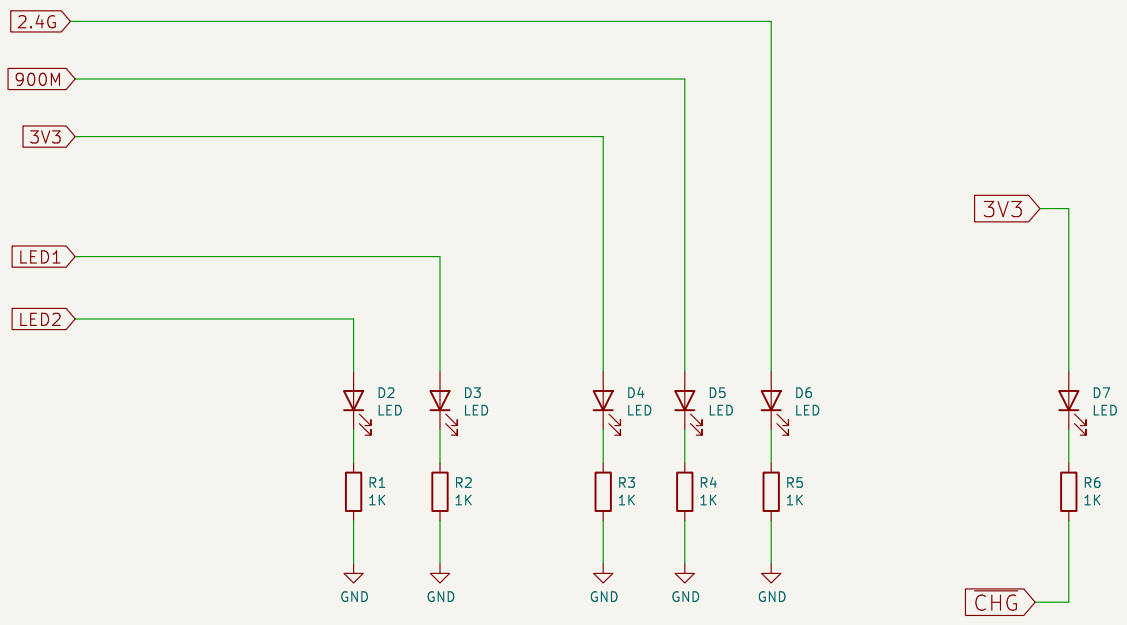
**Title: BeagleConnect Freedom**

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Id: 10/11



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Sheet: /Sheet5D099F01/  
File: Indicators.kicad\_sch

**Title: BeagleConnect Freedom**

Size: B Date: 2022-11-16

Rev: C7

KiCad E.D.A. 9.0.0

Id: 11/11