
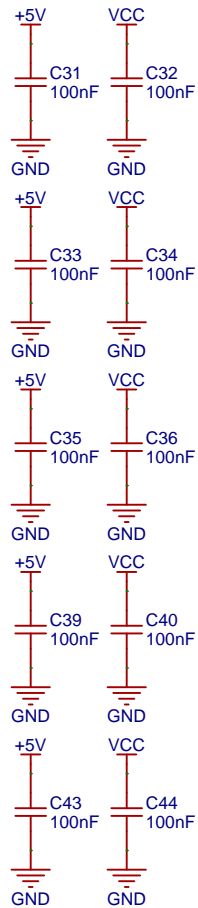


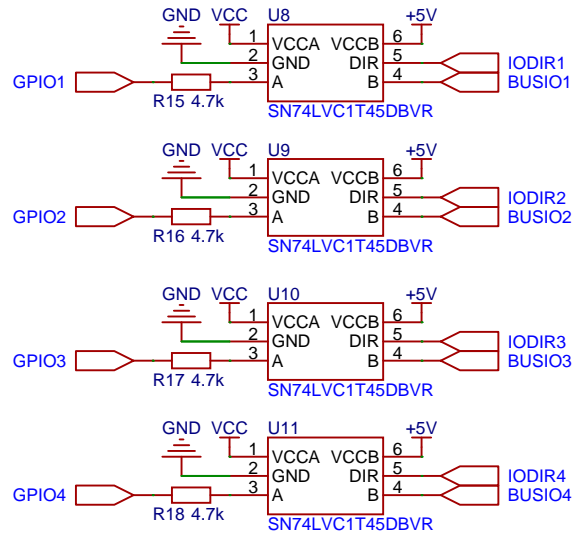
Schematic Page	Interfaces		Page Number	2
Source Link	https://github.com/rit-construct-makerspace/access-control-hardware		Total Pages	7
Version	3.0.0	Access Control Core NFC Card Reader		
				
		Licensed Under CERN-OHL-S 2.0		

Level Shifting Capacitors

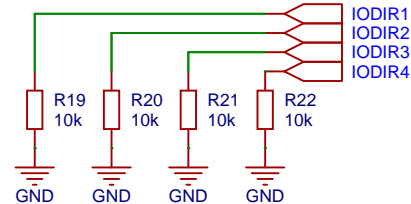


Bus GPIO Transceivers

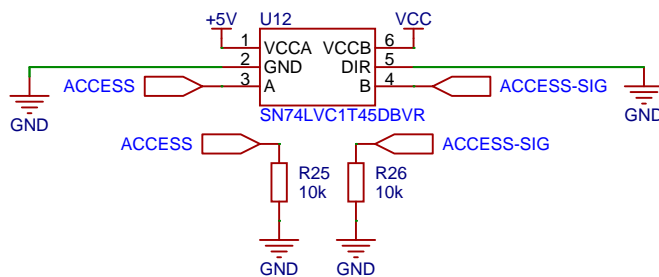
When DIR is High, A goes to B
DIR referenced to VCCA



Default: Bus GPIO are inputs

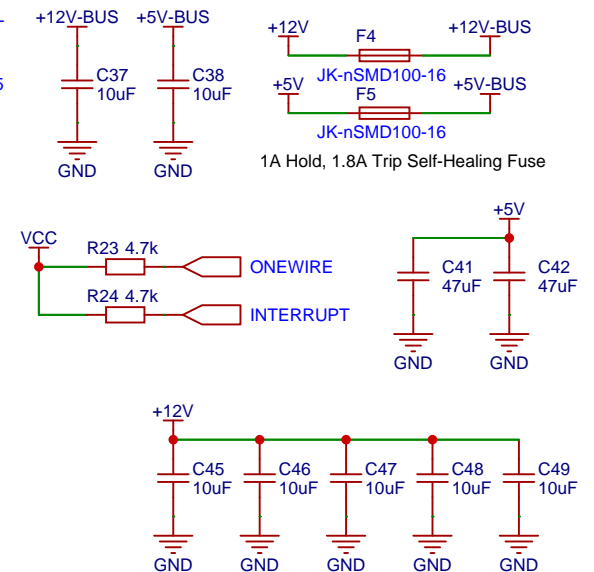
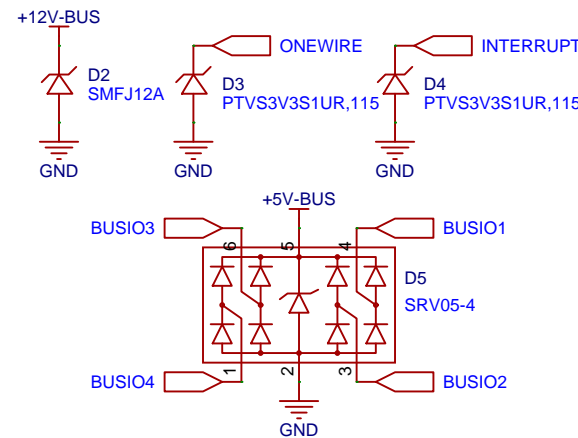
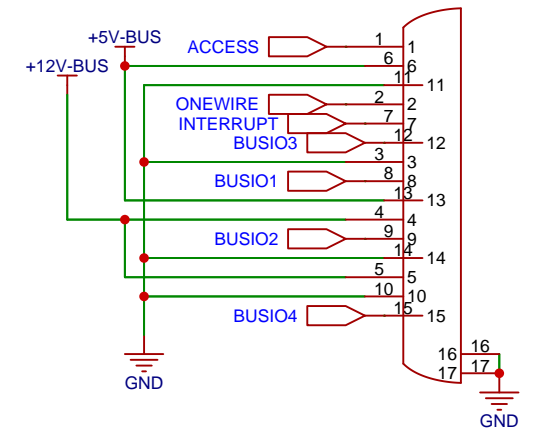


Access Output Level Shift



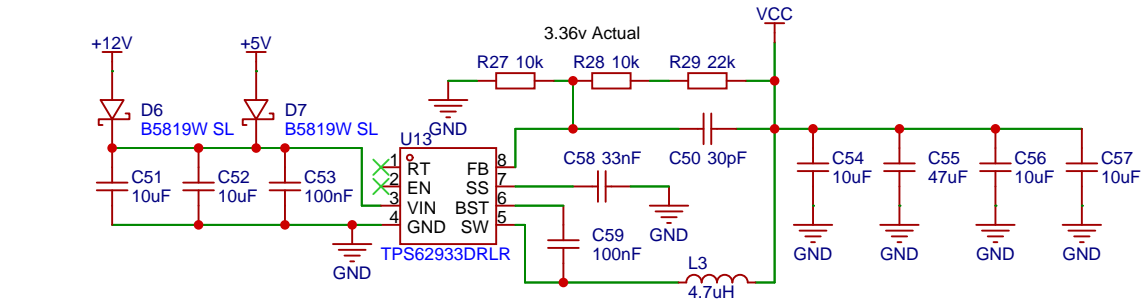
Bus 15P Connection

CN3 DS1038-15FBNSIA74-0CC

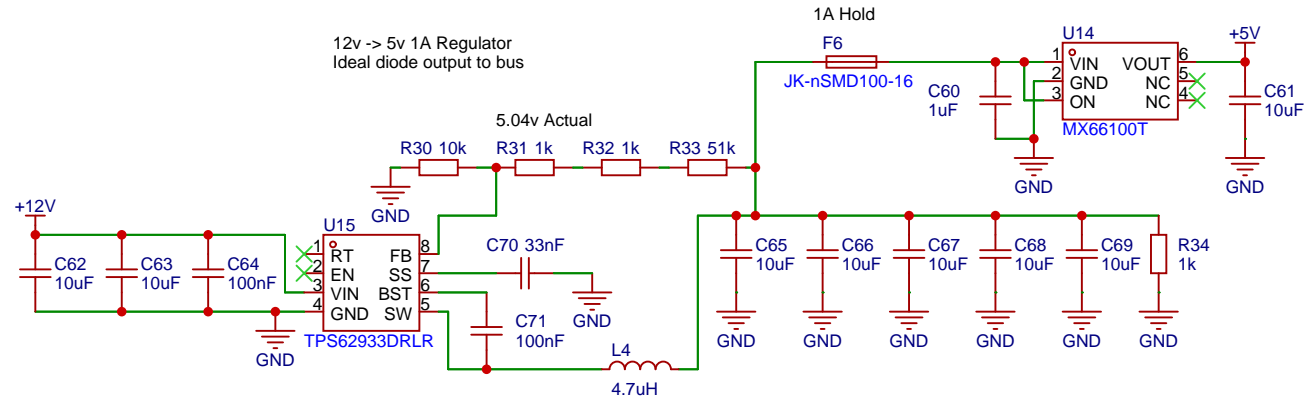


Schematic Page	Bus Connection		Page Number	3
Source Link	https://github.com/rit-construct-makerspace/access-control-hardware		Total Pages	7
Version	3.0.0	Access Control Core NFC Card Reader		
<div>RIT SHED</div>				
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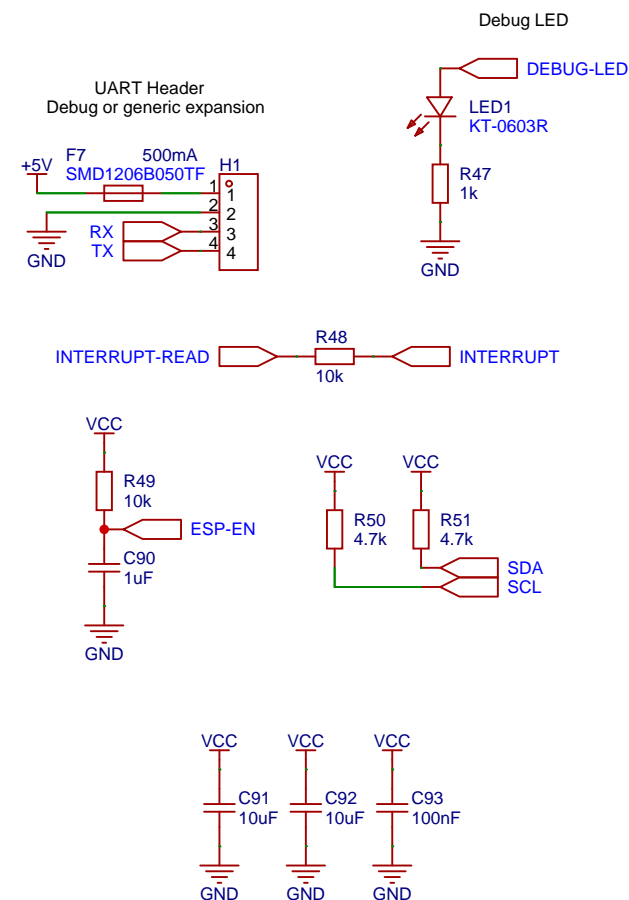
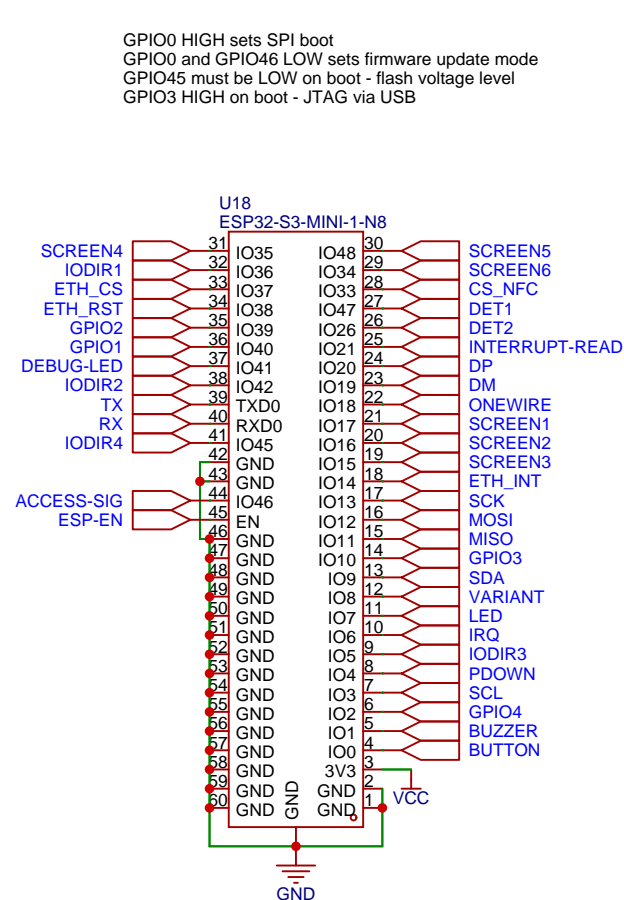
3.3v 1A Regulator
Runs on 12v or 5v, whichever is present




12v -> 5v 1A Regulator
Ideal diode output to bus

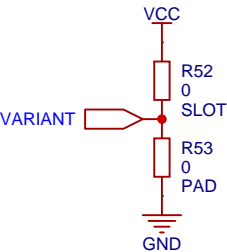


Schematic Page	Regulators		Page Number	4
Source Link	https://github.com/rit-construct-makerspace/access-control-hardware		Total Pages	7
Version	3.0.0	Access Control Core NFC Card Reader		
<div>RIT SHED</div>				
		Licensed Under CERN-OHL-S 2.0		

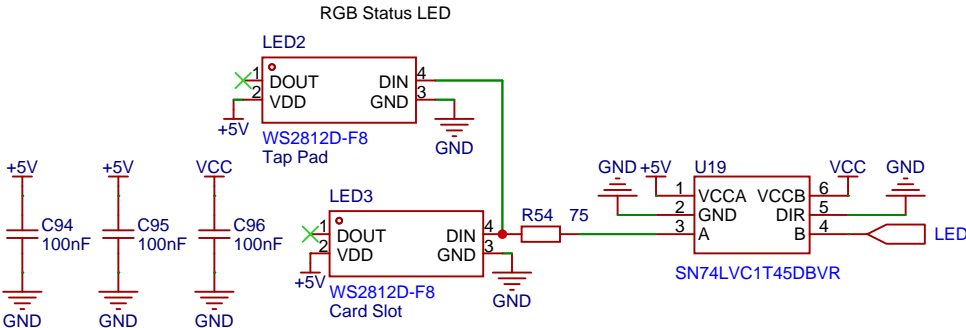


Schematic Page	Microcontroller		Page Number	6
Source Link	https://github.com/rit-construct-makerspace/access-control-hardware		Total Pages	7
Version	3.0.0	<div> <div>  </div> <div> <h2>Access Control Core NFC Card Reader</h2> <p>Licensed Under CERN-OHL-S 2.0</p> </div> </div>		

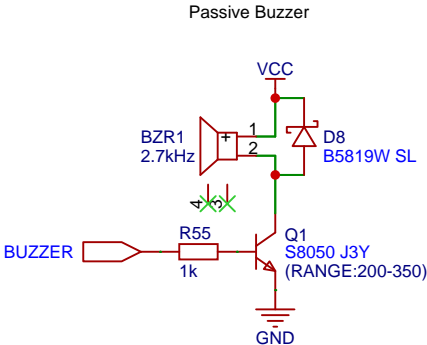
The Card Slot hardware can be easily repurposed as hardware for a Tap Pad
To convert from a card slot to a tap pad:
Move jumper resistors
Move RGB LED to LED2 position
Replace side-fire buzzer with top-fire



This is how the MCU knows to act as a tap pad.
HIGH: Card slot
LOW: Tap pad




This improves visibility, with the light facing towards the user.



Side Firing: MLT-8540 (C95300)
Top Firing: MLT-8540H (C95298)

This improves sound percetion, since it will fire directly towards the user.

Schematic Page	Tap Variant		Page Number	7
Source Link	https://github.com/rit-construct-makerspace/access-control-hardware		Total Pages	7
Version	3.0.0	Access Control Core NFC Card Reader		
				
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