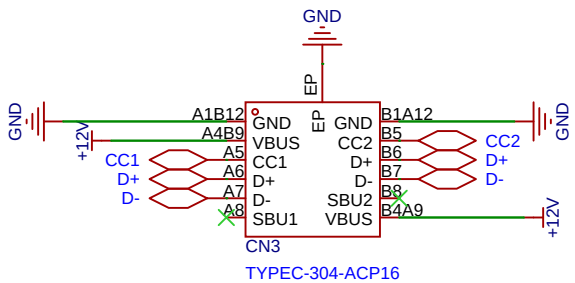
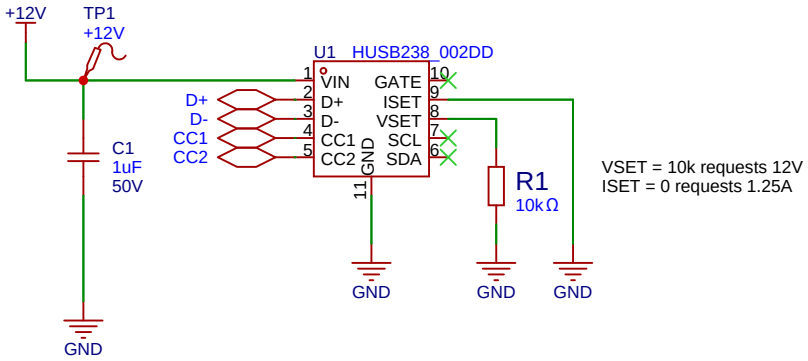
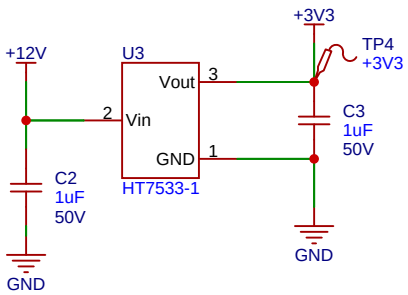
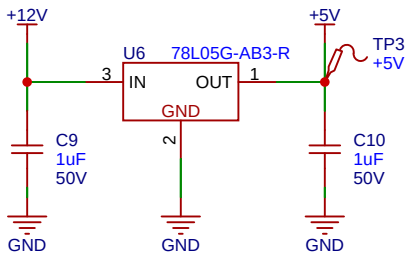
USB Type C 12V Input



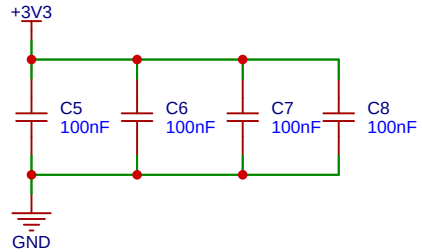


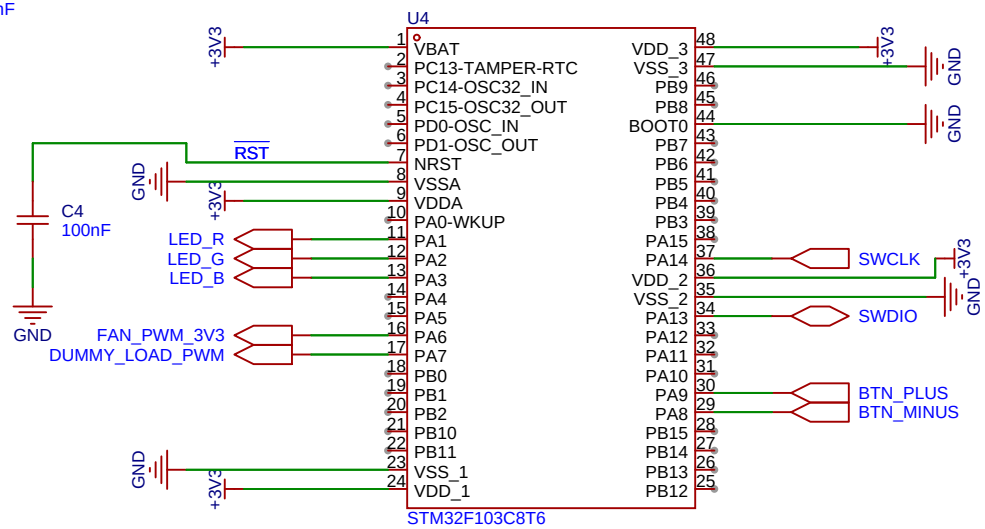




Schematic	Schematic1	Create at	2025-09-09
		Update at	2025-09-11
Board	Board1	Page	P1
Drawn		usbc-fursuit-fan	
Reviewed			
		Version	Size	Page 1 Total 4
EasyEDA		V1.0	A4	EasyEDA.com

PWM Generation Microcontroller

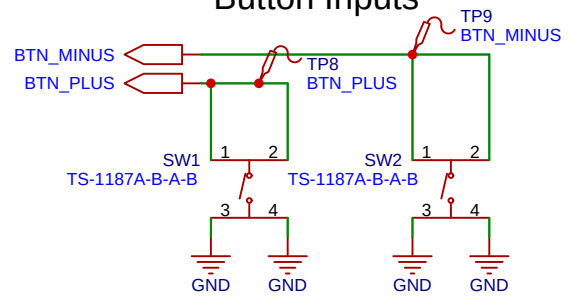




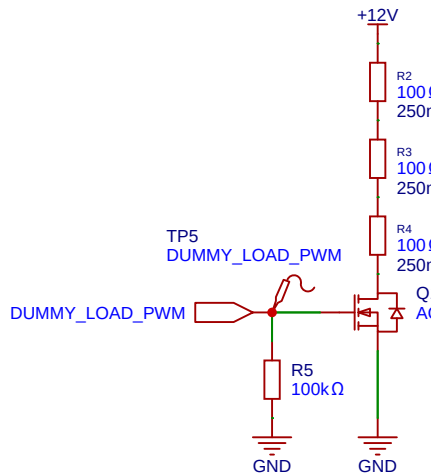
PA1 = TIM2_CH2 (open-drain)
PA2 = TIM2_CH3 (open-drain)
PA3 = TIM2_CH4 (open-drain)
PA6 = TIM3_CH1
PA7 = TIM3_CH2

PA8 for EXTI8 (pull-up)
PA9 for EXTI9 (pull-up)

Button Inputs



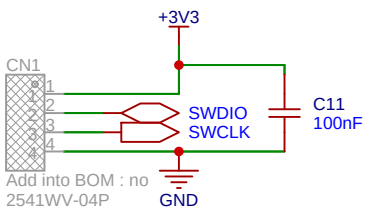
Variable Dummy Load



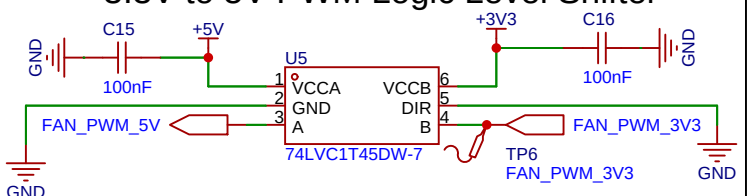
generates at most 0.48W of waste heat (0.44W required - found empirically)

to keep powerbanks active at very low fan power levels

SWD (Debug & Programming) Connector

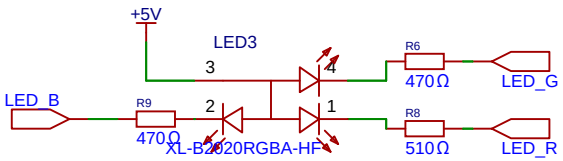


3.3V to 5V PWM Logic Level Shifter



Schematic	Schematic1	Create at	2025-09-09
		Update at	2025-09-11
Board	Board1	Page	P2
Drawn		usbc-fursuit-fan	
Reviewed			
		Version	Size / Page 2 Total 4
EasyEDA		V1.0	A4 / EasyEDA.com

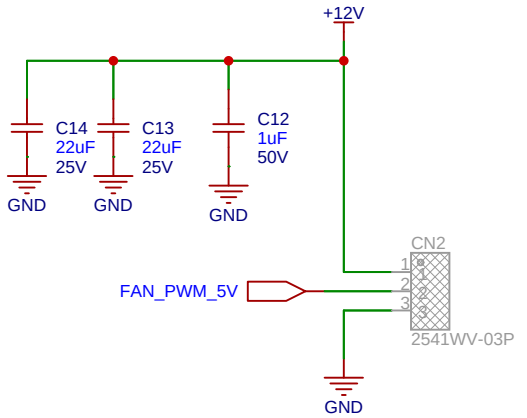
Power Level Indicator (RGB LED)

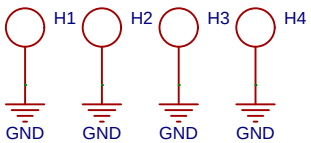


Schematic	Schematic1	Create at	2025-09-09
		Update at	2025-09-11
Board	Board1	Page	P3
Drawn		usbc-fursuit-fan	
Reviewed			
		Version	Size	Page 3 Total 4
EasyEDA		V1.0	A4	EasyEDA.com

Fan output

Mechanical Design Notes:
- Create 1.4mm of effective wall thickness in front of the USB Type C connector to create the standard-recommended 6.2mm of insertion depth





Schematic	Schematic1	Create at	2025-09-10
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Drawn		usbc-fursuit-fan	
Reviewed			
		Version / Size	Page 4 Total 4
EasyEDA		V1.0 / A4	EasyEDA.com