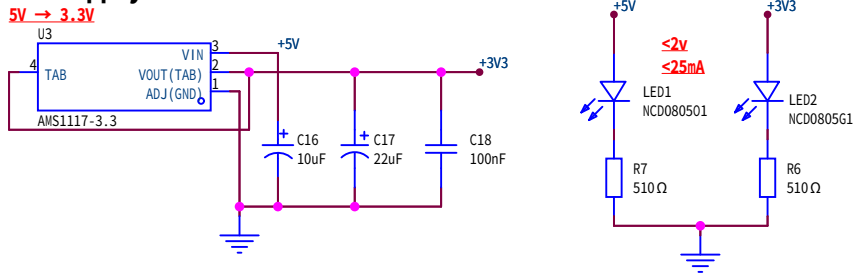
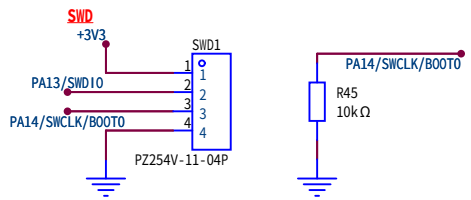
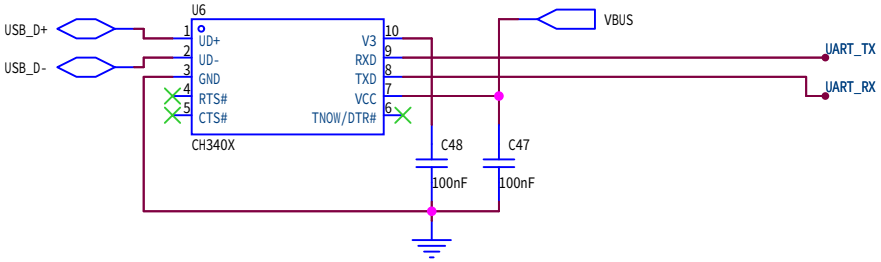
Power Supply



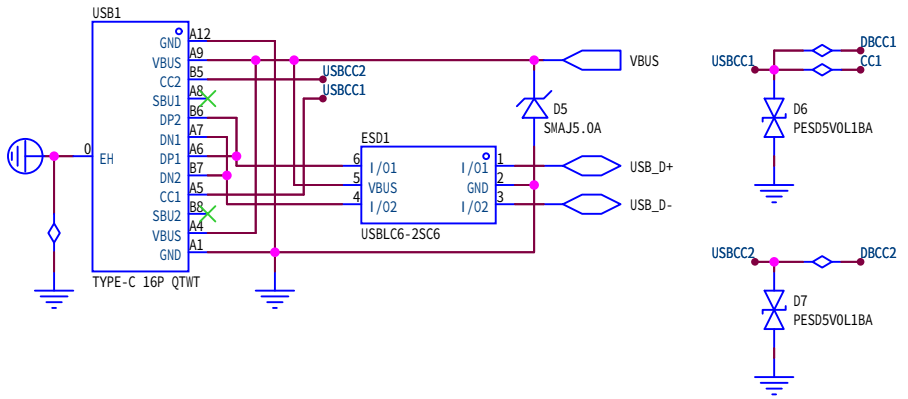
Debug/Download



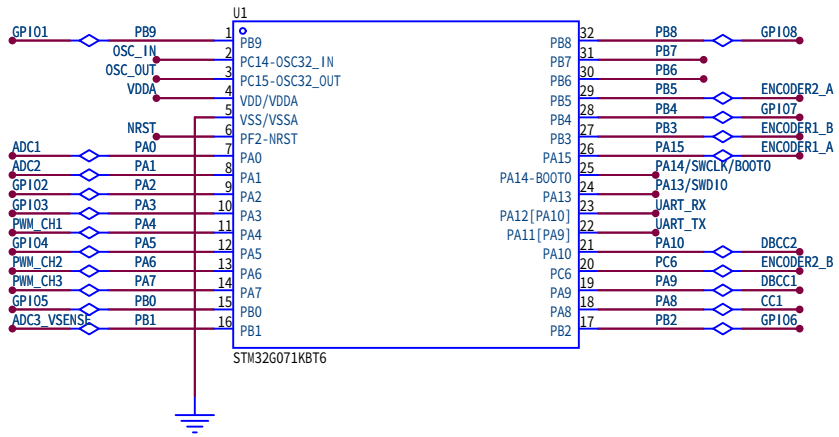
USB-TTL

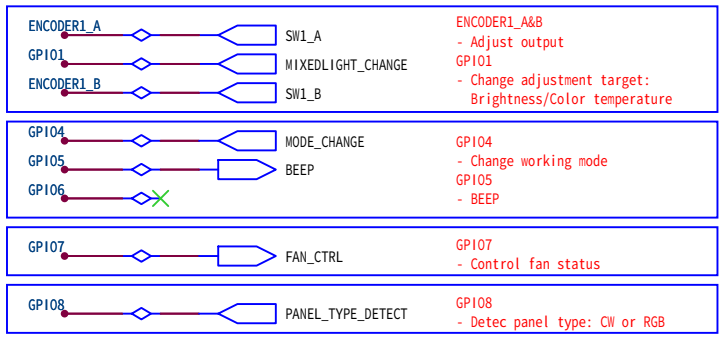


USB Input

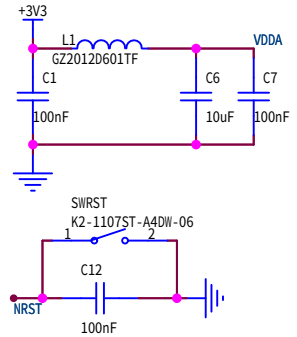


STM32G0





POWER/RST/OSC



Cuculus Band		Light Box	
Schematic	Main Board	**Board**	Light Box Main Board
Drawing No.	Y25-PJ03-B01	**Create Date**	2025-07-25
Designed by	Cuculus Band	**Update Date**	2025-09-27
Reviewed by	Cuculus Band	**Size**	**Version**
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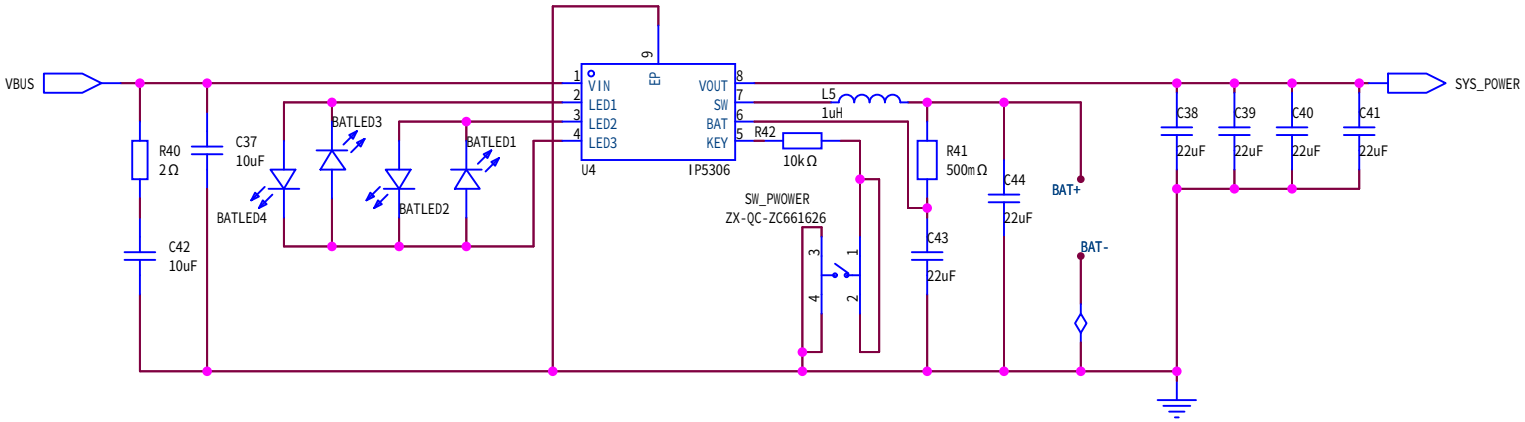

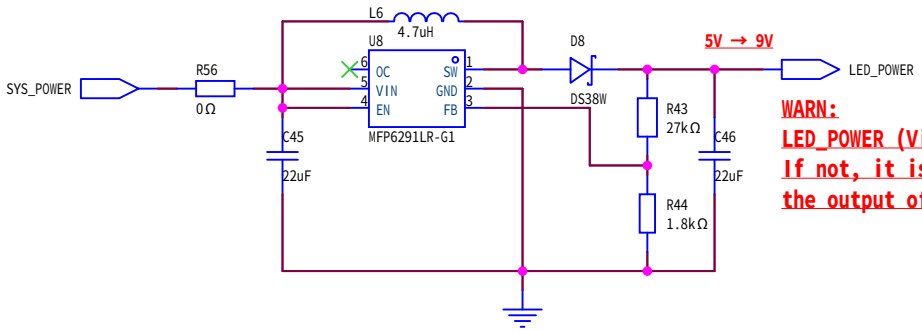

WARN:

LED_POWER (Vin of LGS63032) shall be lower than the LED+ (Vout of LGS63032). If not, it is unable to control the LGS63032's output with the EN pin, and the output of the chip will always be on.

Cuculus Band

Light Box

Schematic	Main Board	**Board**	Light Box Main Board
Drawing No.	Y25-PJ03-B01	**Create Date**	2025-07-25
Designed by	Cuculus Band	**Update Date**	2025-09-26
Reviewed by	Cuculus Band	**Size**	**Version**
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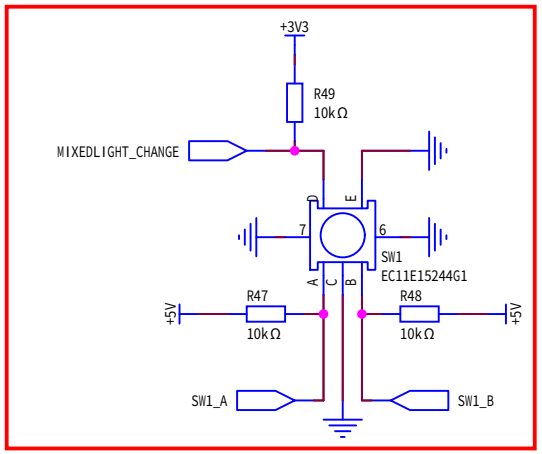

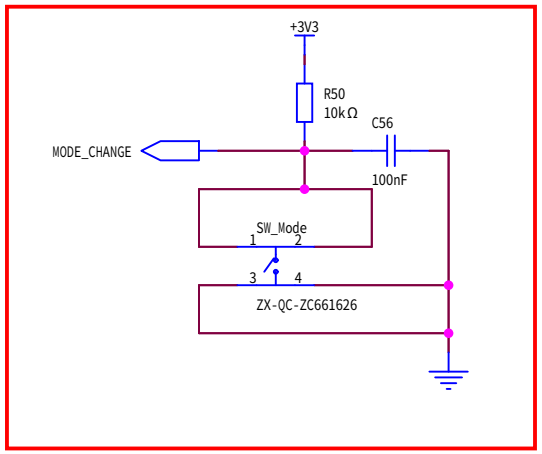

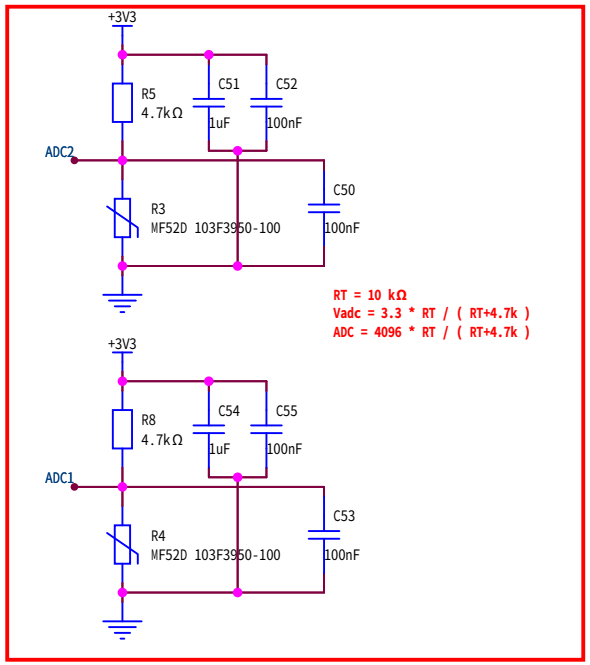

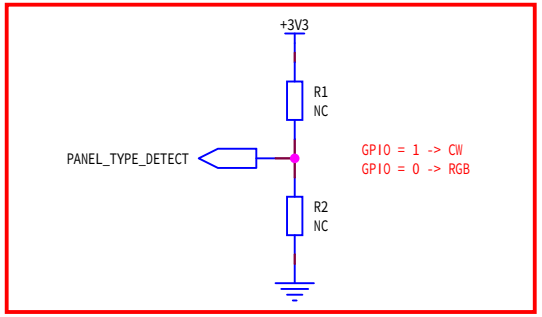

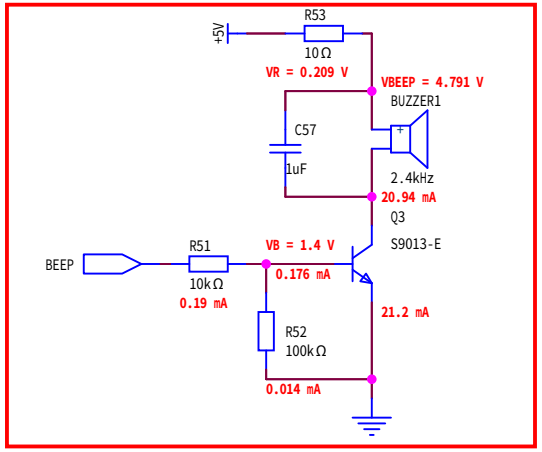

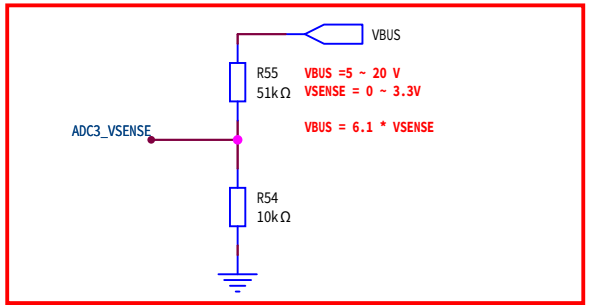

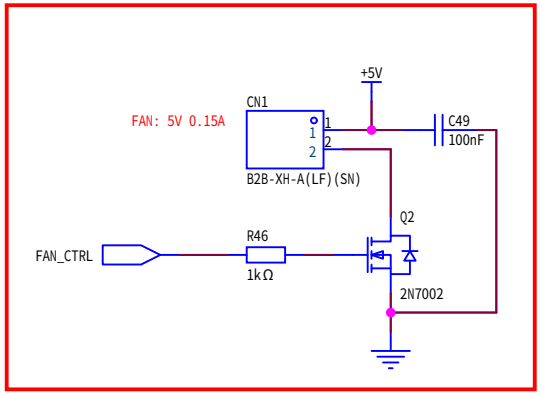

Cuculus Band		Light Box	
Schematic	Main Board	**Board**	Light Box Main Board
Drawing No.	Y25-PJ03-B01	**Create Date**	2025-07-25
Designed by	Cuculus Band	**Update Date**	2025-09-27
Reviewed by	Cuculus Band	**Size**	**Version**
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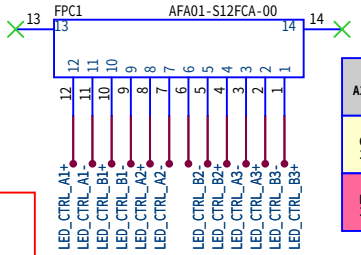
L = (Vin/Vout)² * (Vout-Vin) / (F * Ioutmax * K)

9V Input K = 35% L = (9/15)² * (15-9) / (1.2e6 * 0.189 * 35%) = 0.36 * 6 / 79380 =27.21 uH	5V Input K = 35% L = (5/15)² * (15-5) / (1.2e6 * 0.189 * 35%) = 0.111 * 10 / 79380 =13.983 uH
9V Input K = 50% L = (9/15)² * (15-9) / (1.2e6 * 0.189 * 50%) = 0.36 * 6 / 113400 = 19.48 uH	5V Input K = 50% L = (5/15)² * (15-5) / (1.2e6 * 0.189 * 50%) = 0.111 * 10 / 113400 = 9.788 uH

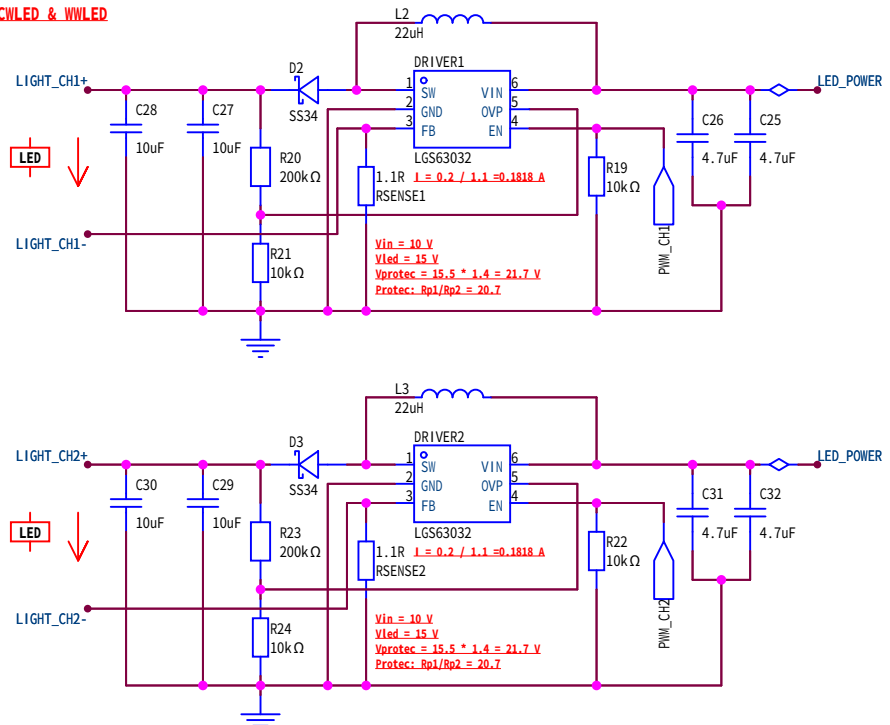
Ilpeak = (Vout/Vin) * Ioutmax + (Vin/Vout)² * (Vout-Vin) / (2 * F * L)

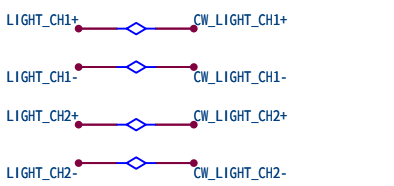
9V Input L = 22 uH Ilpeak = (15/9) * 0.189 + (9/15)² * (15-9) / (2 * 1.2e6 * 22e-6) = 1.667 * 0.189 + 0.6² * 6 / 52.8 = 0.3151 + 0.0409 = 0.356 A	9V Input L = 10 uH Ilpeak = (15/9) * 0.189 + (9/15)² * (15-9) / (2 * 1.2e6 * 10e-6) = 1.667 * 0.189 + 0.6² * 6 / 24 = 0.3151 + 0.09 = 0.405 A

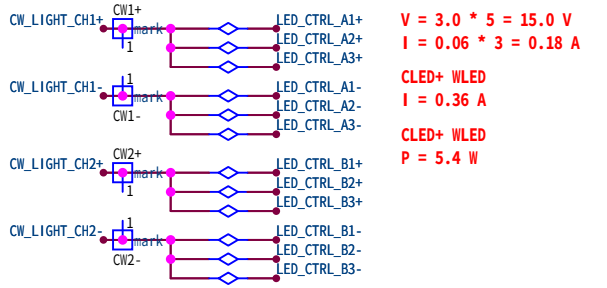


A1+	A1-	B1+	B1-	A2+	A2-	B2+	B2-	A3+	A3-	B3+	B3-
C 1	C 1	W 1	W 1	C 2	C 2	W 2	W 2	C 3	C 3	W 3	W 3
R 1	R 1	G 1	G 1	B 1	B 1	R 2	R 2	G 2	G 2	B 2	B 2

For CWLED & WWLED







V = 3.0 * 5 = 15.0 V
I = 0.06 * 3 = 0.18 A

CLED+ WLED
I = 0.36 A

CLED+ WLED
P = 5.4 W

Reserved For RGB Models

Cuculus Band

Light Box

Schematic	Main Board	**Board**	Light Box Main Board
Drawing No.	Y25-PJ03-B01	**Create Date**	2025-07-26
Designed by	Cuculus Band	**Update Date**	2025-09-27
Reviewed by	Cuculus Band	**Size**	**Version**
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