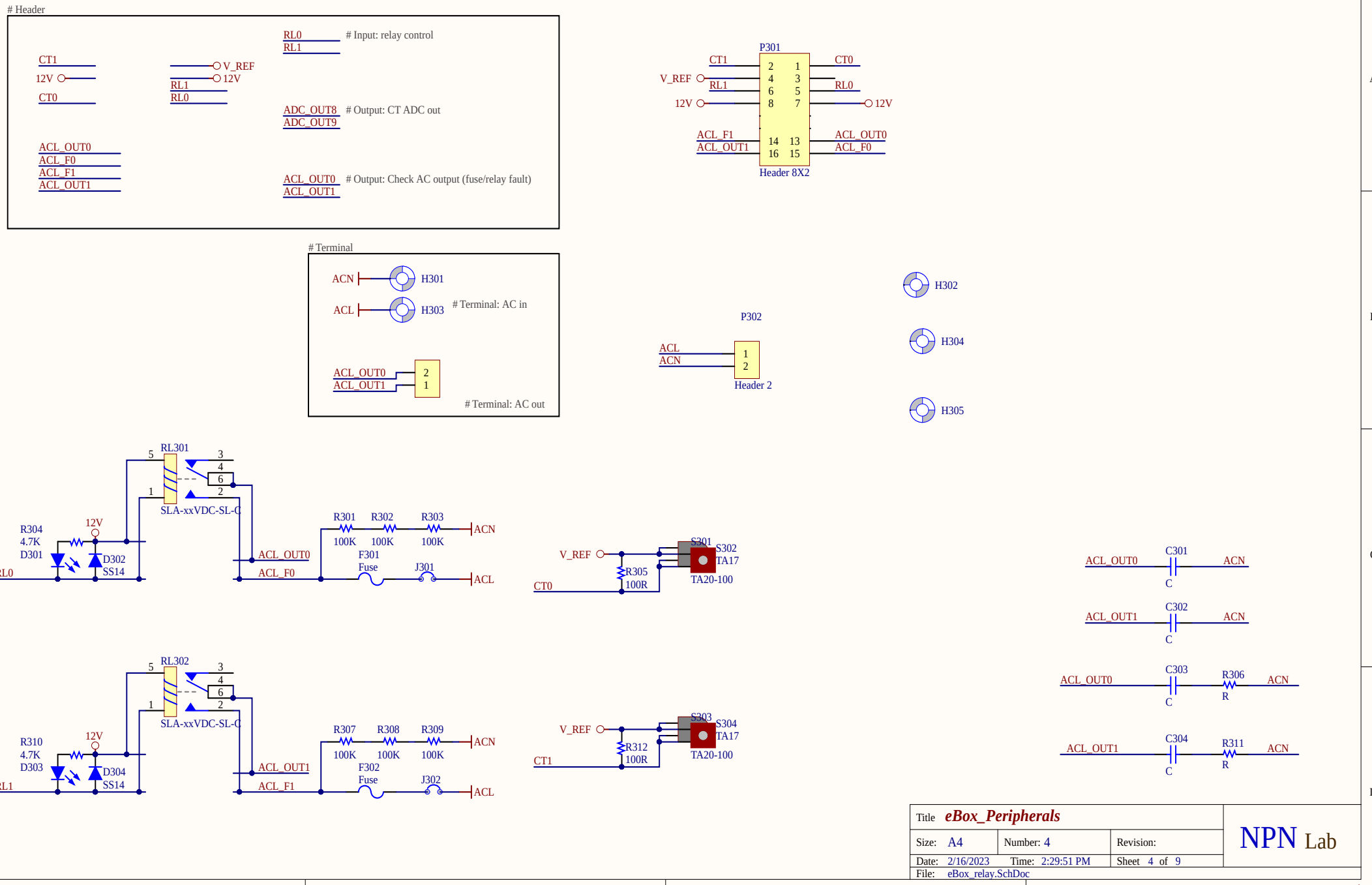
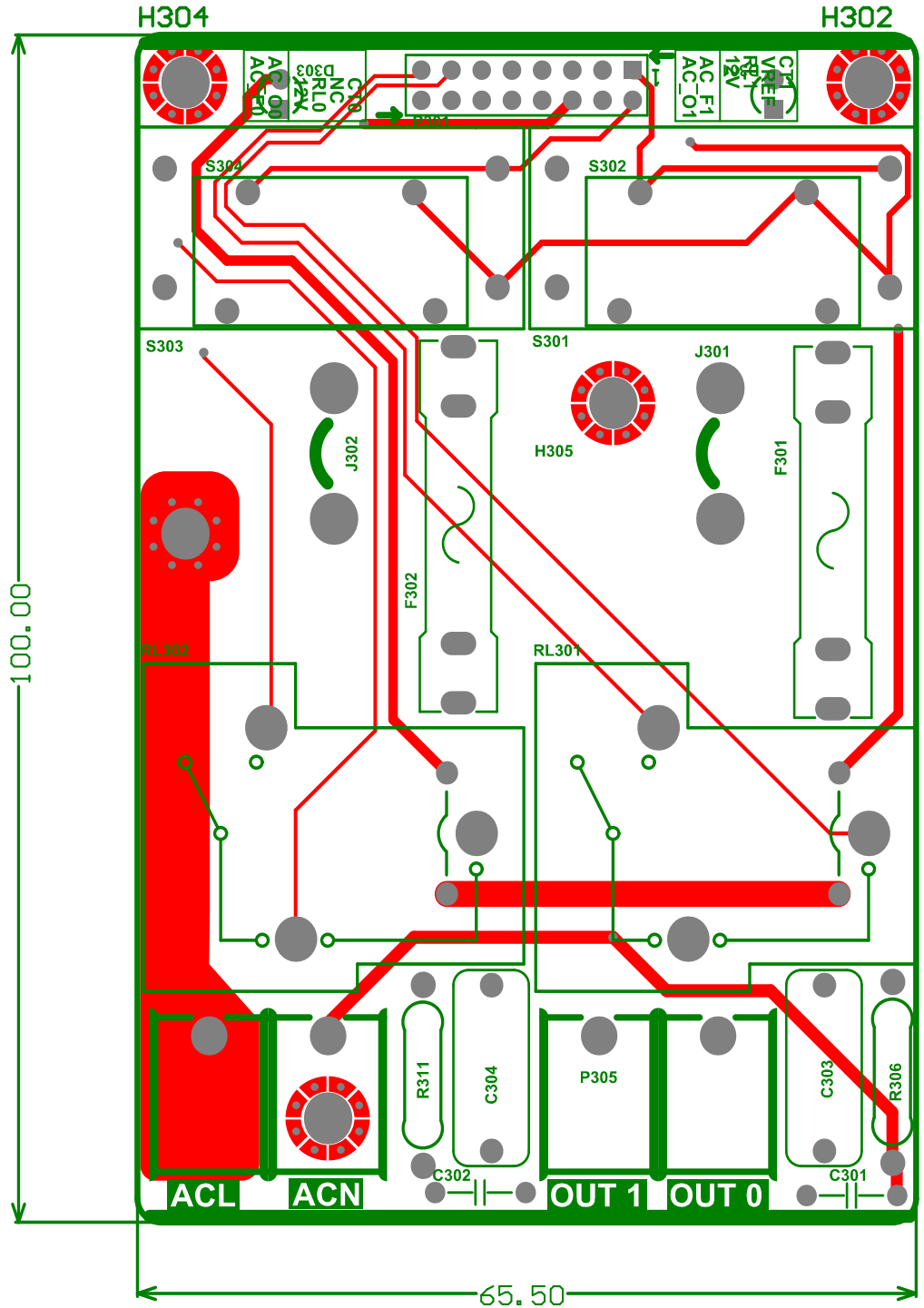
History

Date (d/m/y)	Version	Note
02/12/2019	0.1	Draft version
04/12/2019	0.2	- Add resistors for CTs - Add 1.8V power for CTs - Add buffer ICs for MCU - Replace single transistors by darlington transistors array. - Fixbug
07/12/2019	0.3	- Add LED signal for relay - Change CTs - Add feedback signals from AC ports - Add WAKE-UP pin for 3G module
09/12/2019	0.4	- Add Buzzer - Add PCB document - Fixbug
12/12/2019	0.5	[x] Thêm chân nạp cho STM32 [x] Chỉnh số cho nguồn 3G (R1,R2) hoặc recommend cái nào thì tô đậm [x] Thêm test point cho mấy chỗ nguồn 12v, 3v3, 1v8 [x] Đèn led blink trạng thái chân B2 [x] Sim 5320 cũng ra hàng rào hoặc test point uart để test
24/12/2019	0.6	- Add PCB layout
29/12/2019	0.7	- Fix bug
27/02/2020	1.0	-
25/05/2020	2.0	- Pre-mass production (20 pcs)
12/03/2021	2.1	- Keep CTs 1 to 8 is 5A the same, the others change to 10A - Add wifi modules ESP-01 and ESP-05. Just use only one, the other for backup. - Bigger screw hole for more easy assembly - Fix the transformer footprint
31/01/2023	3.0	- New version with Thaco - Stackable, easy install and remove - Relay board add snubber - Relay board resize and change connect to flat - Led board change to led & connector smd - Main board add New wifi/lan module - Main board resize for just 4 pair relay - Main board AC-filter to zero detection - Main board 485 - Mainboard realtime 32khz crrystal - Wirre connector on sub or main -> sub

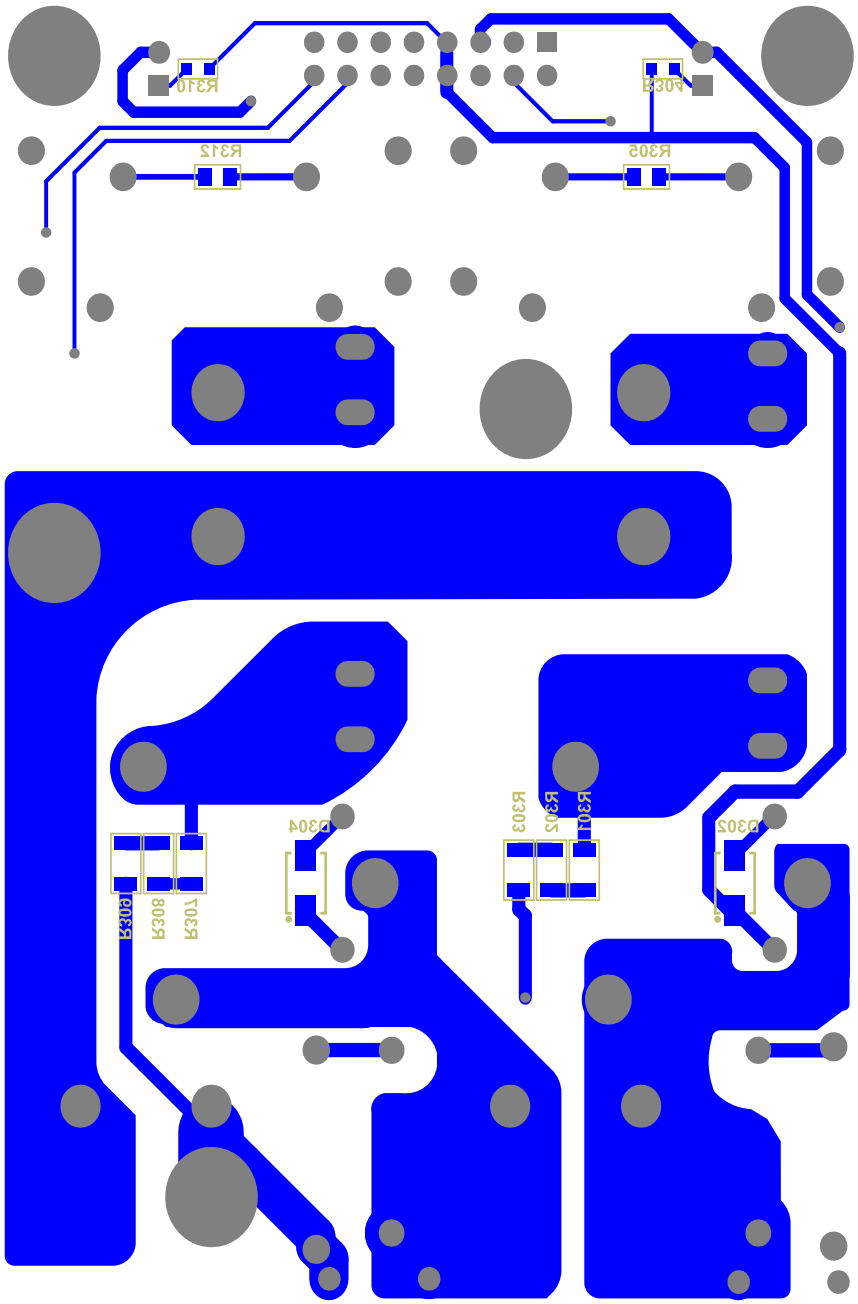
Title	***eBox_Notes***		NPN Lab
Size: A4	Number: 1	Revision:	
Date: 2/16/2023	Time: 2:29:51 PM	Sheet 1 of 9	
File: eBox_Notes.SchDoc			



Title	*eBox_Peripherals*		NPN Lab
Size: A4	Number: 4	Revision:	
Date: 2/16/2023	Time: 2:29:51 PM	Sheet 4 of 9	
File:	eBox_relay.SchDoc		



-ACN Terminal to corner bottom right
+check sze of snubber component
-Region for fuse , thermal absorb
_Open air for acl
_ curve corner
_ tear drop
_ label
_ should removr 3 resistor serial & CT small ?
- Rechack relay pin on ACL line , change footprint
- co ve chan acl cua header 8x2 chua dung


R310
R312
R305
D304
R303
R302
R301
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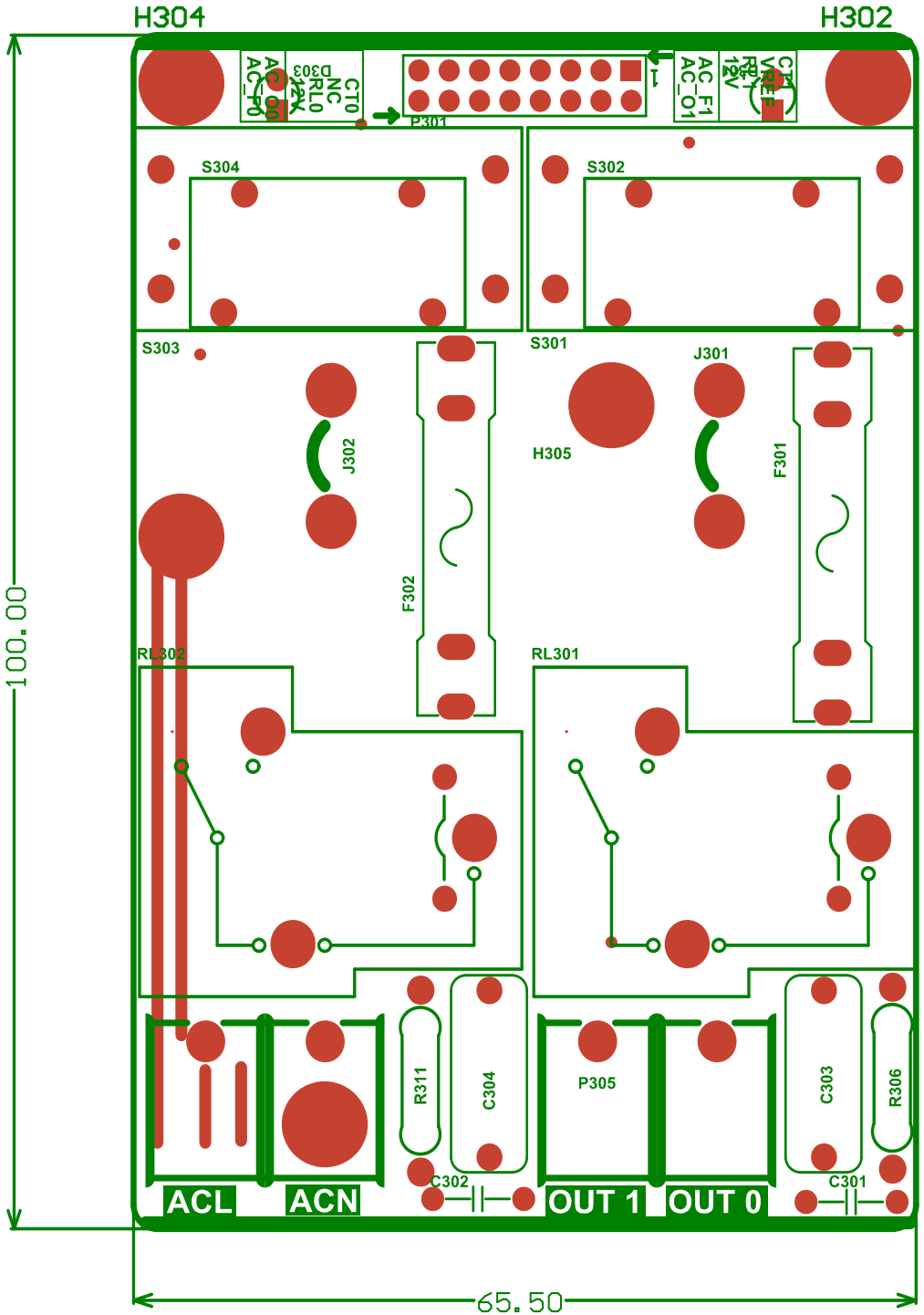
R309
R308
R307



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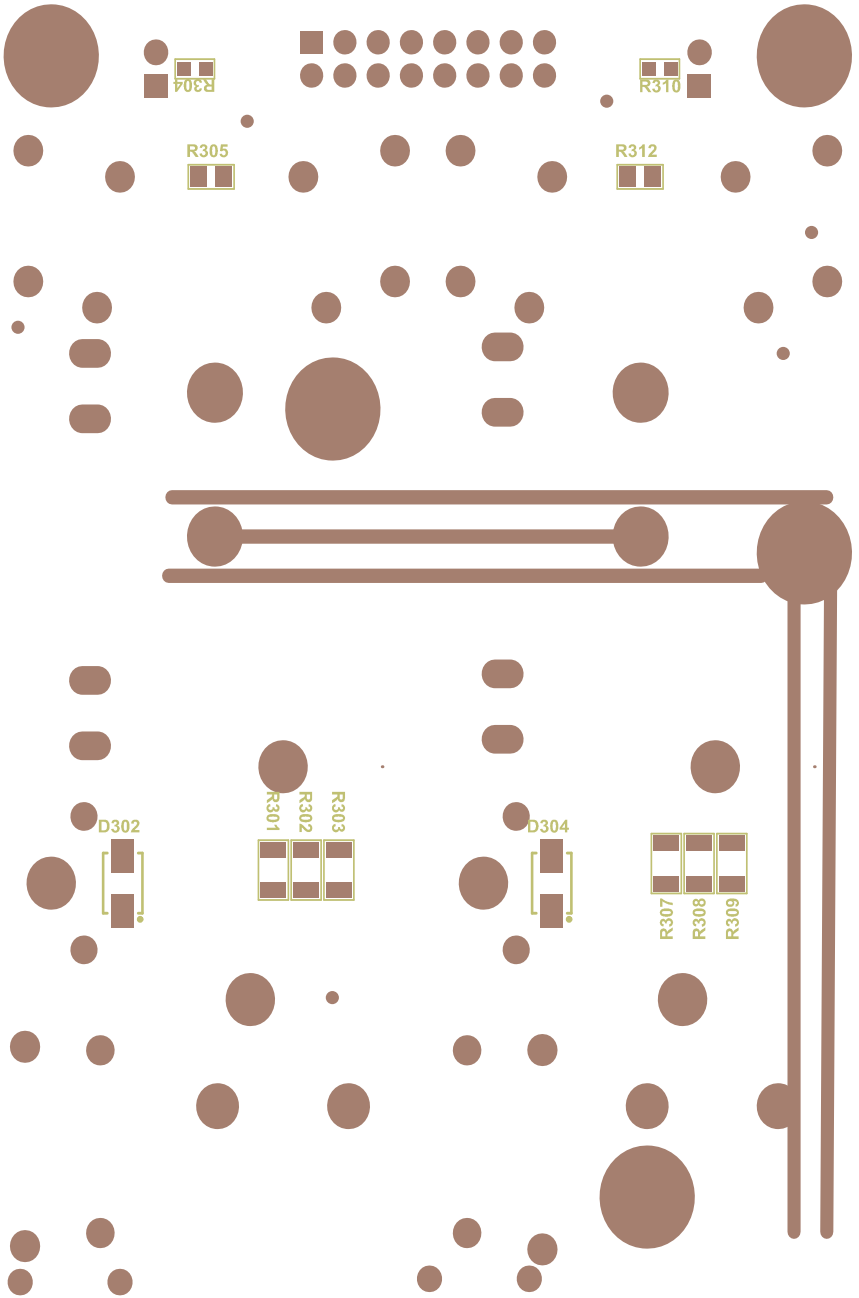
R304
R310
R305
R312
D302
R301
R302
R303
D304
R307
R308
R309