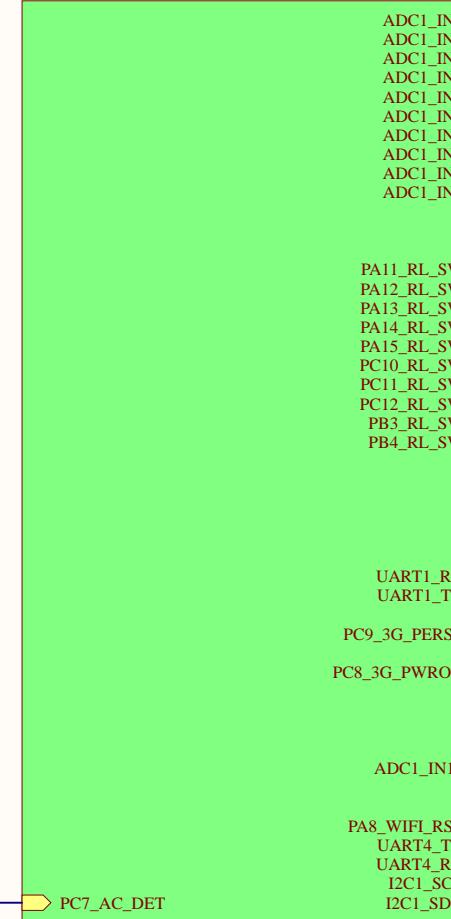
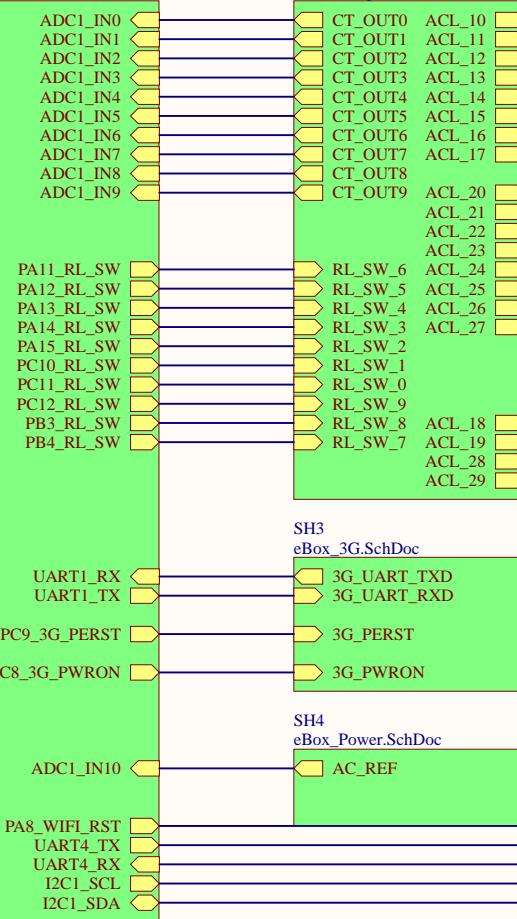
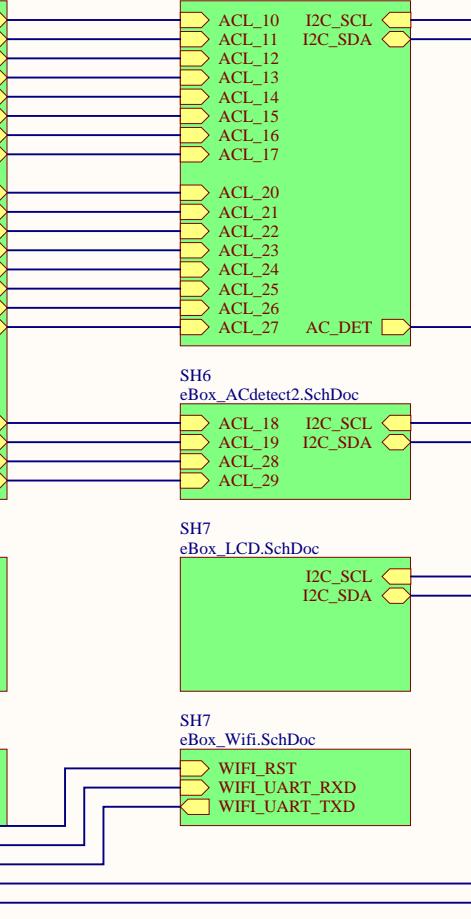
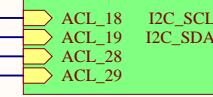


**History**

| Date (d/m/y) | Version | Note  |
|--------------|---------|---|
| 02/12/2019   | 0.1     | Draft version   |
| 04/12/2019   | 0.2     | - Add resistors for CTs<br>- Add 1.8V power for CTs<br>- Add buffer ICs for MCU<br>- Replace single transistors by darlington transistors array.<br>- Fixbug  |
| 07/12/2019   | 0.3     | - Add LED signal for relay<br>- Change CTs<br>- Add feedback signals from AC ports<br>- Add WAKE-UP pin for 3G module   |
| 09/12/2019   | 0.4     | - Add Buzzer<br>- Add PCB document<br>- Fixbug  |
| 12/12/2019   | 0.5     | [x] Thêm chân nạp cho STM32<br>[x] Chính số cho nguồn 3G (R1,R2) hoặc recommend cái nào thì tò dập<br>[x] Thêm test point cho máy chở nguồn 12v, 3v3, 1v8<br>[x] Đèn led blink trạng thái chân B2<br>[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<br>- Add wifi modules ESP-01 and ESP-05. Just use only one, the other for backup.<br>- Bigger screw hole for more easy assembly<br>- Fix the transformer footprint                                   |

SH1  
eBox\_MCU.SchDocSH2  
eBox\_Peripherals.SchDocSH5  
eBox\_ACdetect.SchDocSH6  
eBox\_ACdetect2.SchDocSH7  
eBox\_LCD.SchDocSH7  
eBox\_Wifi.SchDoc

H1

H3

H4

H5

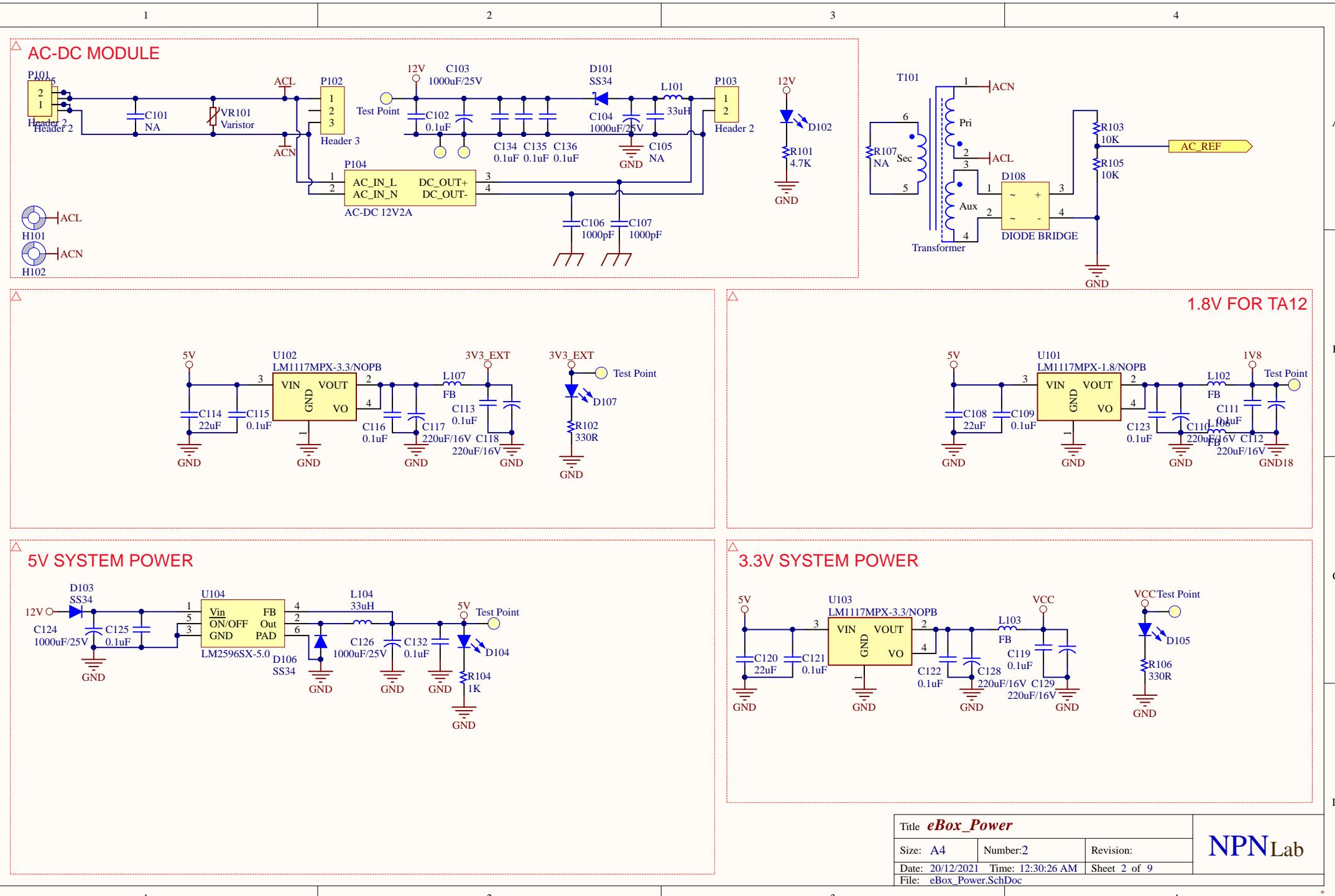
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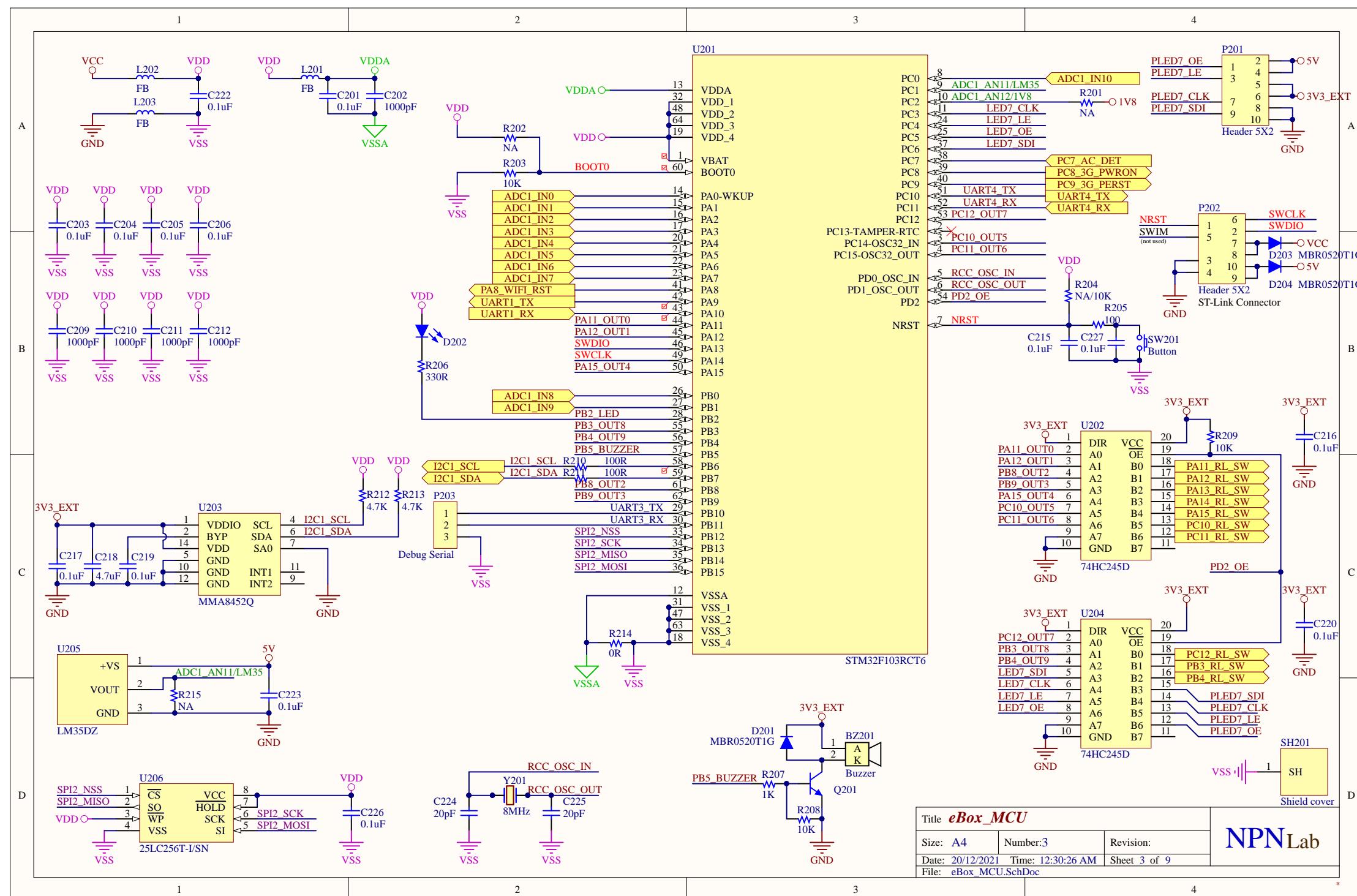
H7

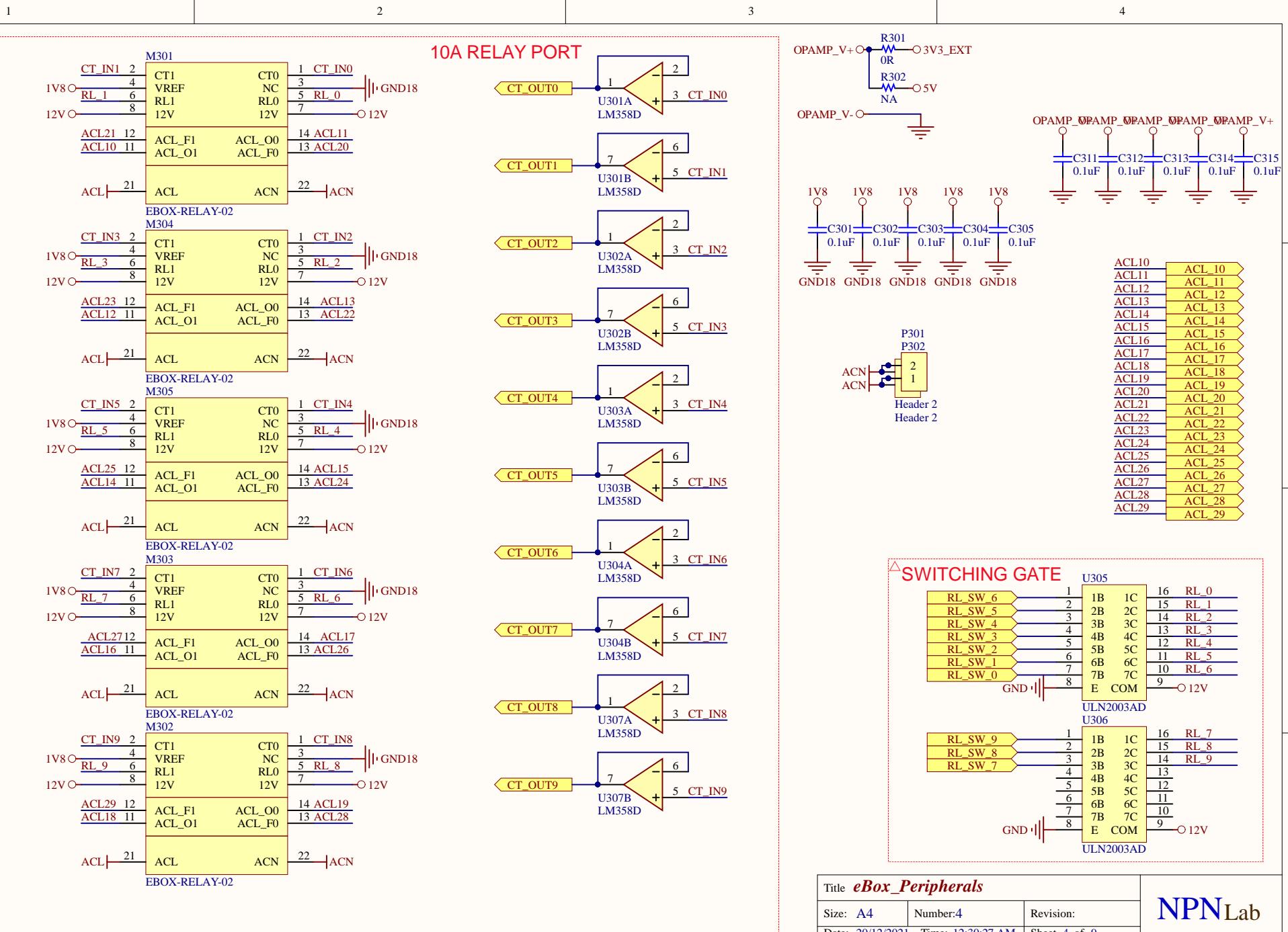
Title **eBox\_Notes**

|                         |                   |              |
|-------------------------|-------------------|--------------|
| Size: A4                | Number: 1         | Revision:    |
| Date: 20/12/2021        | Time: 12:30:26 AM | Sheet 1 of 9 |
| File: eBox_Notes.SchDoc |                   |              |

**NPN Lab**







A

A

B

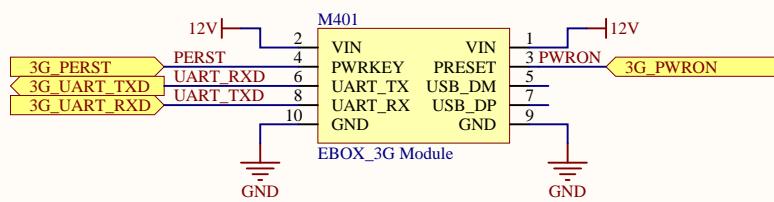
B

C

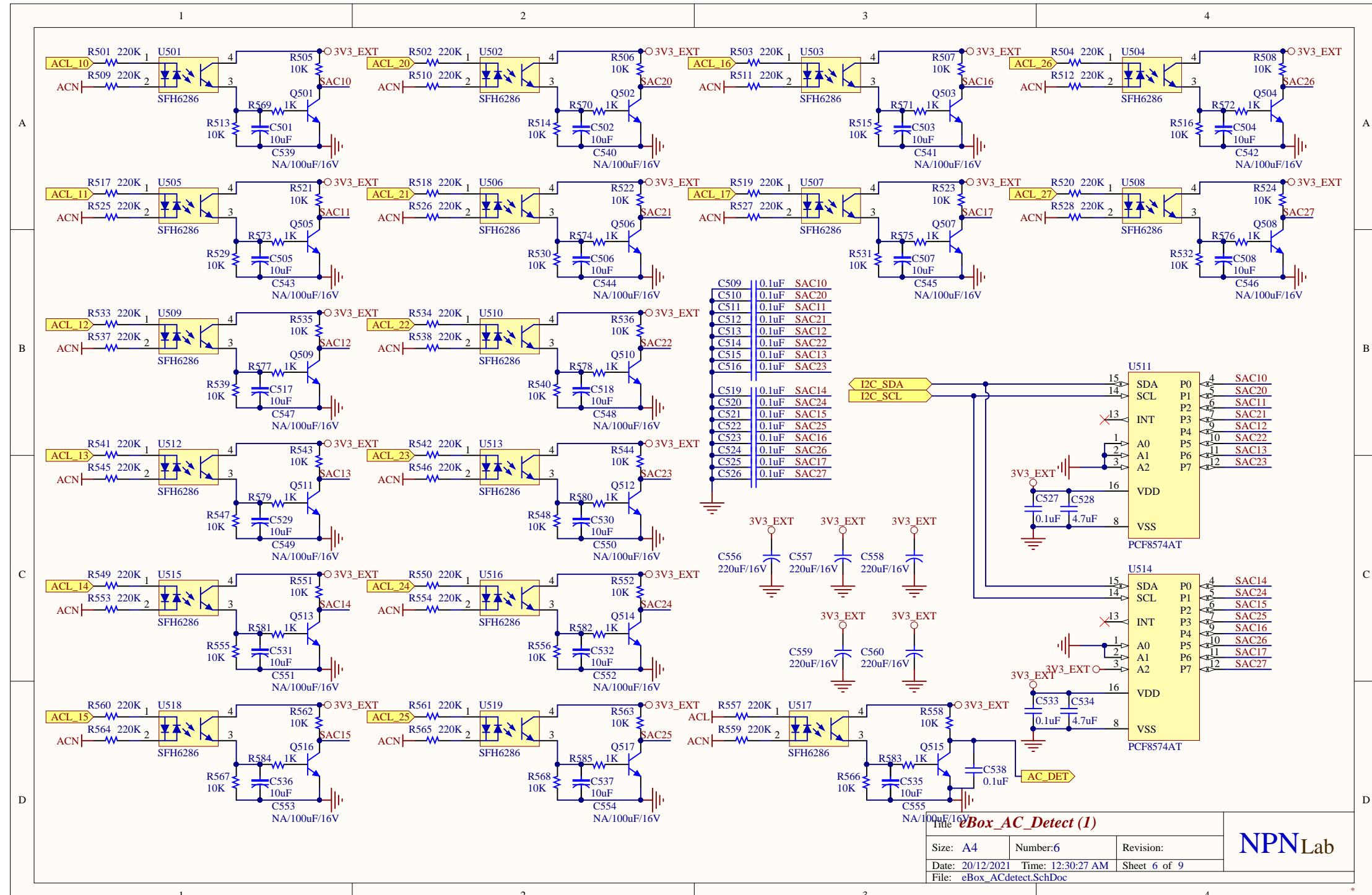
C

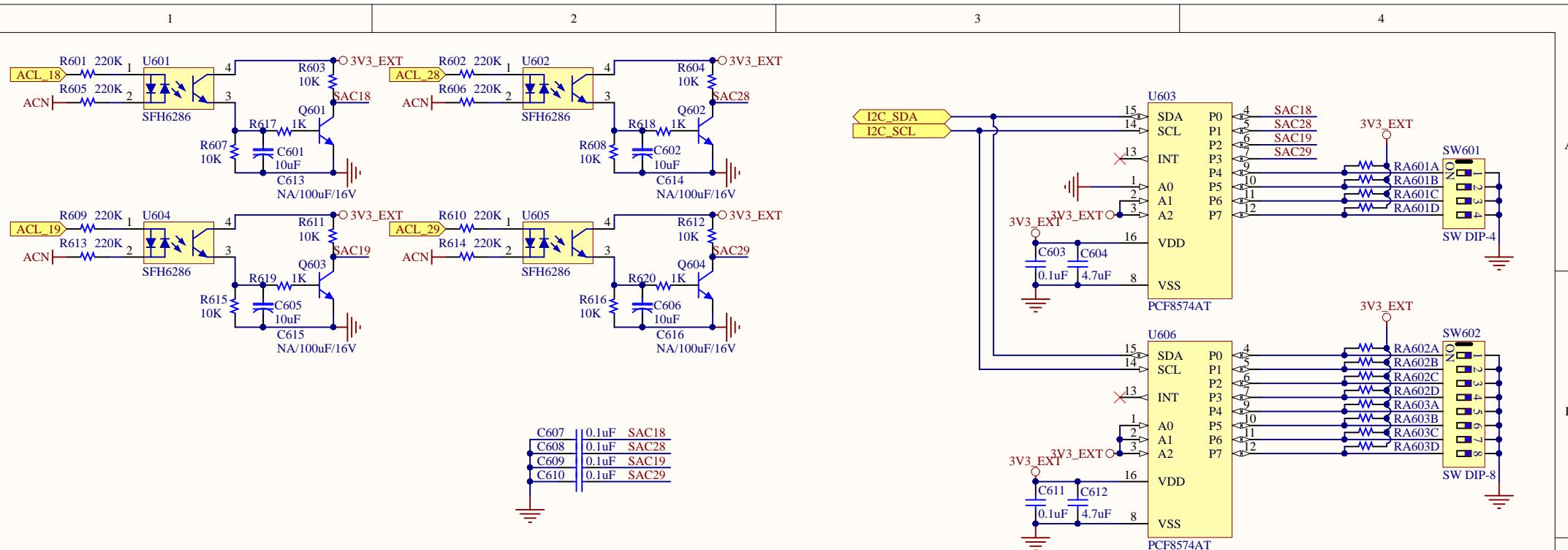
D

D



|                      |                   |              |
|----------------------|-------------------|--------------|
| Title <b>eBox_3G</b> |                   |              |
| Size: A4             | Number: 5         | Revision:    |
| Date: 20/12/2021     | Time: 12:30:27 AM | Sheet 5 of 9 |
| File: eBox_3G.SchDoc |                   | NPN Lab      |

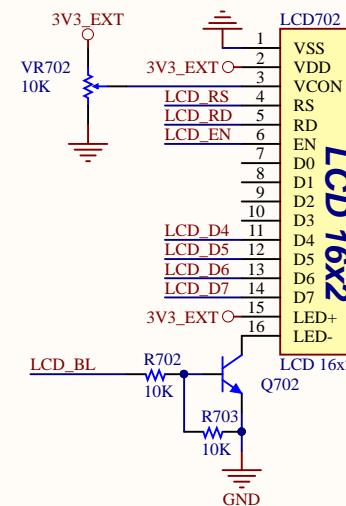
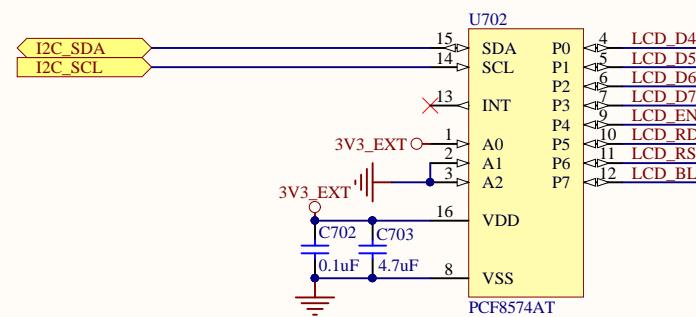




Title **eBox\_AC\_Detect (2)**

Size: **A4** Number: **7** Revision:  
Date: **20/12/2021** Time: **12:30:28 AM** Sheet **7** of **9**  
File: **eBox\_ACdetect2.SchDoc**

**NPN Lab**

Title **eBox\_LCD**

|                       |                   |              |
|-----------------------|-------------------|--------------|
| Size: A4              | Number: 8         | Revision:    |
| Date: 20/12/2021      | Time: 12:30:28 AM | Sheet 8 of 9 |
| File: eBox_LCD.SchDoc |                   |              |

**NPN Lab**

A

A

B

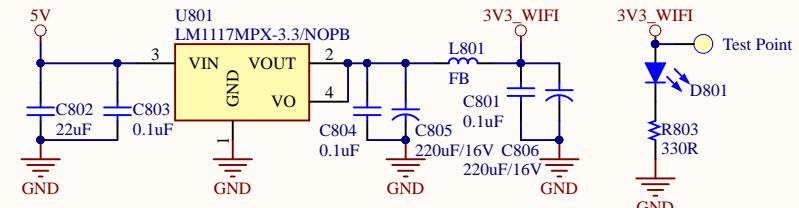
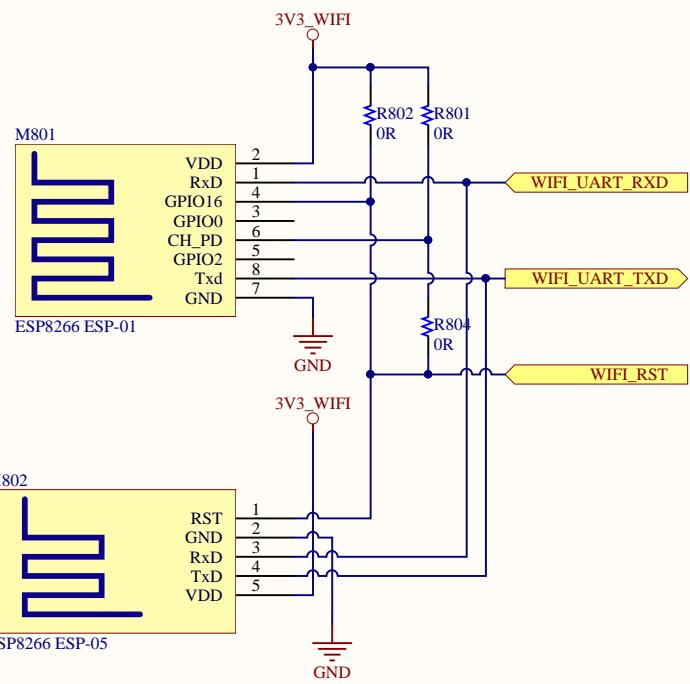
B

C

C

D

D

Title **eBox\_3G**Size: **A4**Number: **9**

Revision:

Date: **20/12/2021**Time: **12:30:28 AM**Sheet **9** of **9**File: **eBox\_Wifi.SchDoc****NPN Lab**

