How to fix Smart Switching Converter PCB problem?

The PCB of the Smart Buck Converter contains two errors:

- the PMOD GND pin is not physically connected to the board ground
- the comparator positive feedback is incorrectly wired

1. The GND problem is very easy to fix: just solder a wire between the PMOD ground PIN and the 1 x 4 board ground pin header (as Figure 1 shows)
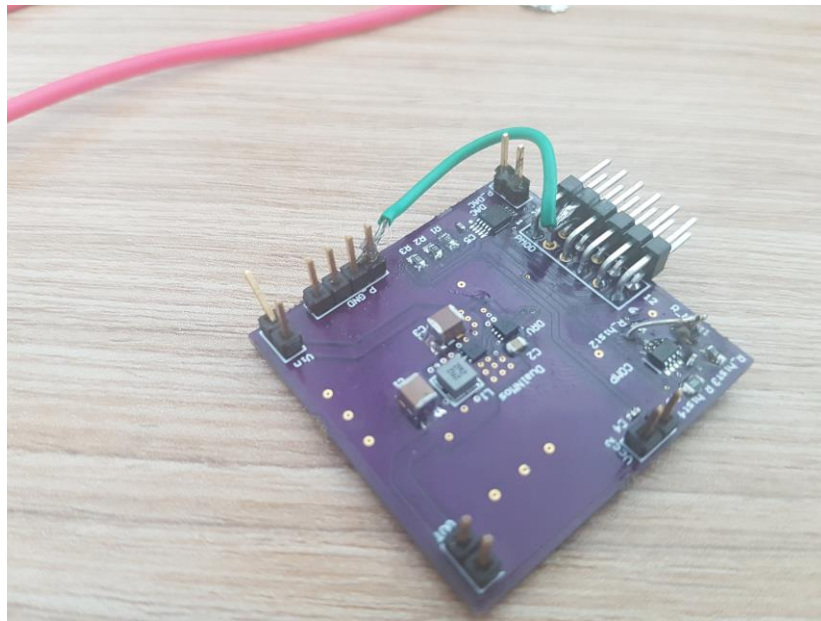

Figure 1

2. The Positive feedback fix

As Figure 2 shows, the R_hist1 and R_hist2 are wrong connected. In this case, R_hist2 has no purpose, because it is in series with the input impedance of the non-inverting input of the comparator.

In order to fix the problem, the right terminal of R_hist2 should be disconnected from IN+ and connected to OUTA. The FB wire should be disconnected from OUTA and connected to IN+.
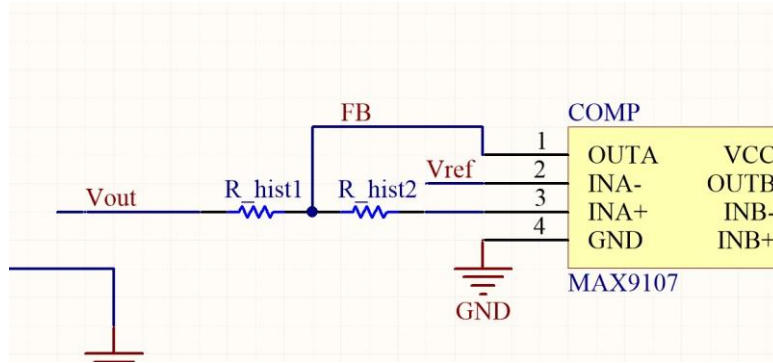
Figure 2

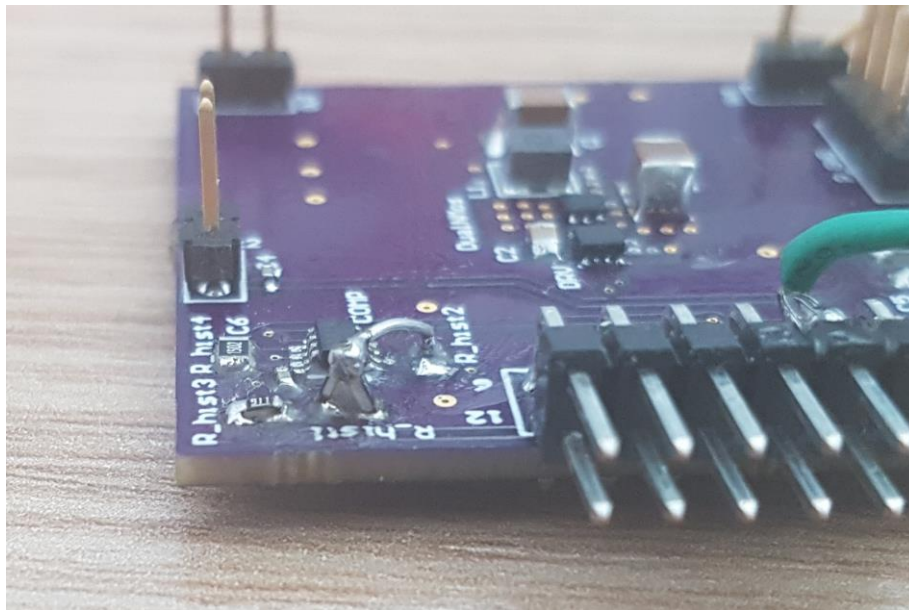Because this problem is not major one, it can be solved without destroying the PCB.

Figure 3

For doing this, R_hist 2 was detached from its PAD. Both R_hist 1 and R_hist2 were soldered on the pad of R_hist1 in a triangle form. R_hist1 was lifted at 60 degrees, remaining fixed on the upper pad (the one closer to the top border). R_hist2 was soldered with a terminal on the other pad of R_hist2 (the one closer to PMOD). Our common pad (which is the triangle top) was soldered, and connected to the right pad of R_hist2 (see Figure 4).
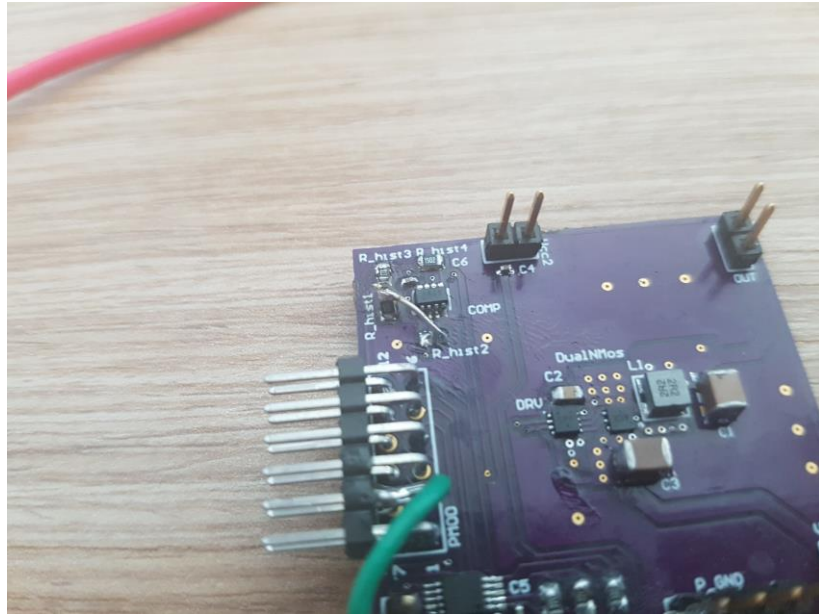
Figure 4