Background

In some situations, the noise generated by the onboard switching power supply, is picked-up by the radio receiver and negatively impacts the communication between EmaLink and your pump. This was mostly observed with Omnipod versions of EmaLink.

All EmaLinks manufactured as of 22-Nov-2020 have be improved and tested to eliminate this potential issue.

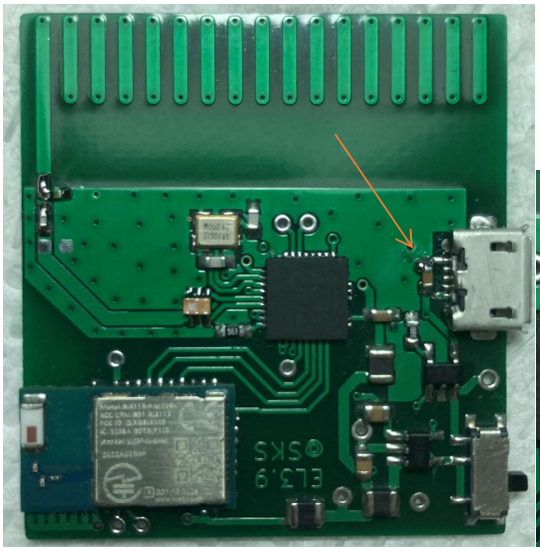
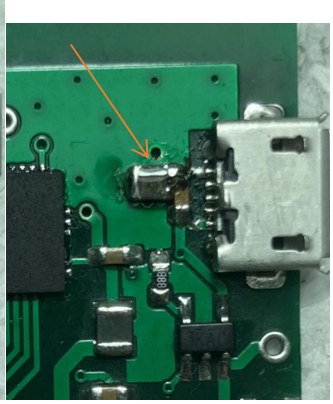
Solution 1 (hard): Filter battery ground

Tools and parts needed:

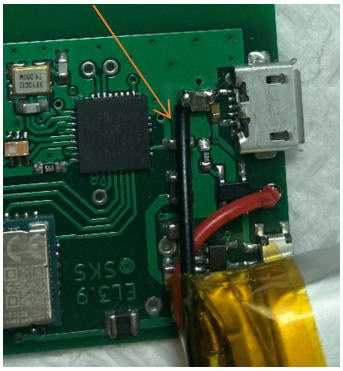
a. Soldering station
b. Soldering wire
c. A power inductor with inductance of 1.5-4.7uH and DC resistance of maximum 0.1ohm. See below some options that would work:
    i. LBR2518T2R2M – available from DigiKey or Mouser
    ii. DFE201612E-1R5M - available from DigiKey, Mouser or Farnell

Steps:

1. Put a solder blob on the left pad of the USB filtering capacitor

2. Solder one pad of the inductor to that solder blob



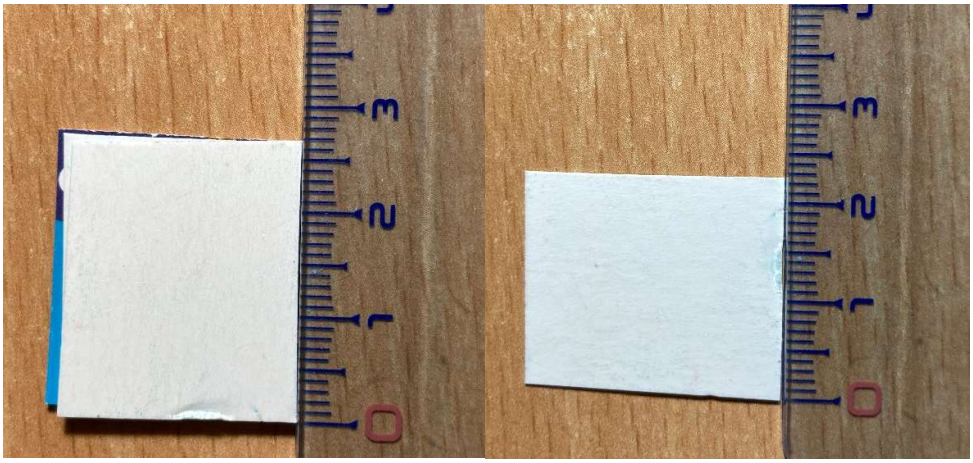
3. Unsolder the black battery wire from current position and solder it to the free pad of the inductor

Solution 2 (easy): Increase gap between battery and CC1110

Tools and parts needed:

a. Scissors
b. Plastic sheet or thick paper sheet

Steps:

1. Cut 1 or more plastic or paper sheets with dimension of ~20x20mm; your target is to have enough sheets to reach a thickness of 0.5-1.0 mm
2. 
3. Remove the back cap of your EmaLink
4. Insert the sheets carefully in between battery and the board. Push them until the are hidden entirely beneath the battery