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# ASSEMBLY MANUAL FOR

THYRATRON

ITS1-a v2

If you will have any questions, contact  
with me here:

[info@kama-labs.com](mailto:info@kama-labs.com)

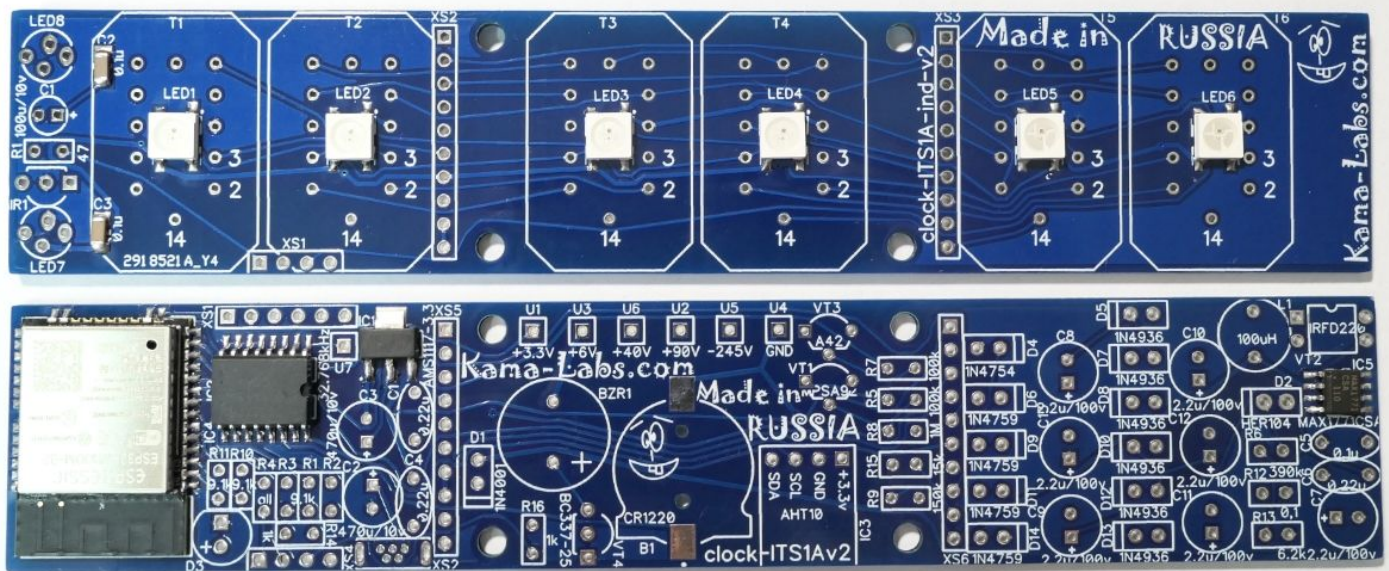
GOOD LUCK!

^ ^

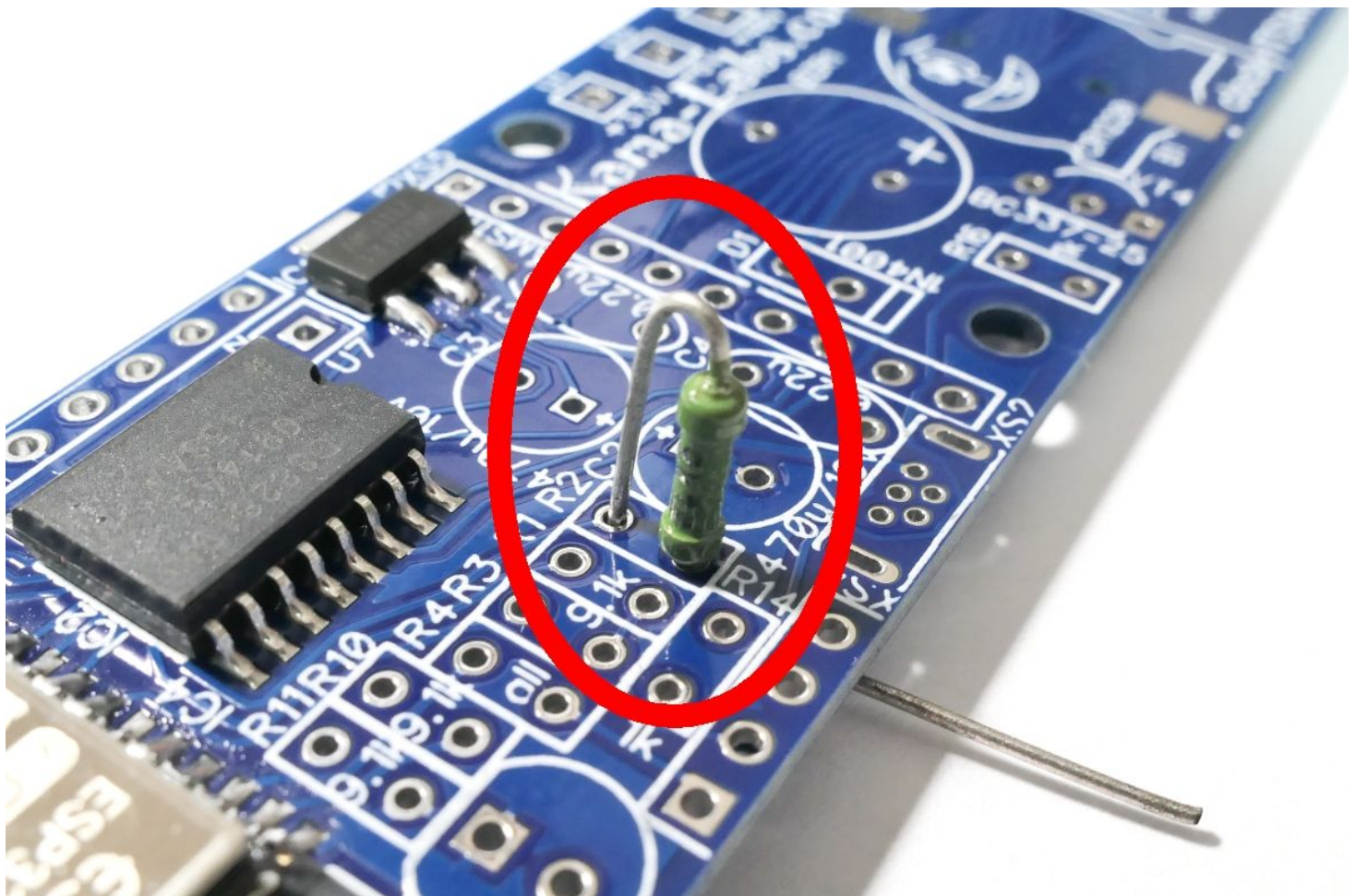
—

Be very careful with static electricity. If clock  
not work after build its mean that they been  
damaged by static electricity in process of  
assemble.

1) You have a PCB with ICs:

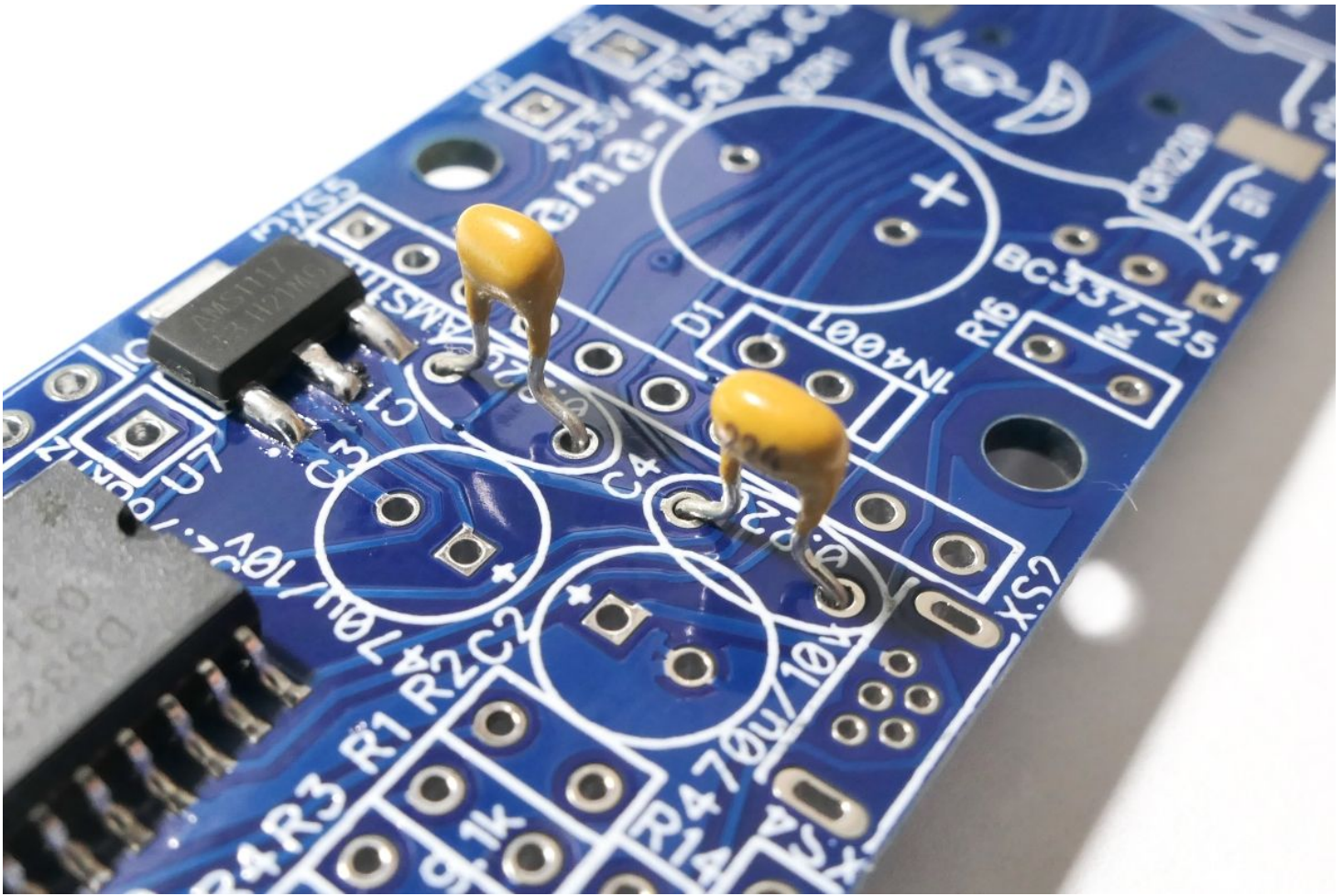


2) Take board with MCU and place all resistors vertical:

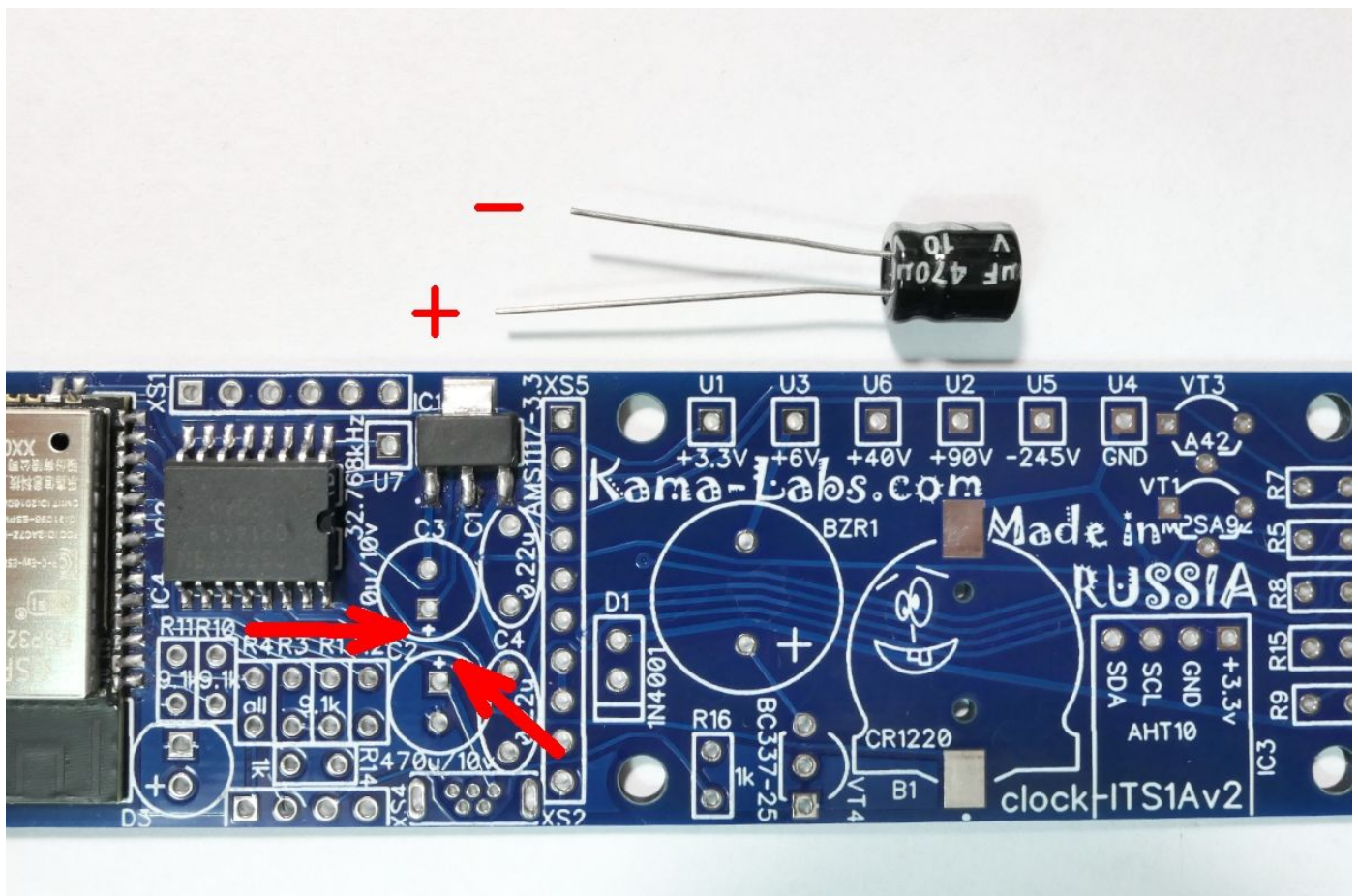




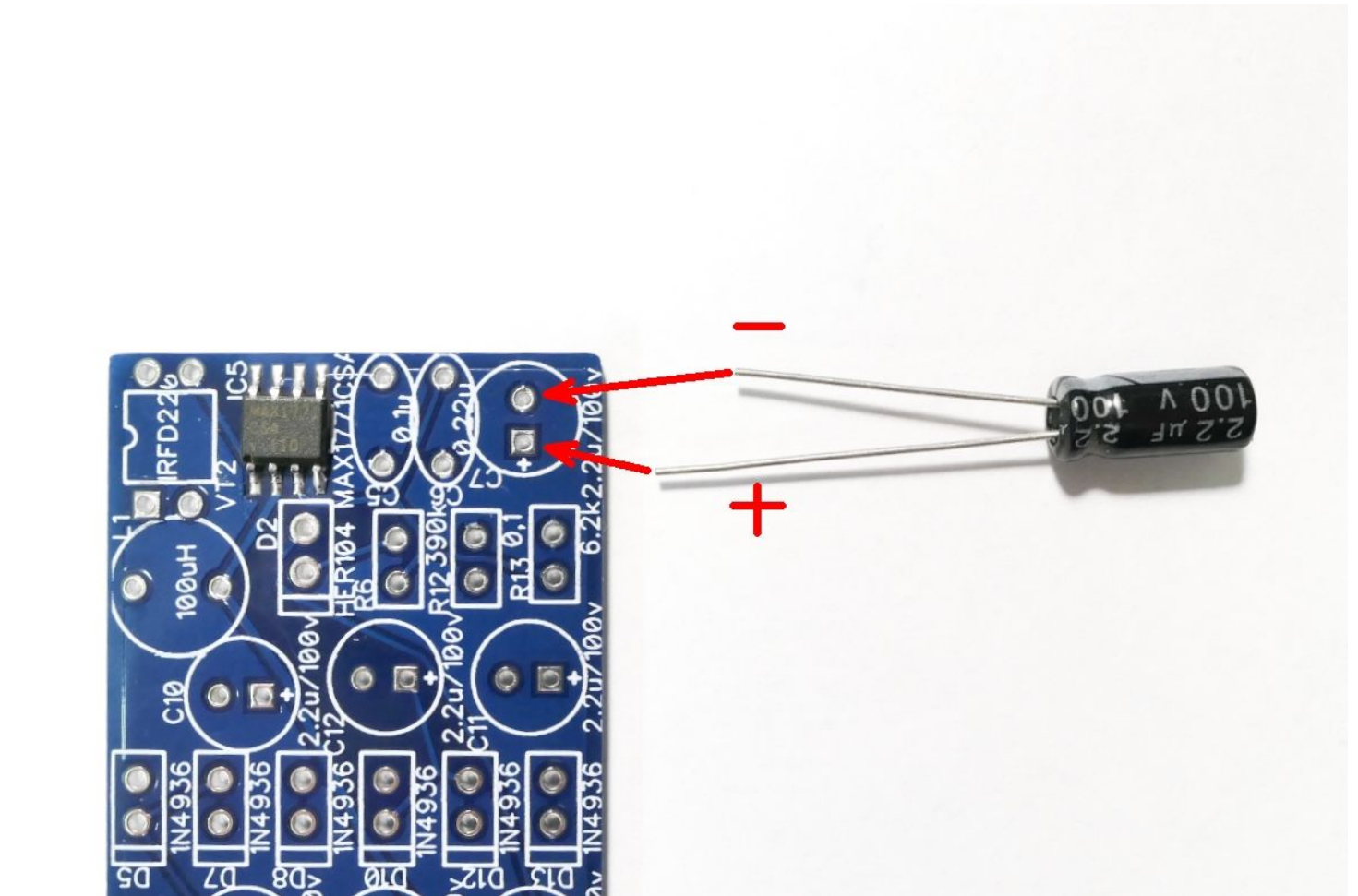
3) Place all ceramic capacitors:



4) Place all electrolytic capacitors. Be careful with polarity!

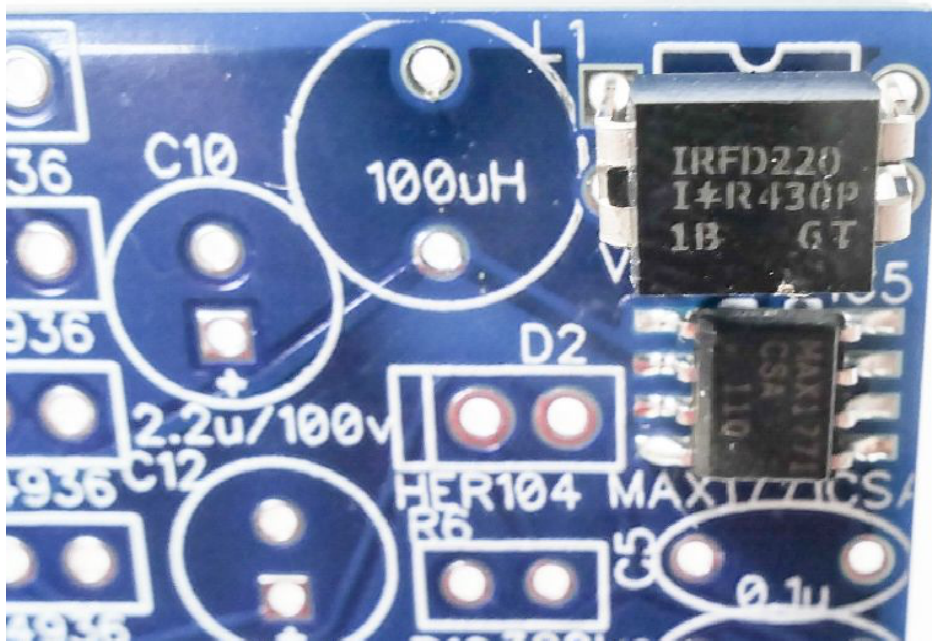










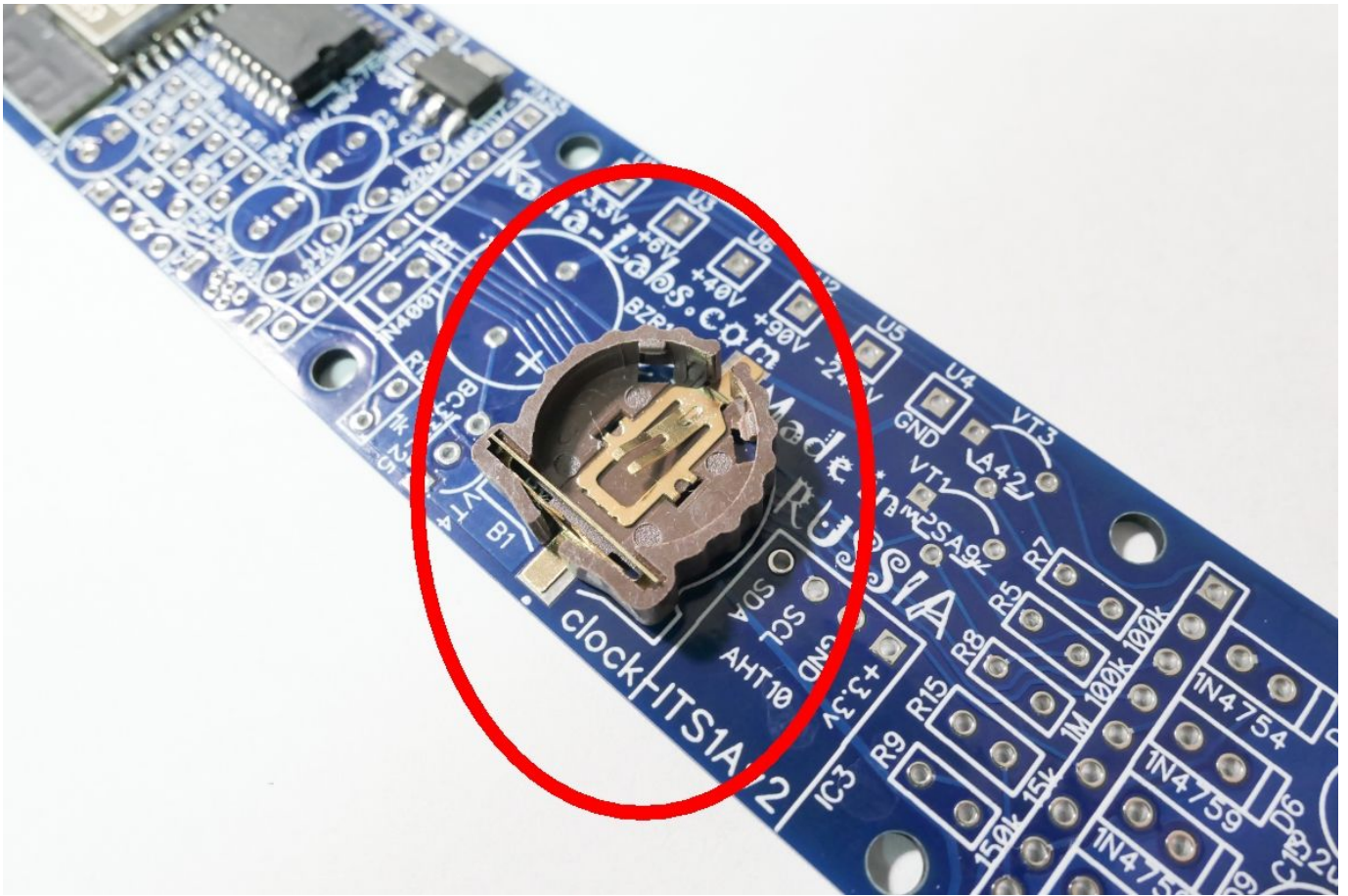


6) Place inductor:

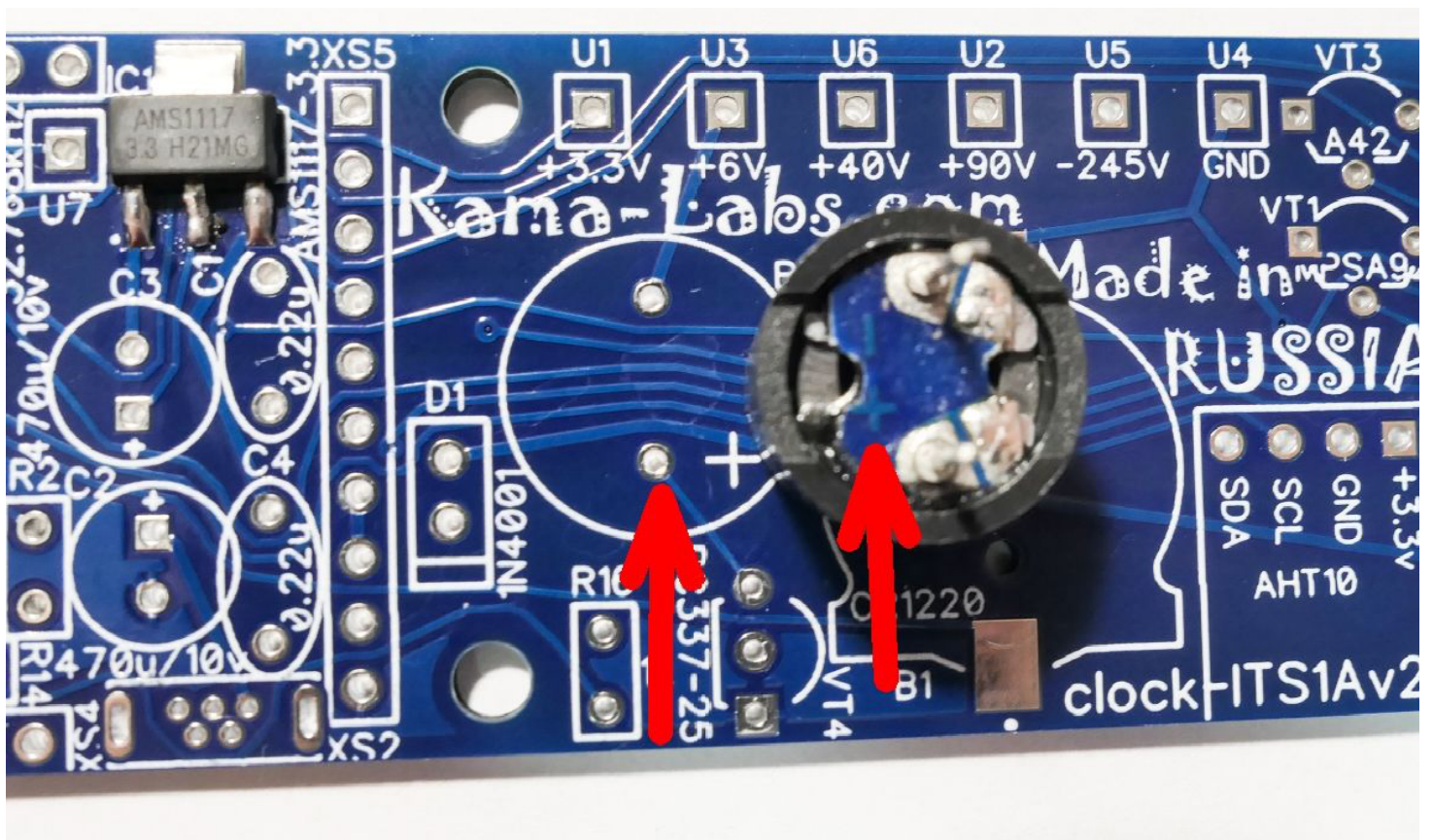




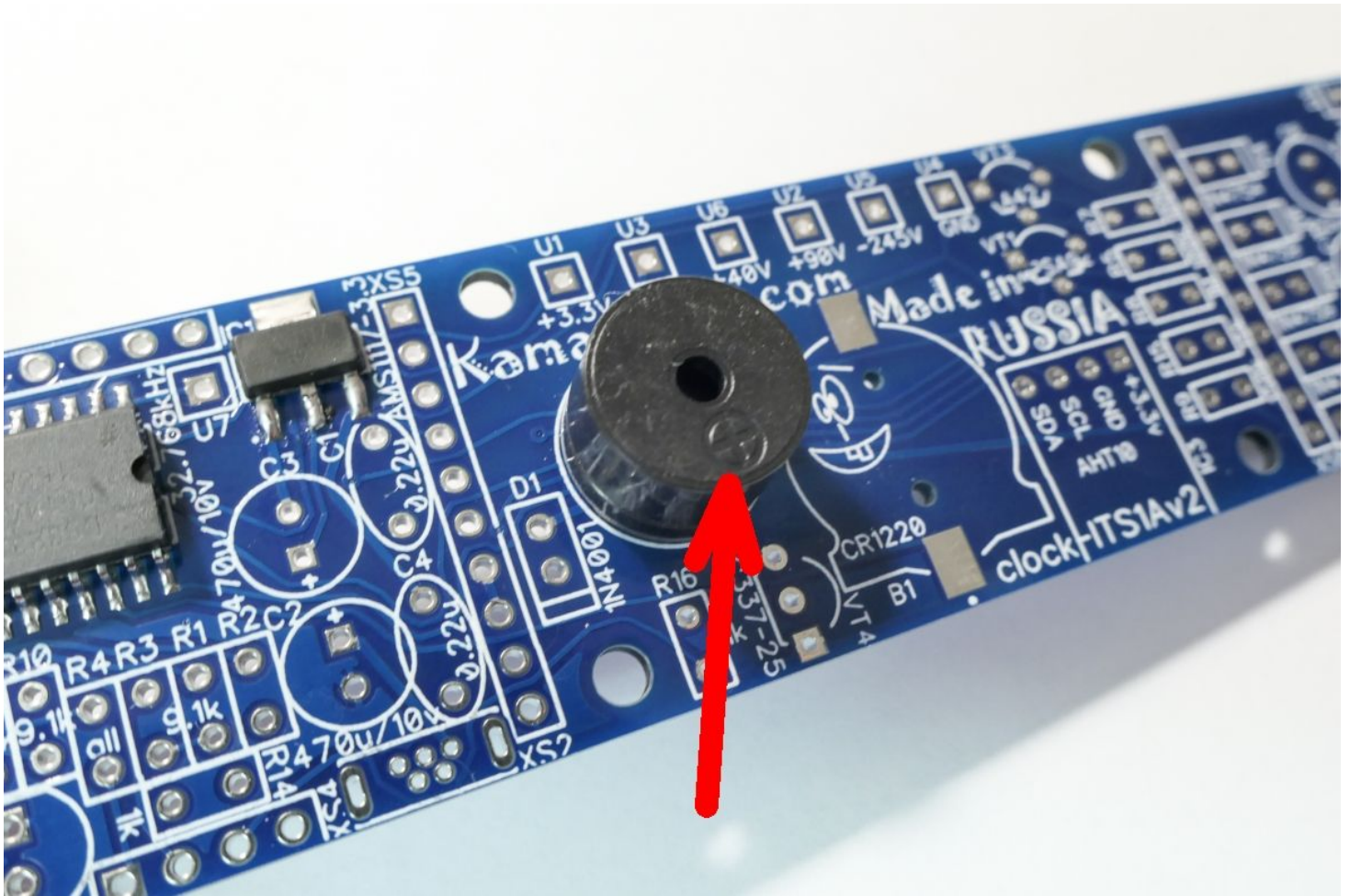
7) Place battery holder and insert battery when clock will be fully assembled:



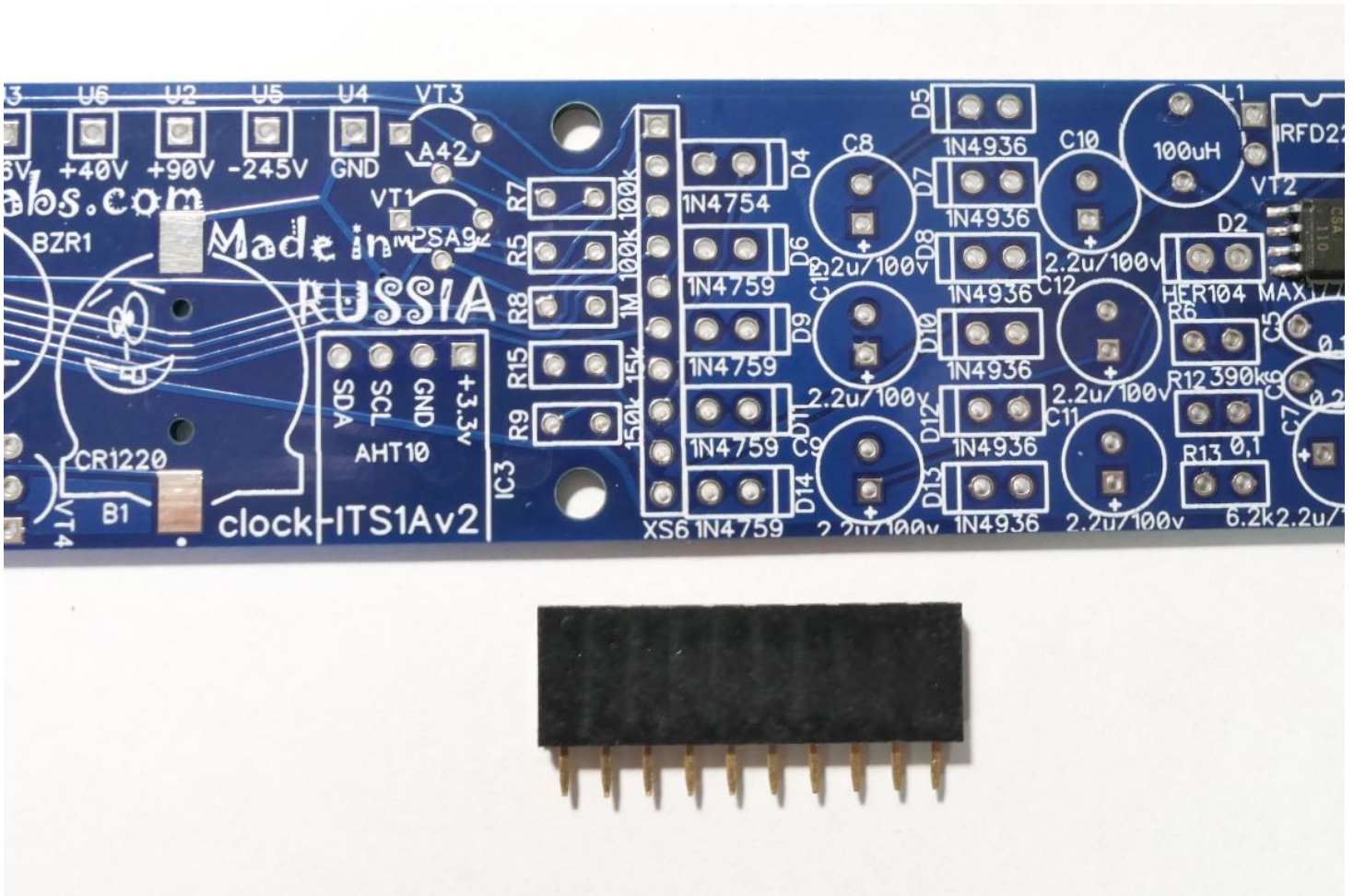
8) Install buzzer:







9) Install 10-pin female sockets:

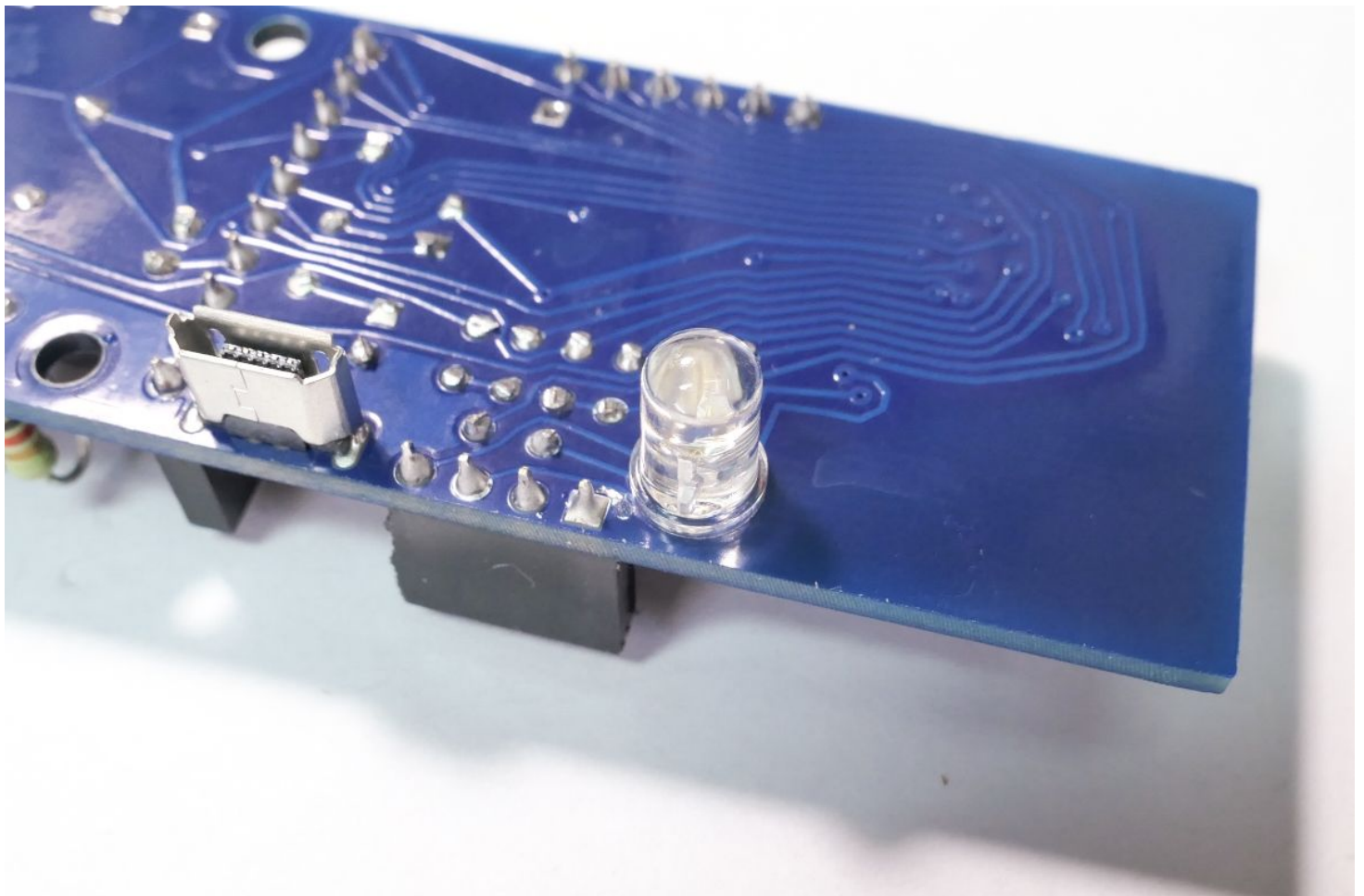
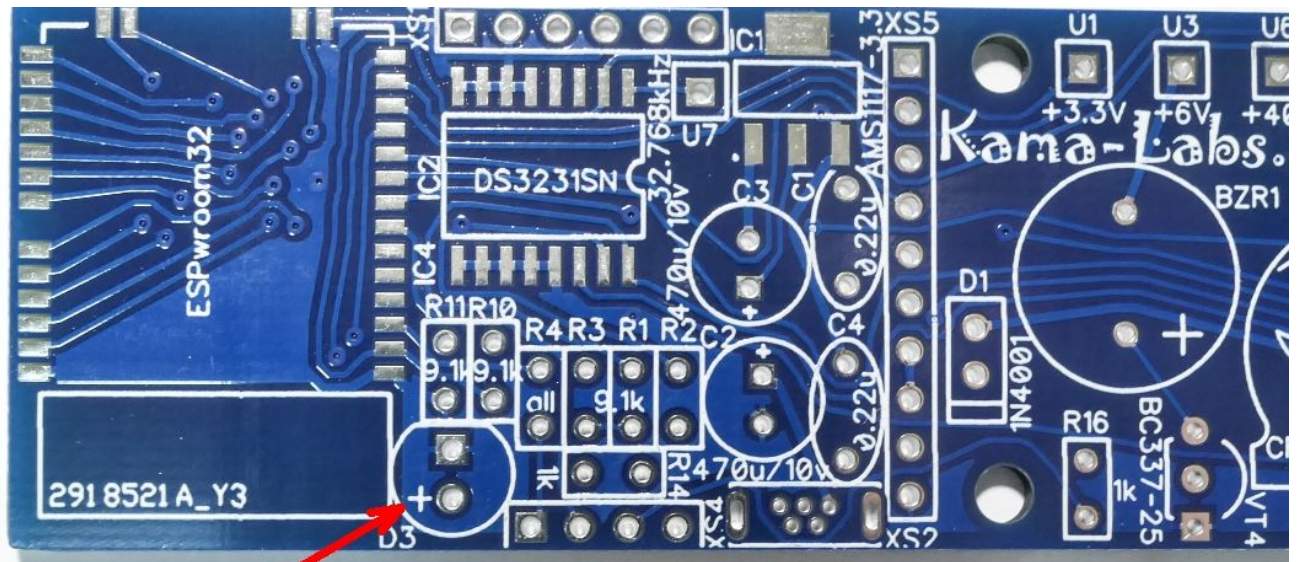




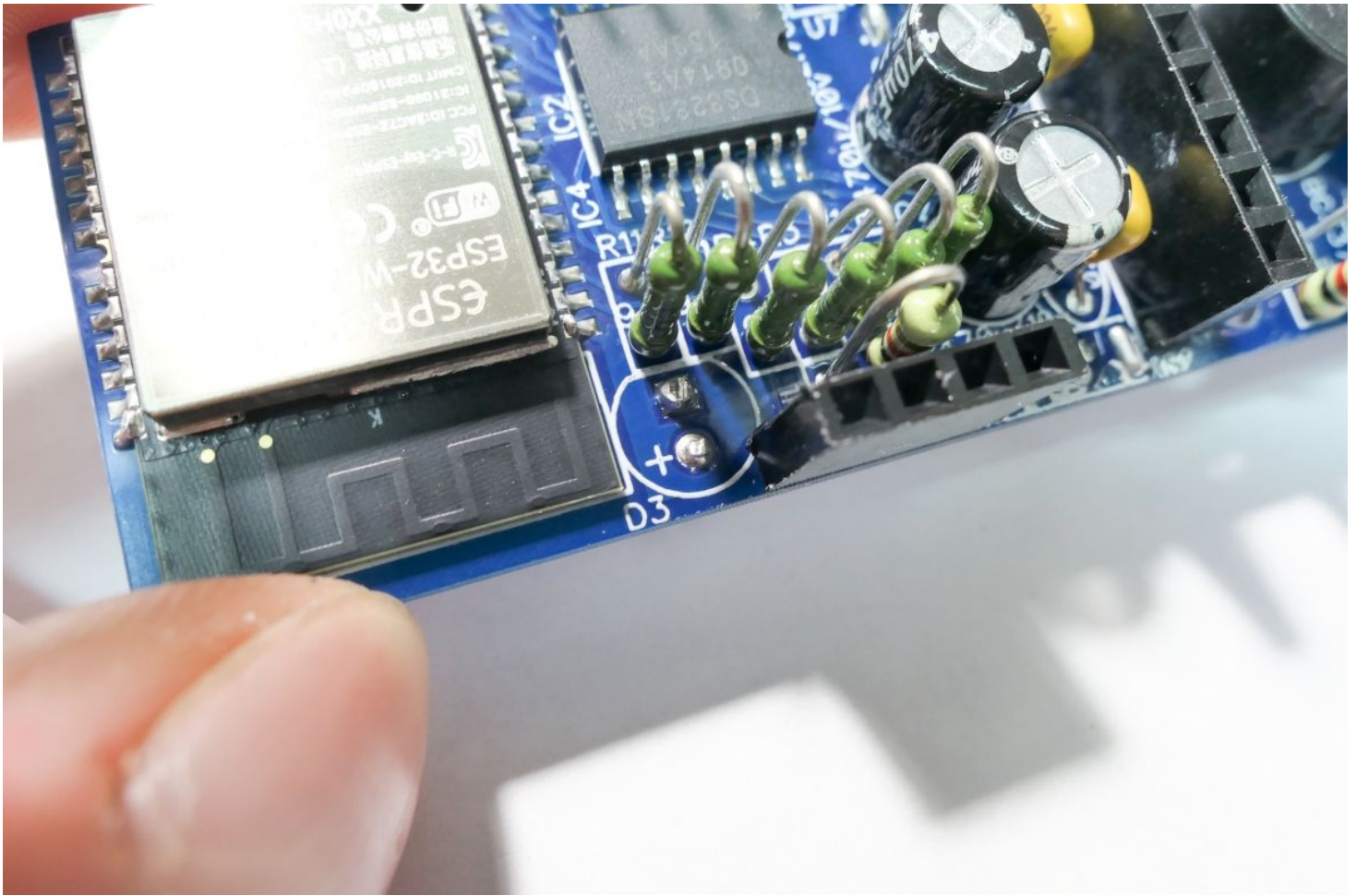




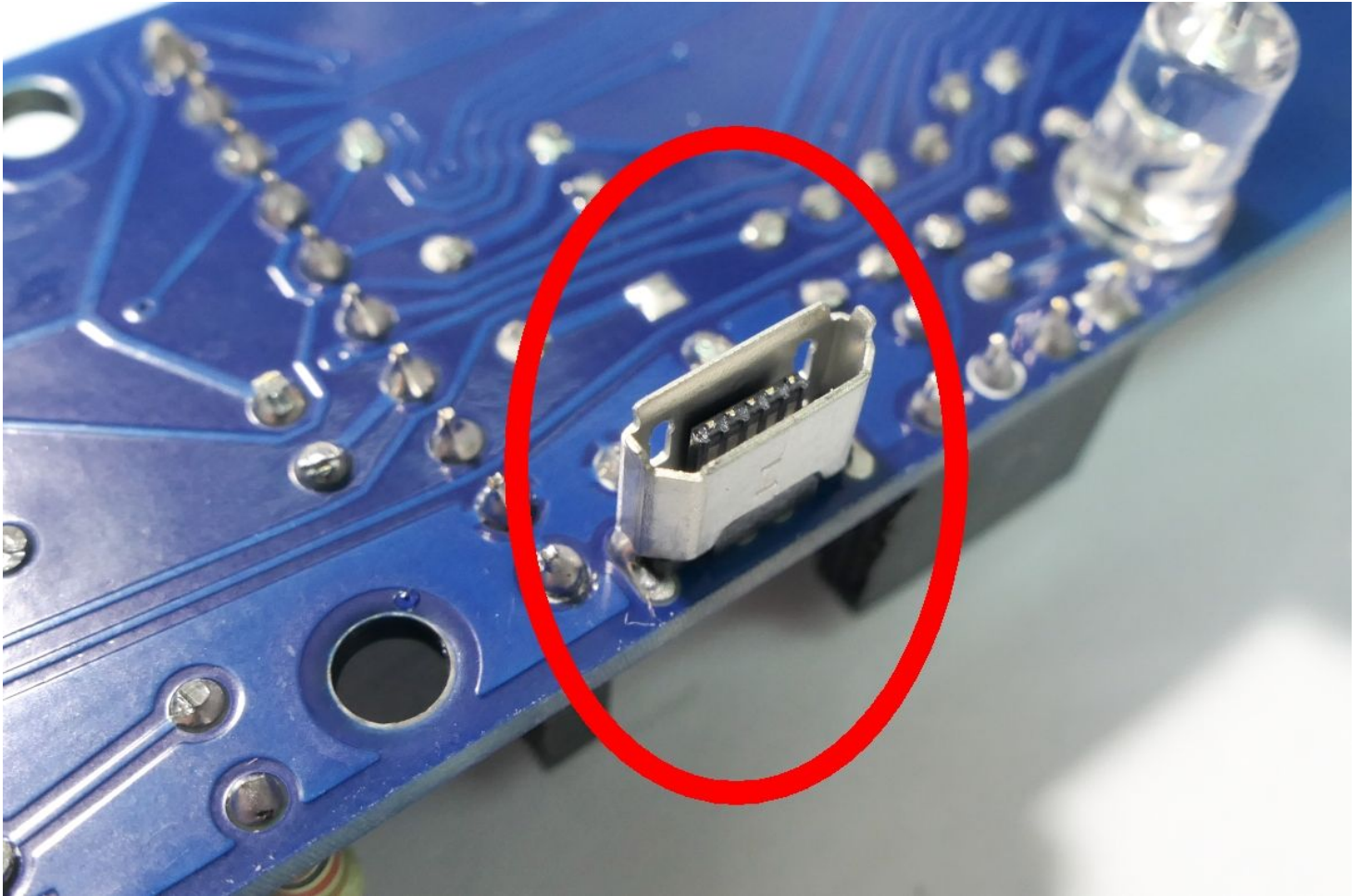
10) Install LED at back side of board:







11) Place micro-usb socket on back side of the board:

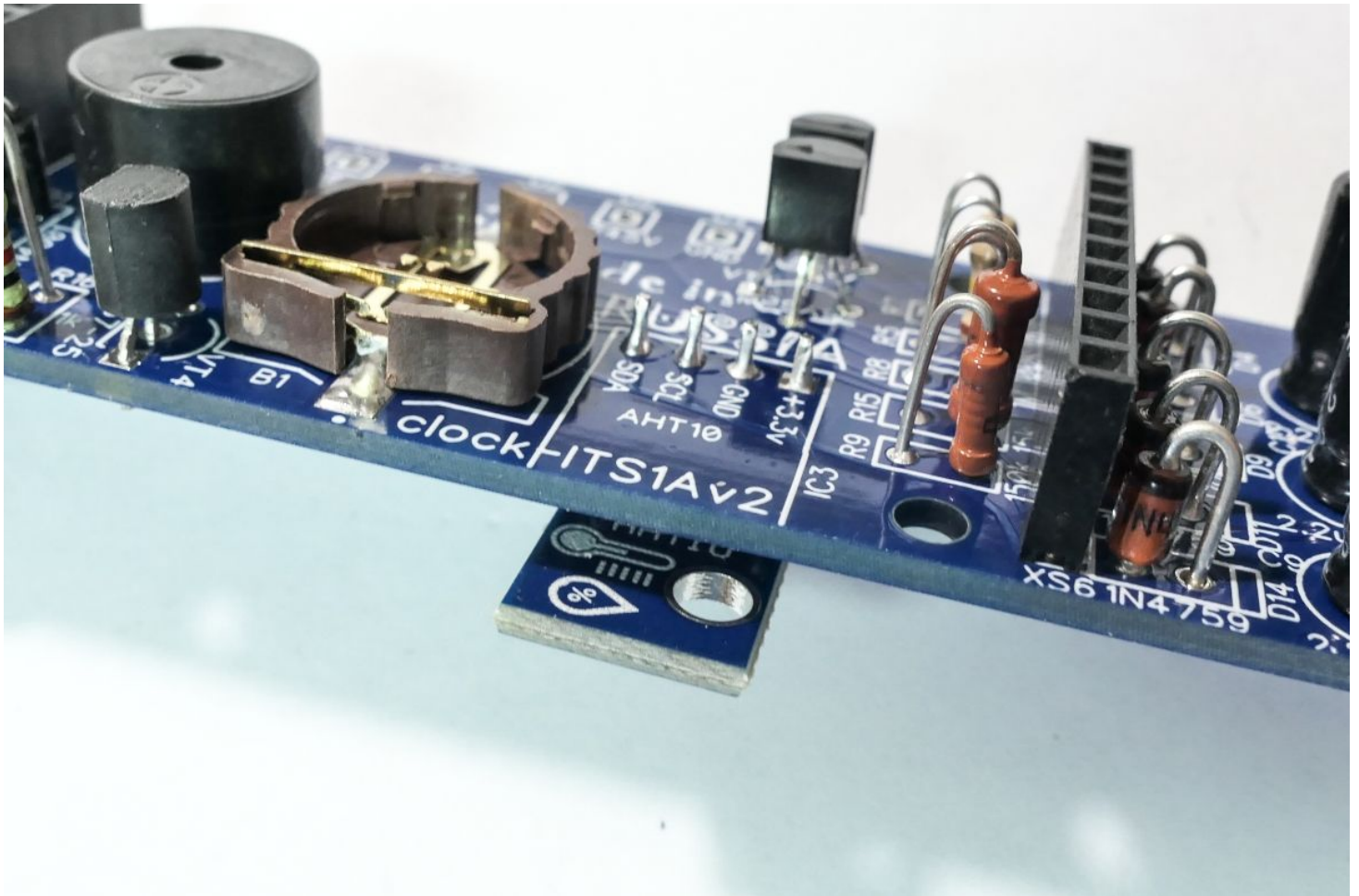
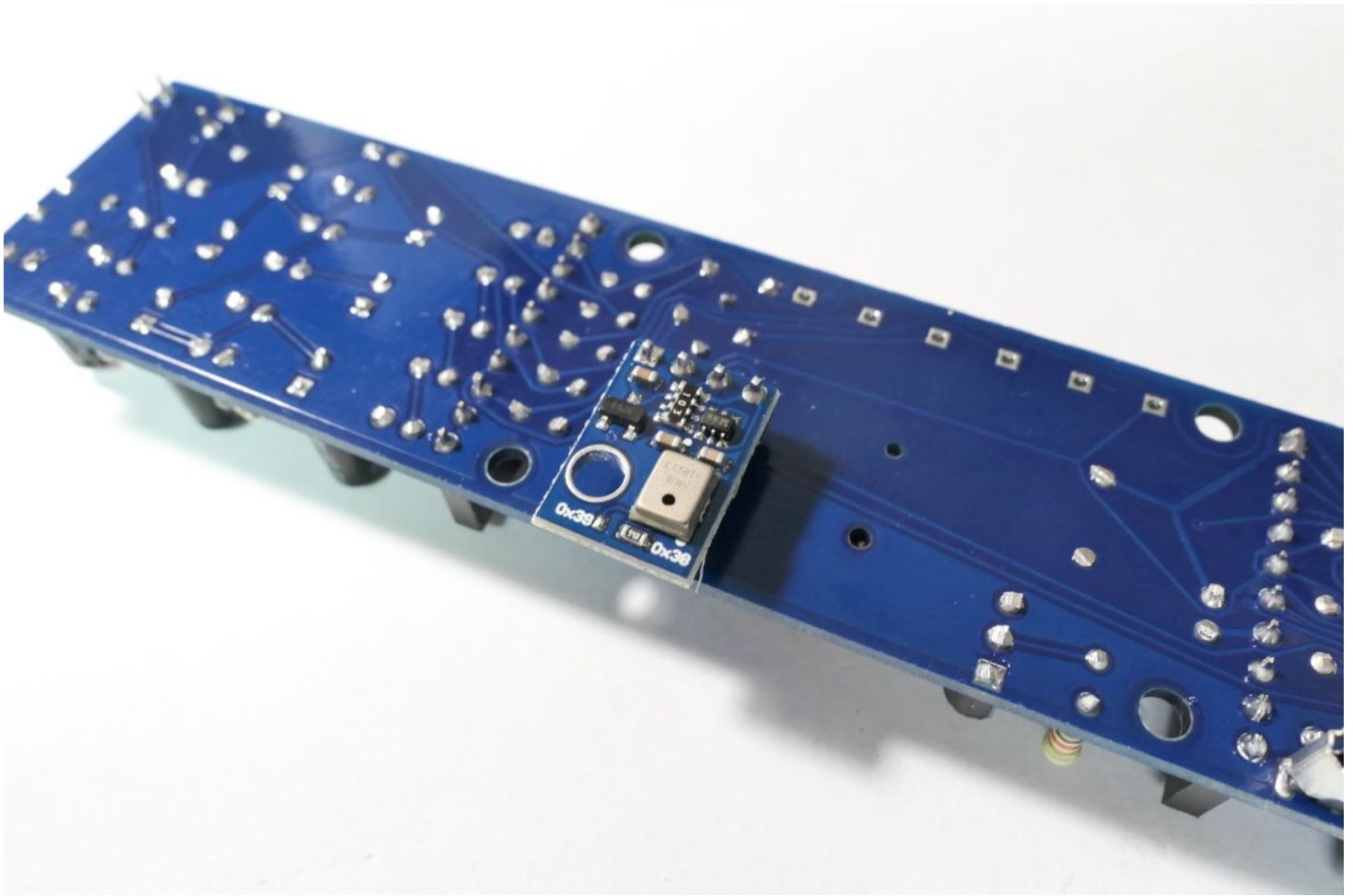




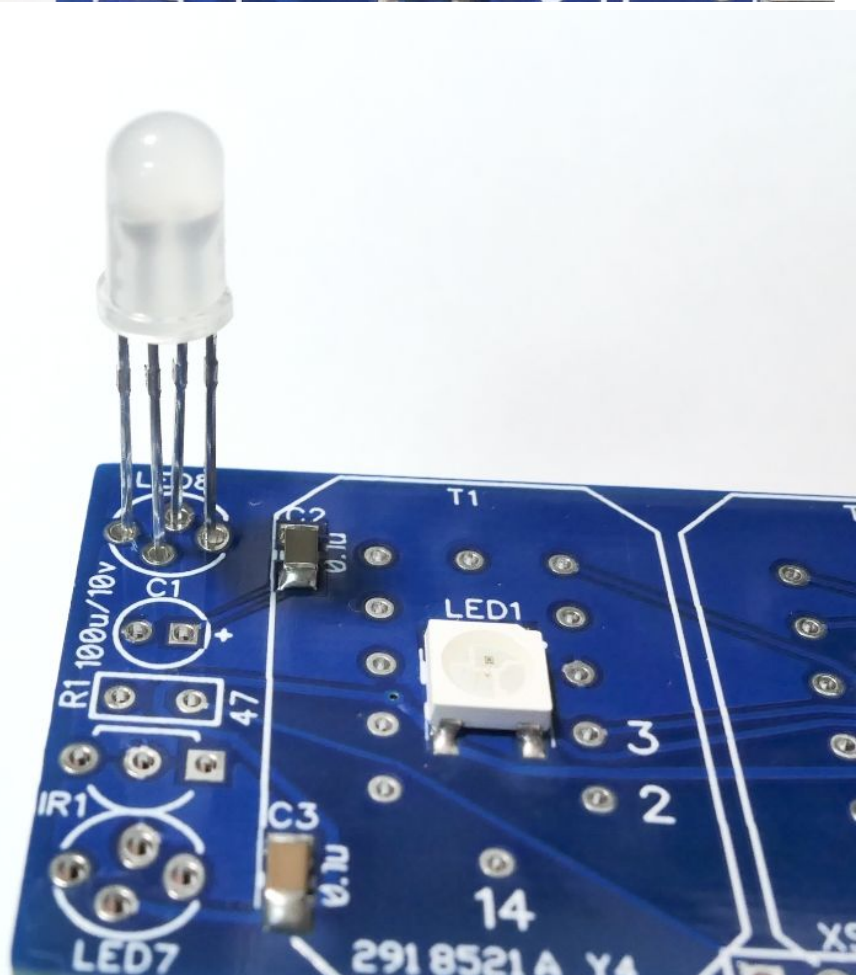
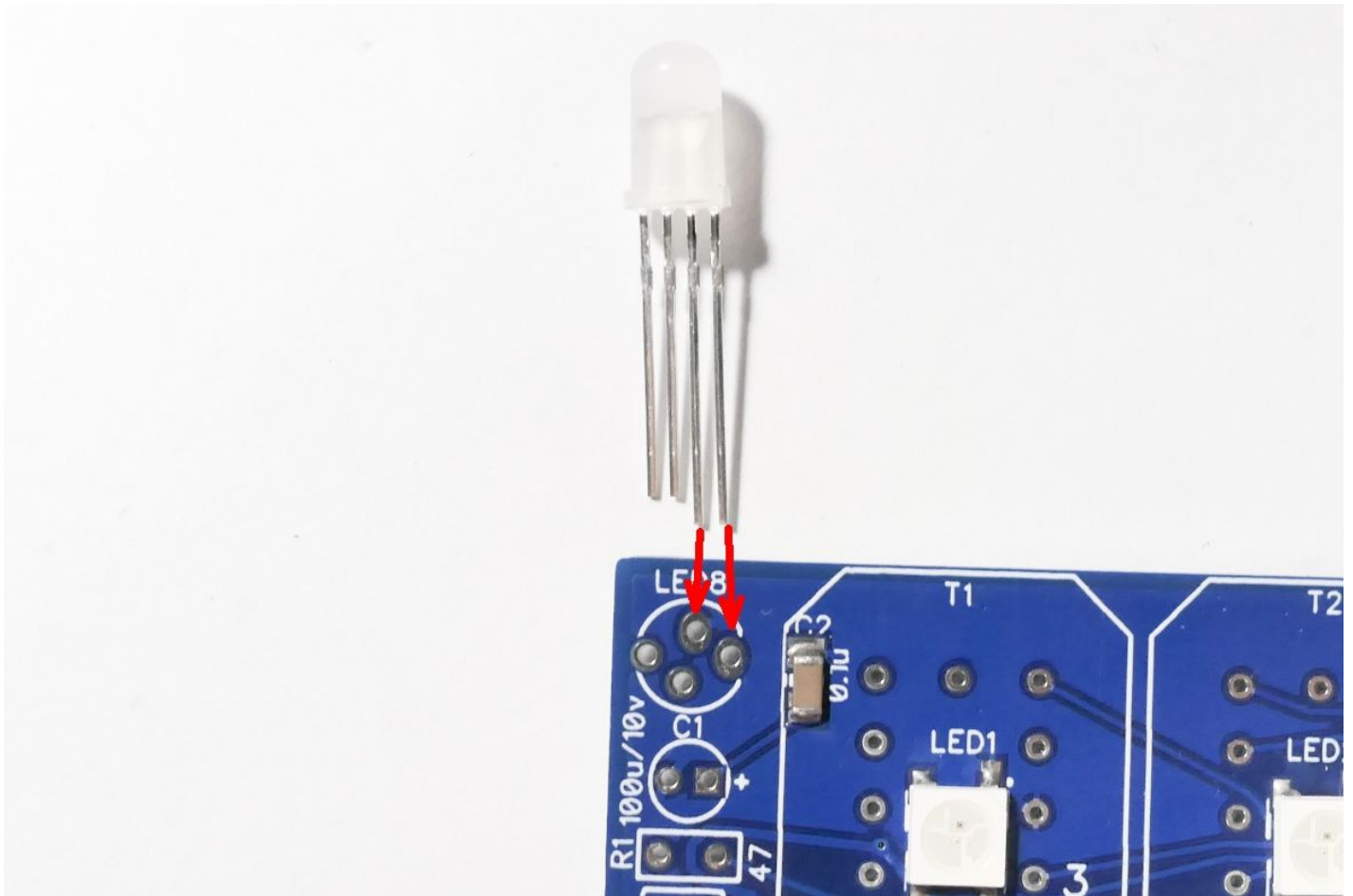
## 12) Install temperature sensor:



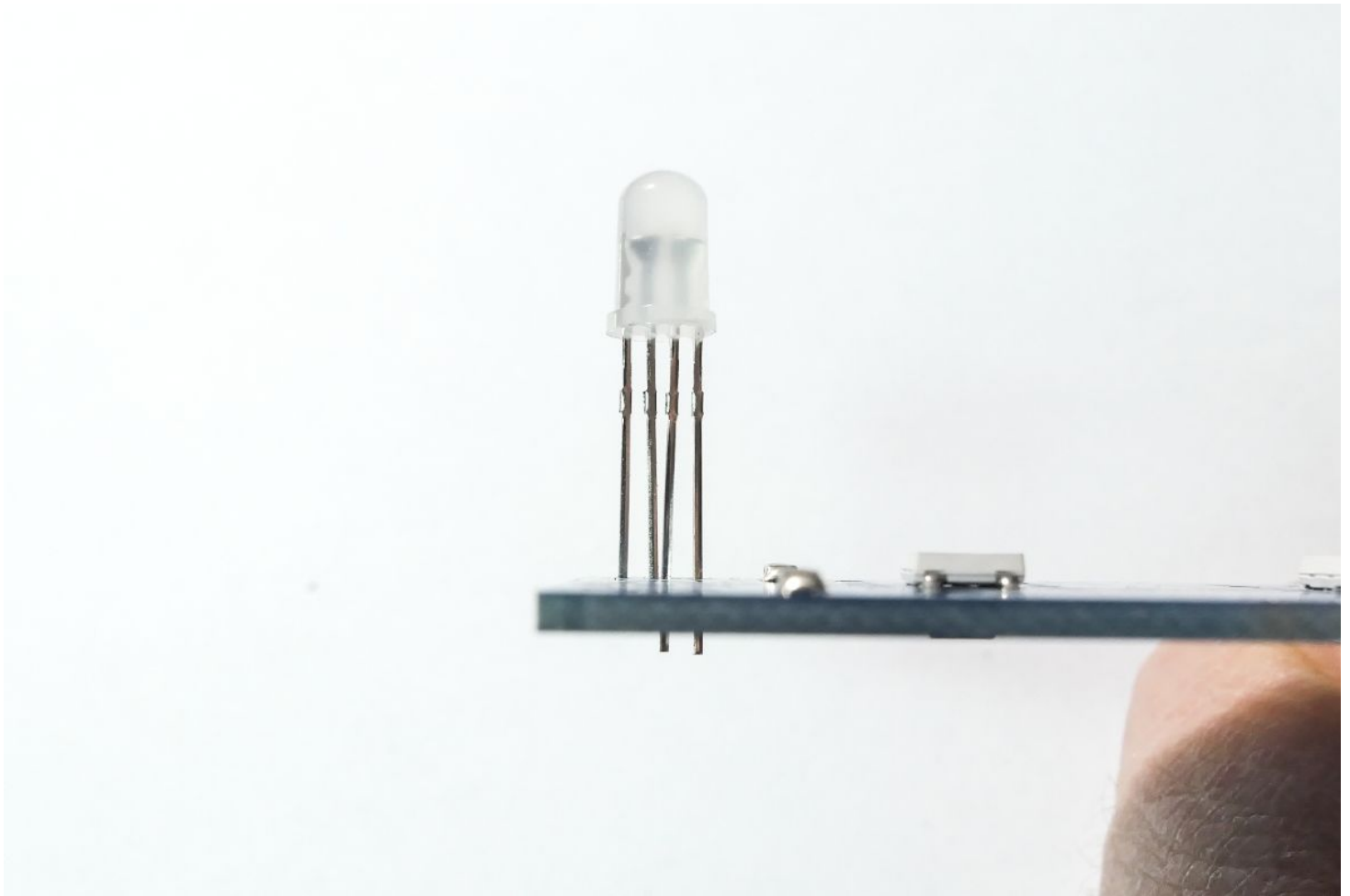




13) Take another board and install LEDs. Two long pins to oval pads:





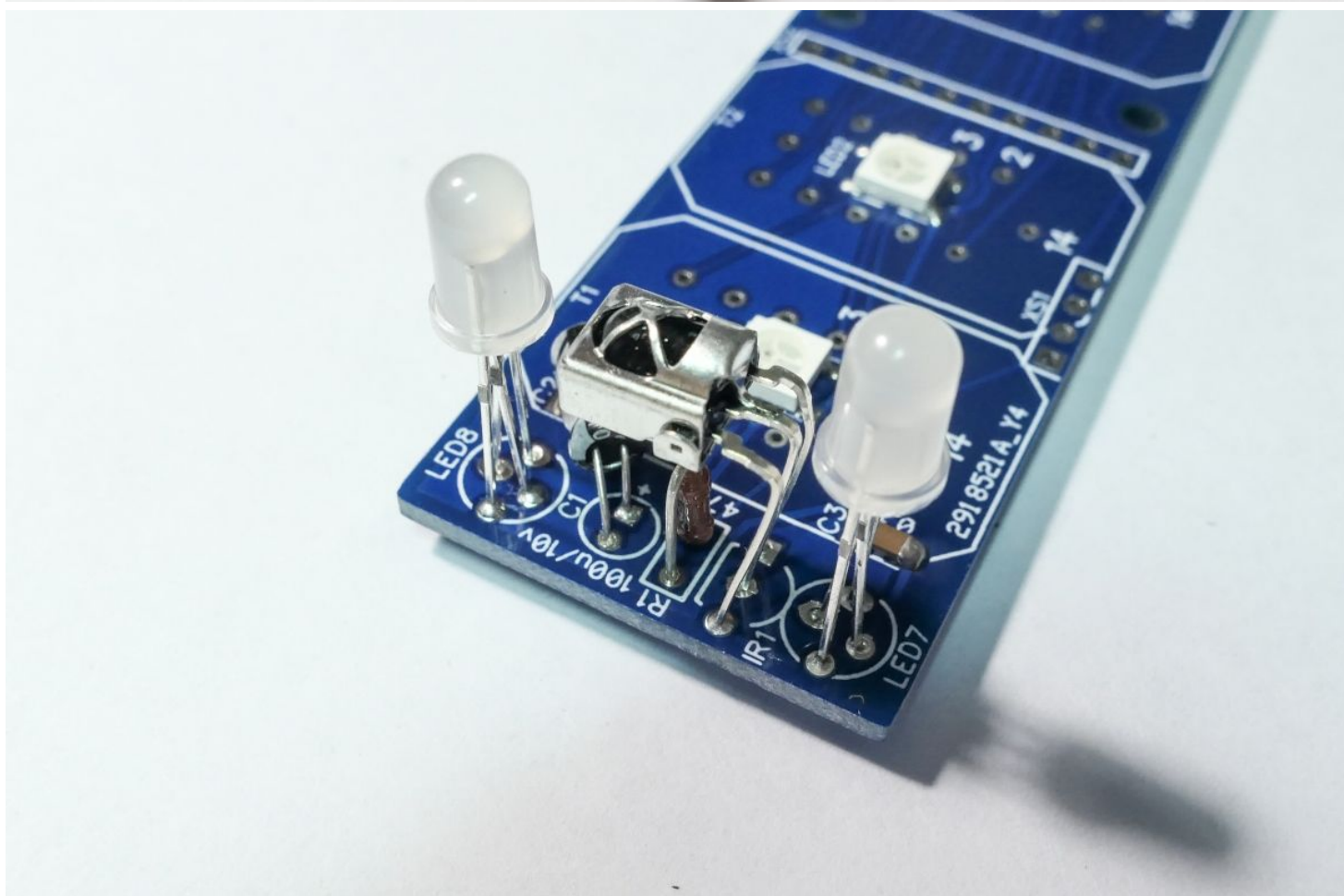
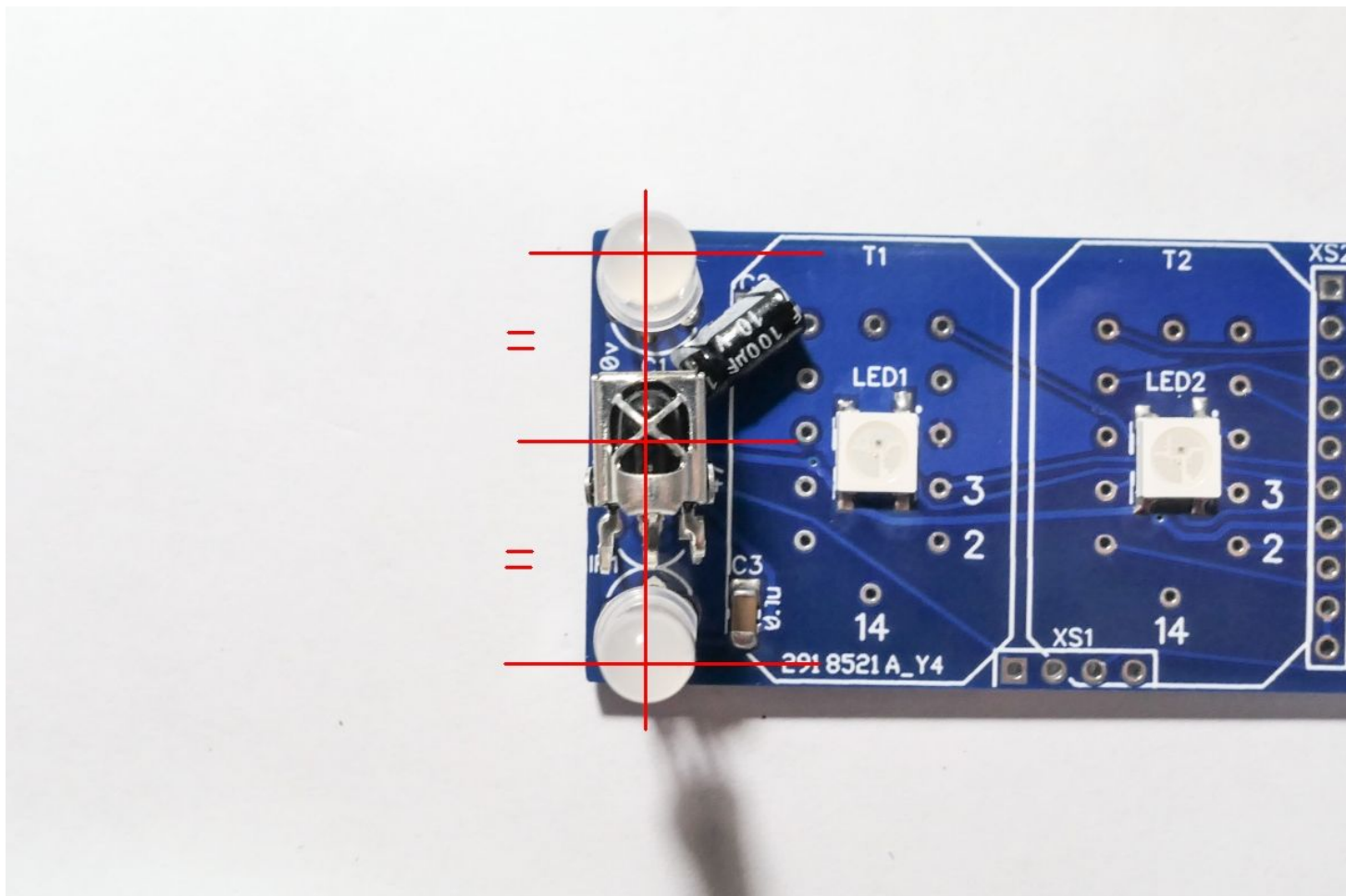


14) Install capacitor and bend it as on photo:

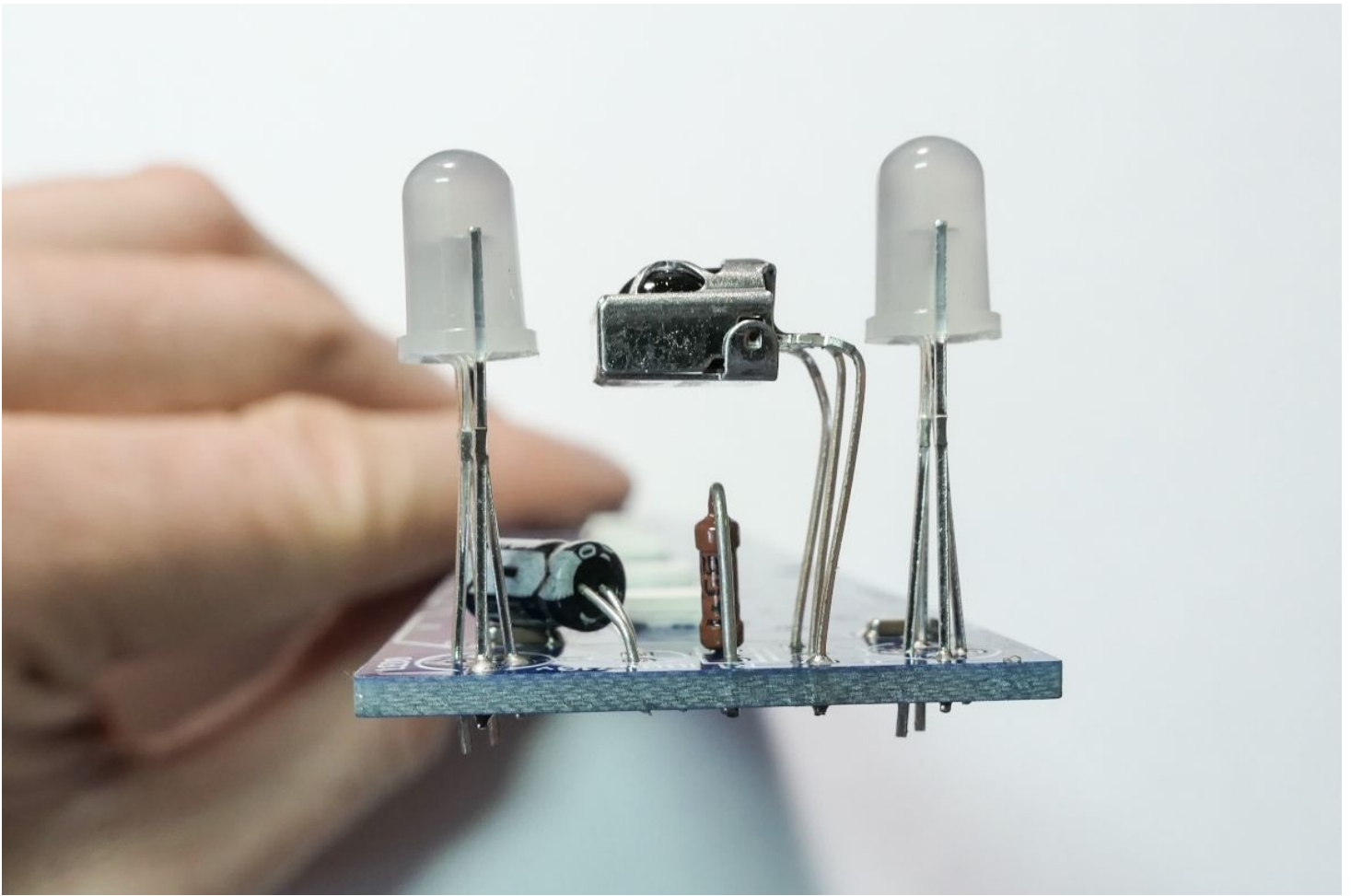




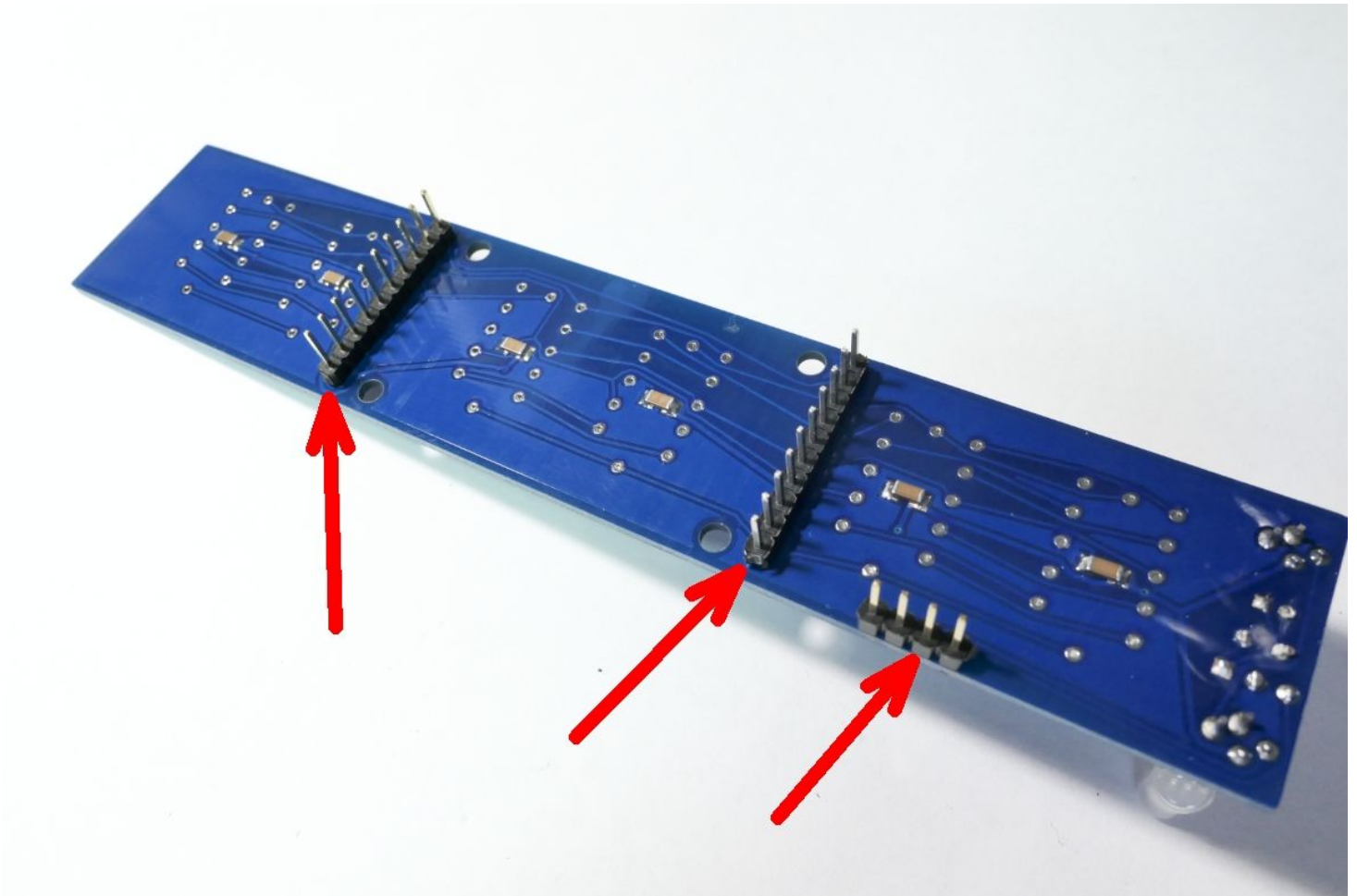
15) Insert infrared receiver like on photos:





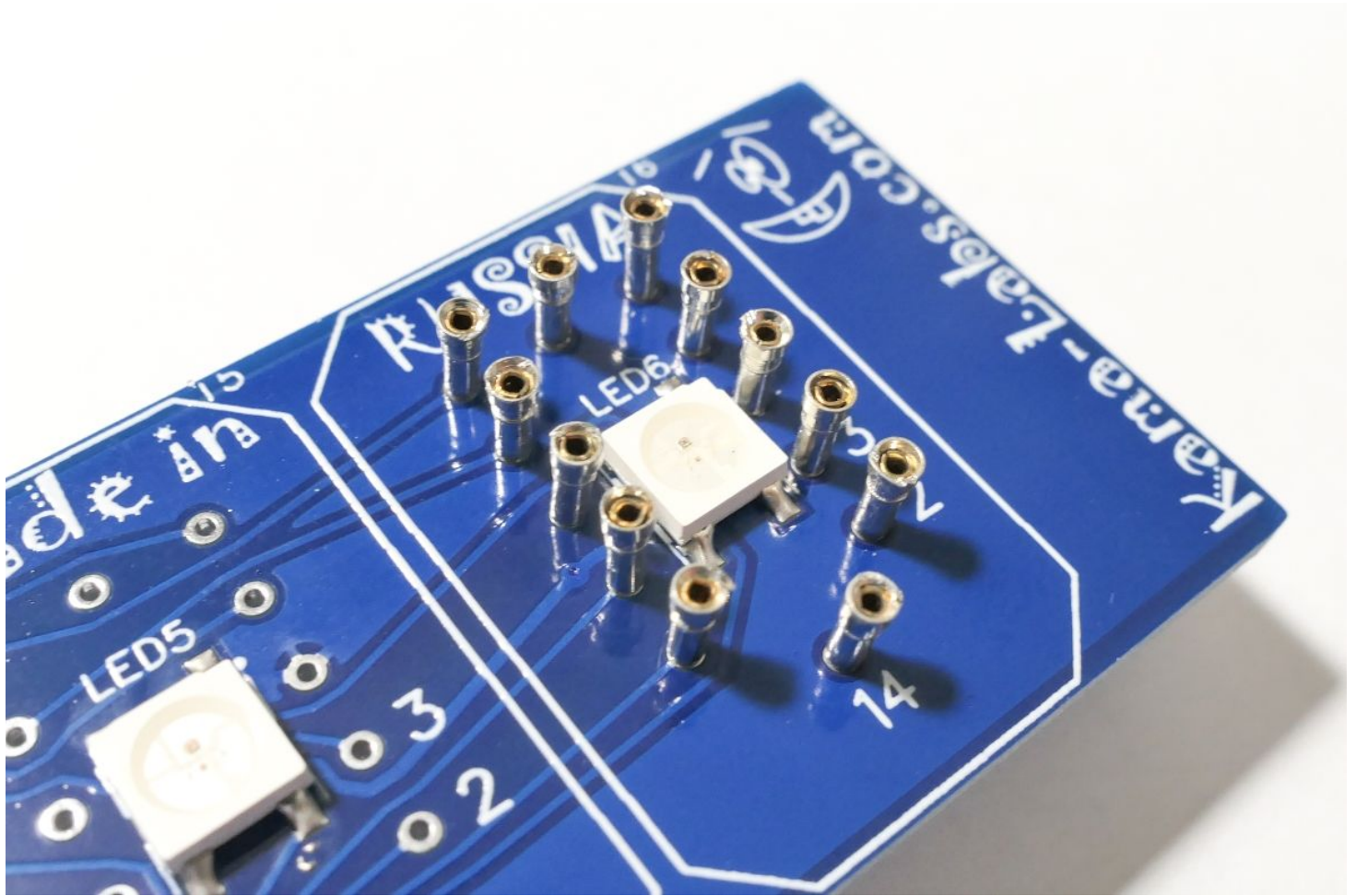


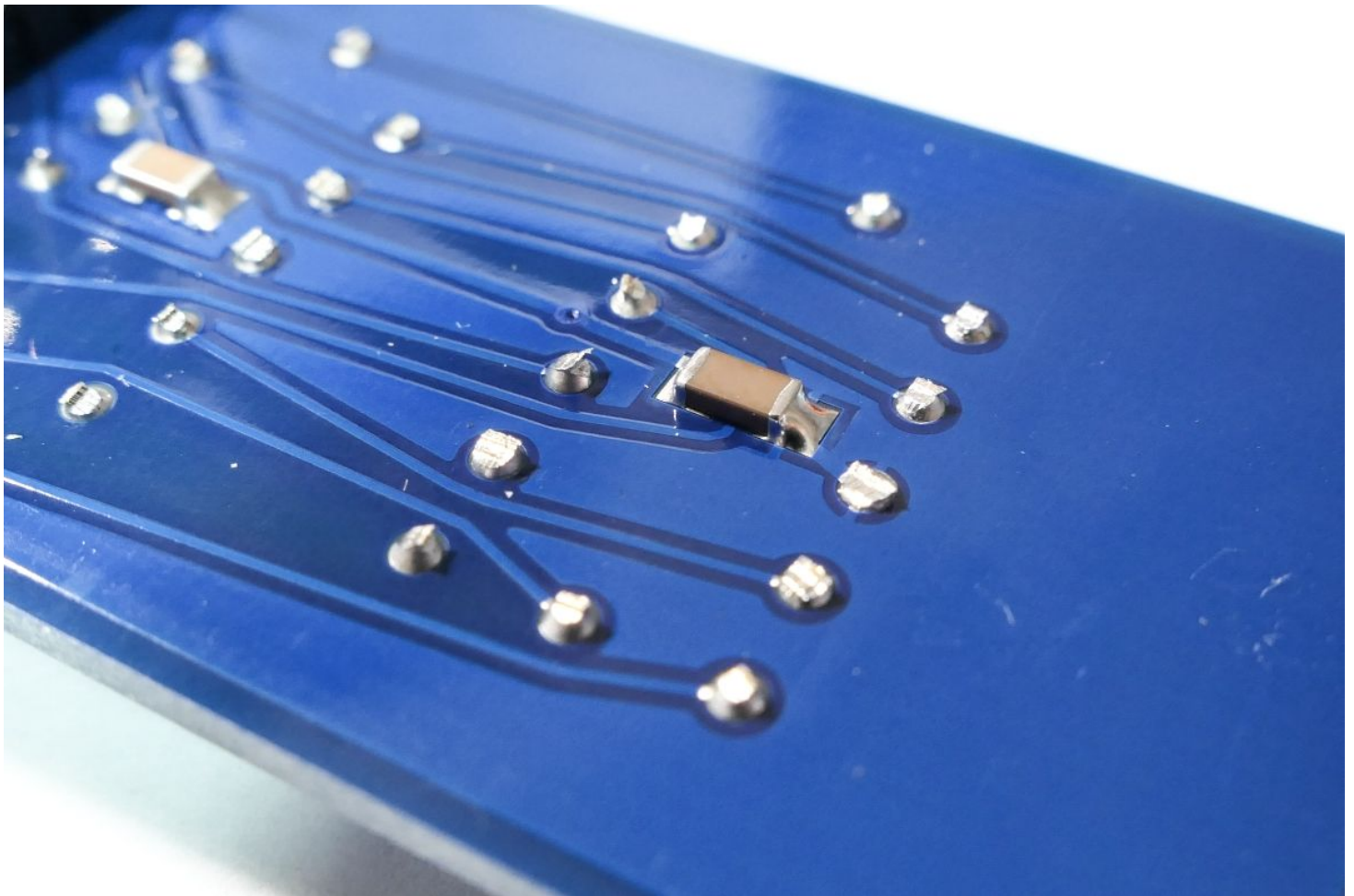
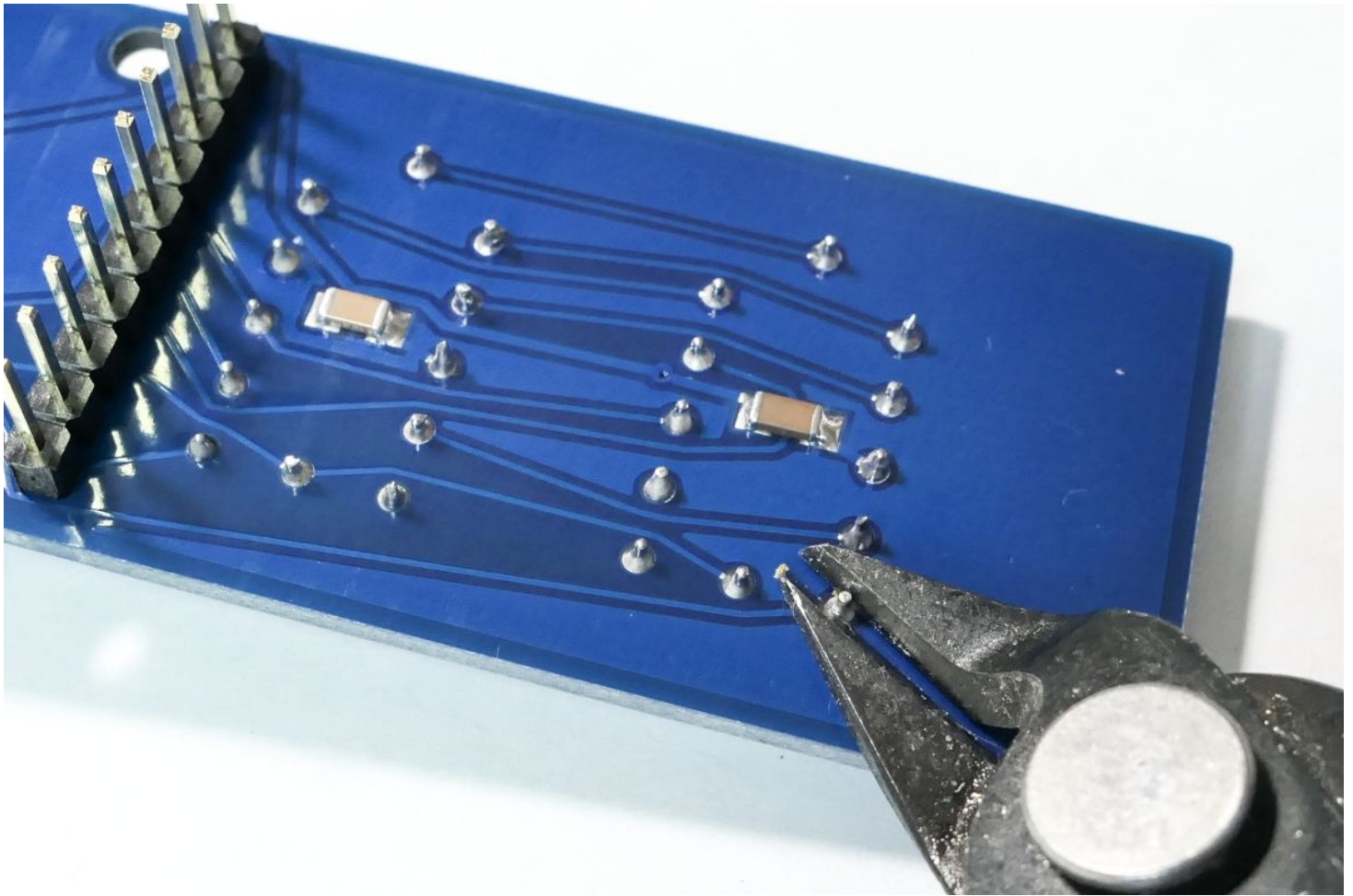
16) Install 10-pin and 4-pin headers:





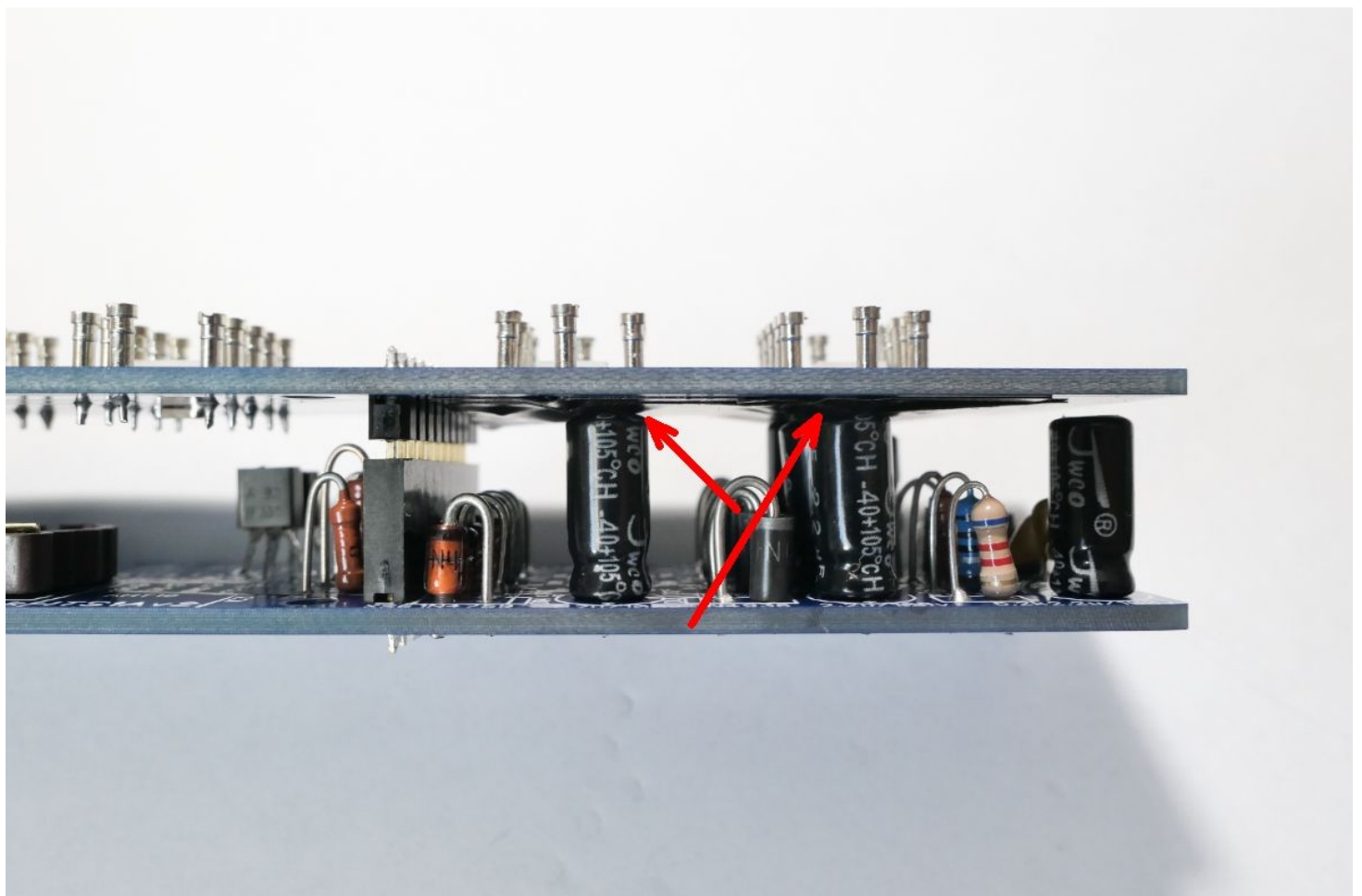
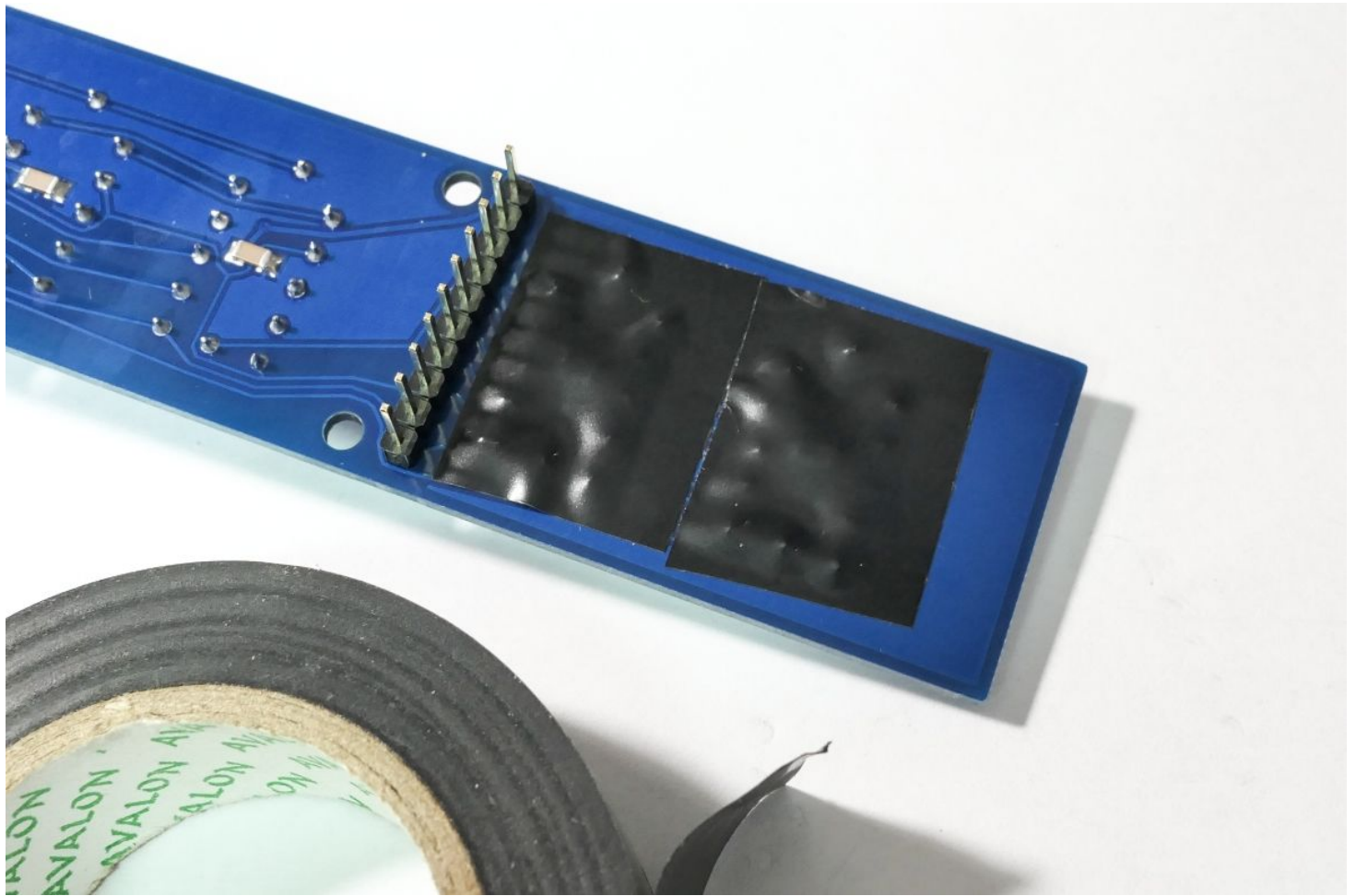
17) Install sockets for tubes:



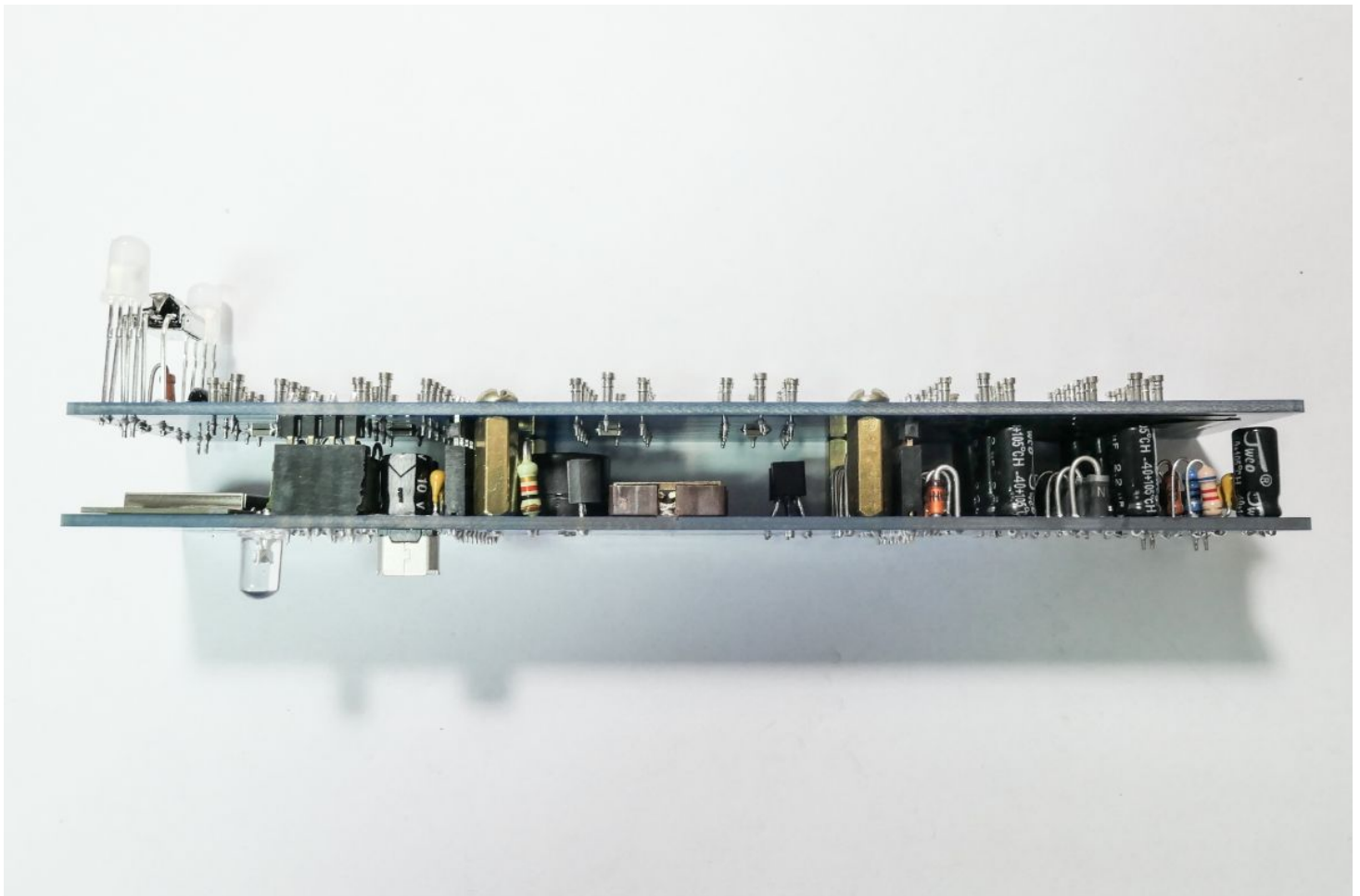
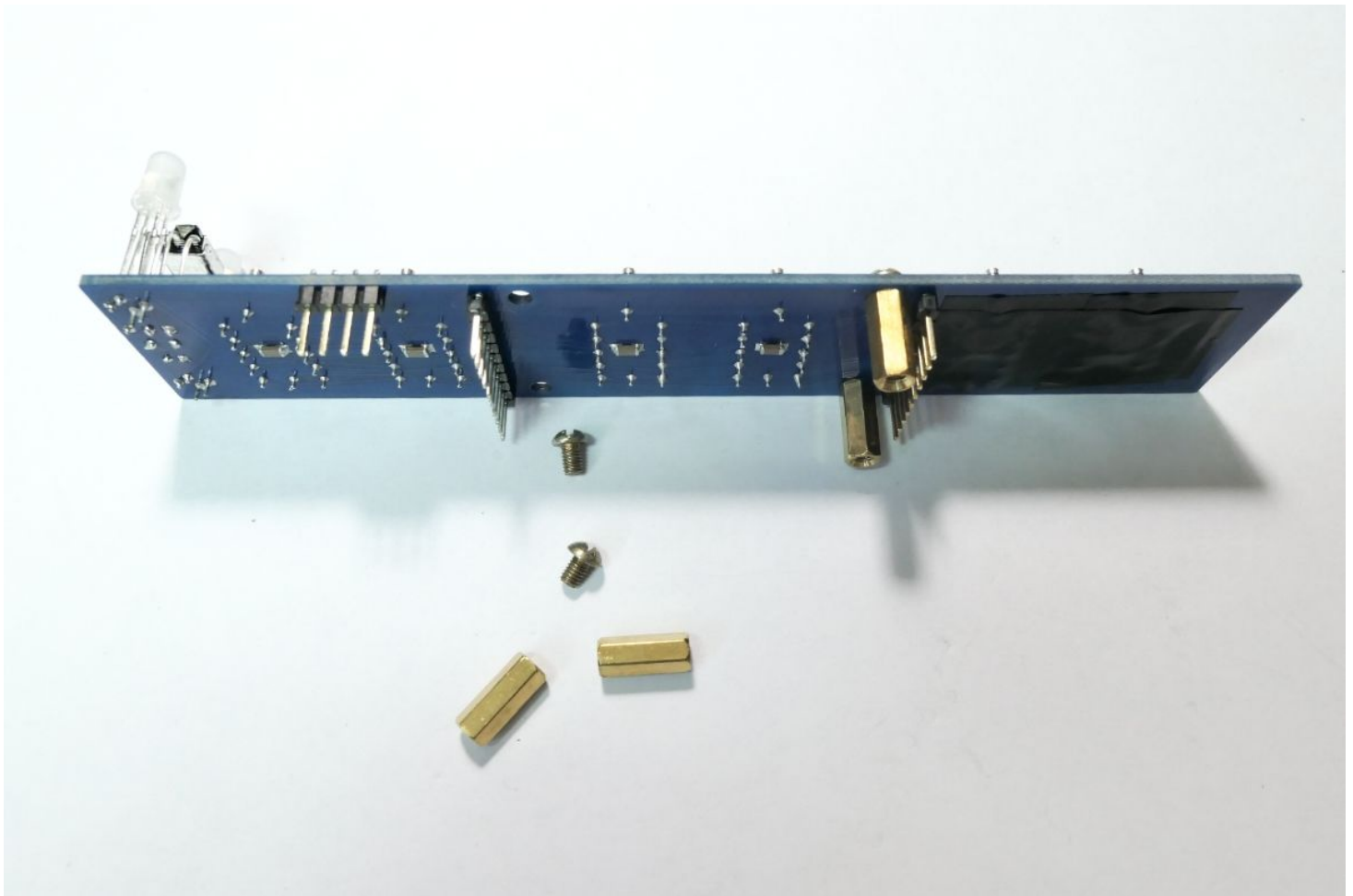




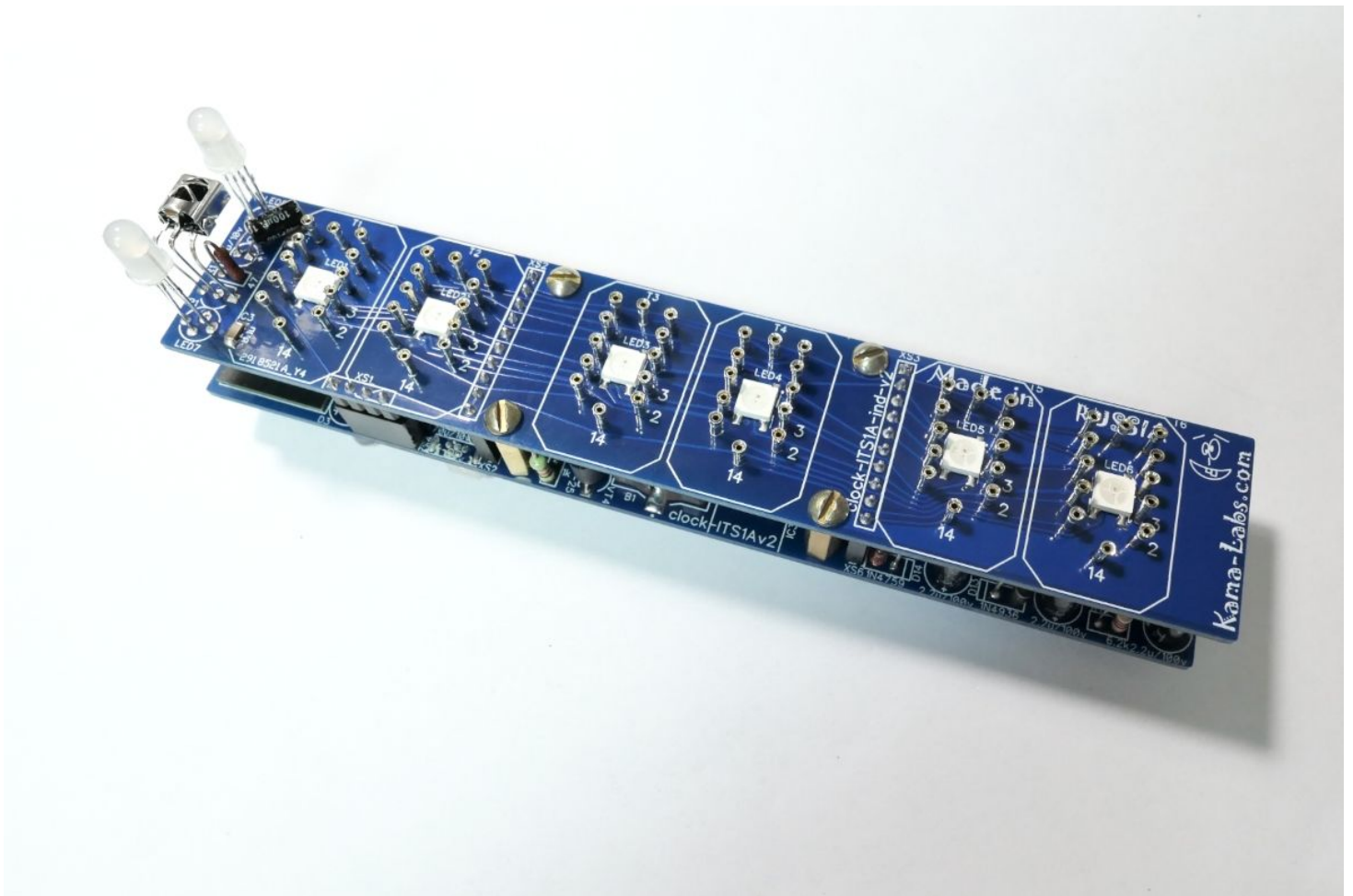
Cover pins with insulating tape:



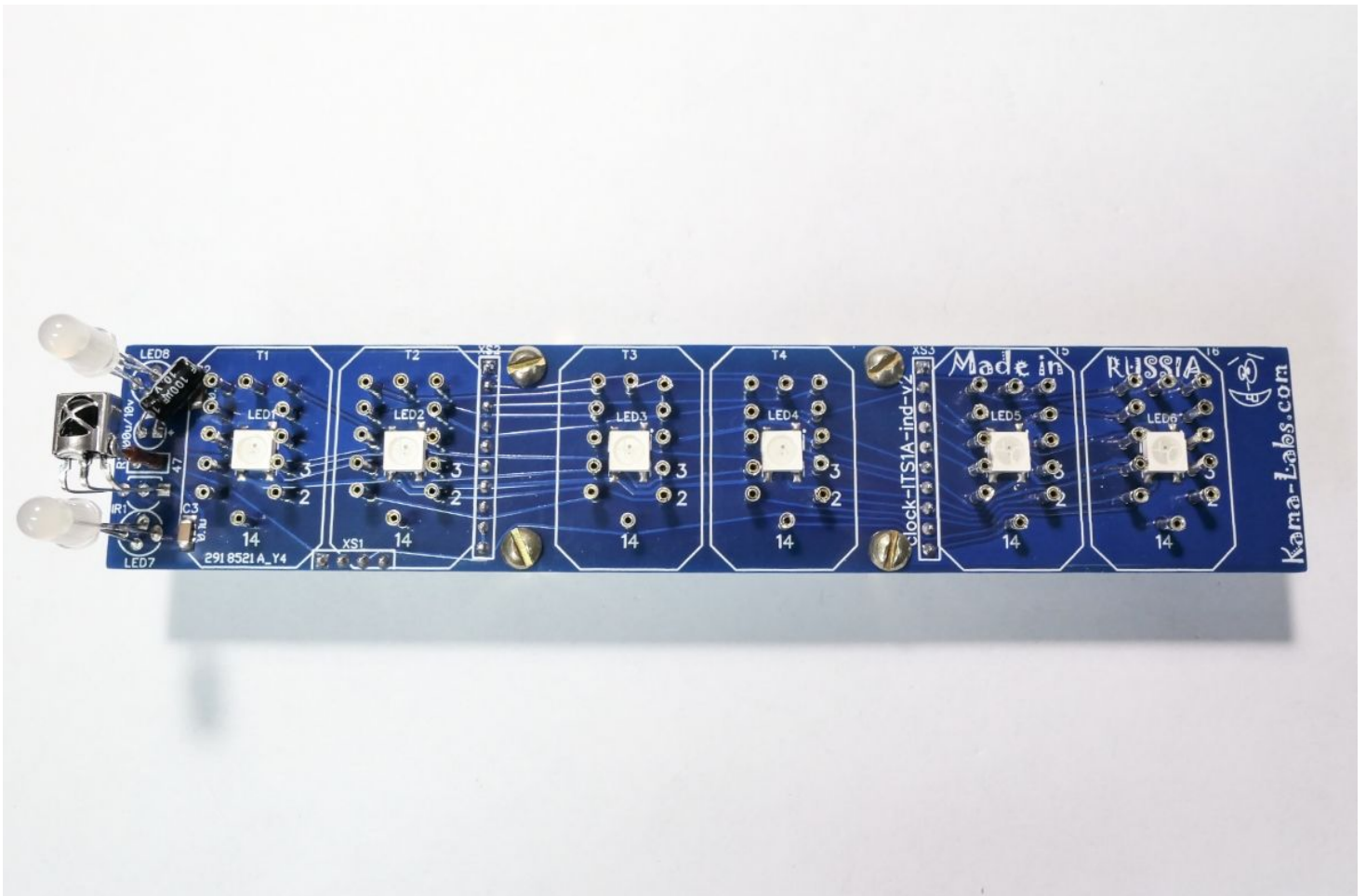
## 18) Fix metal cylinders with screws:

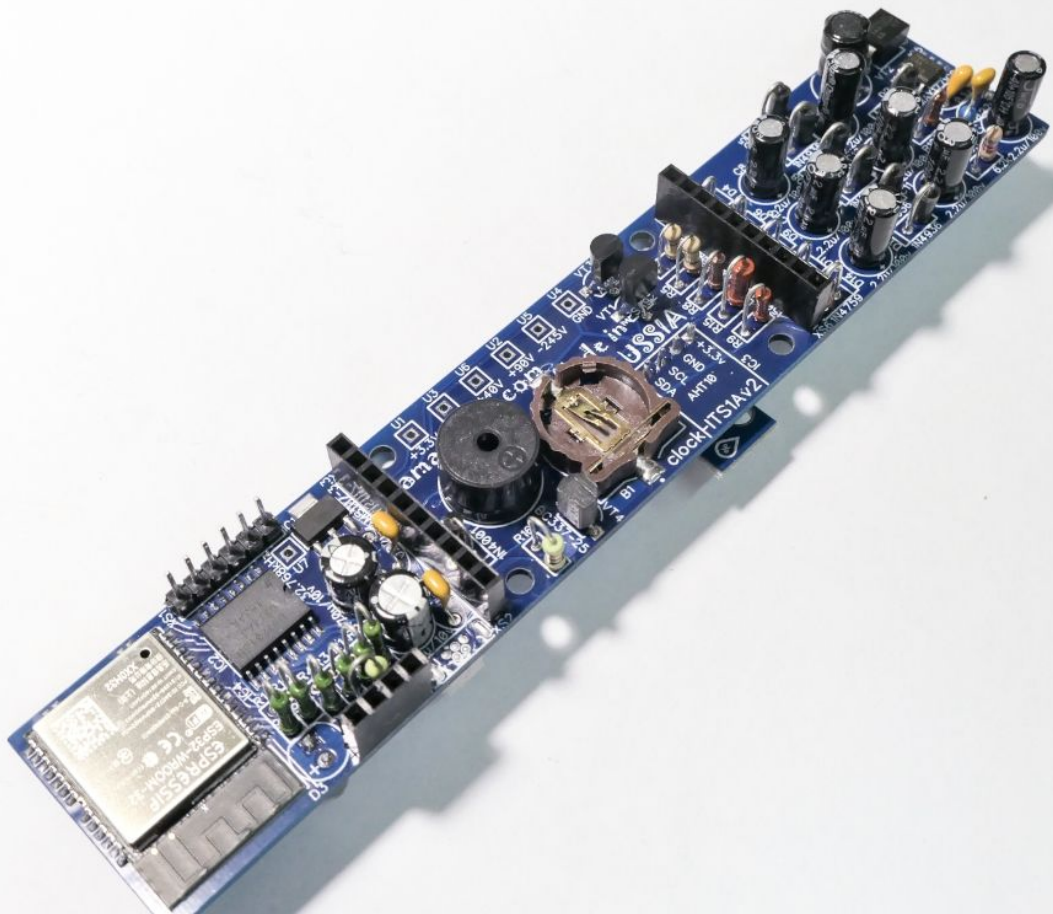
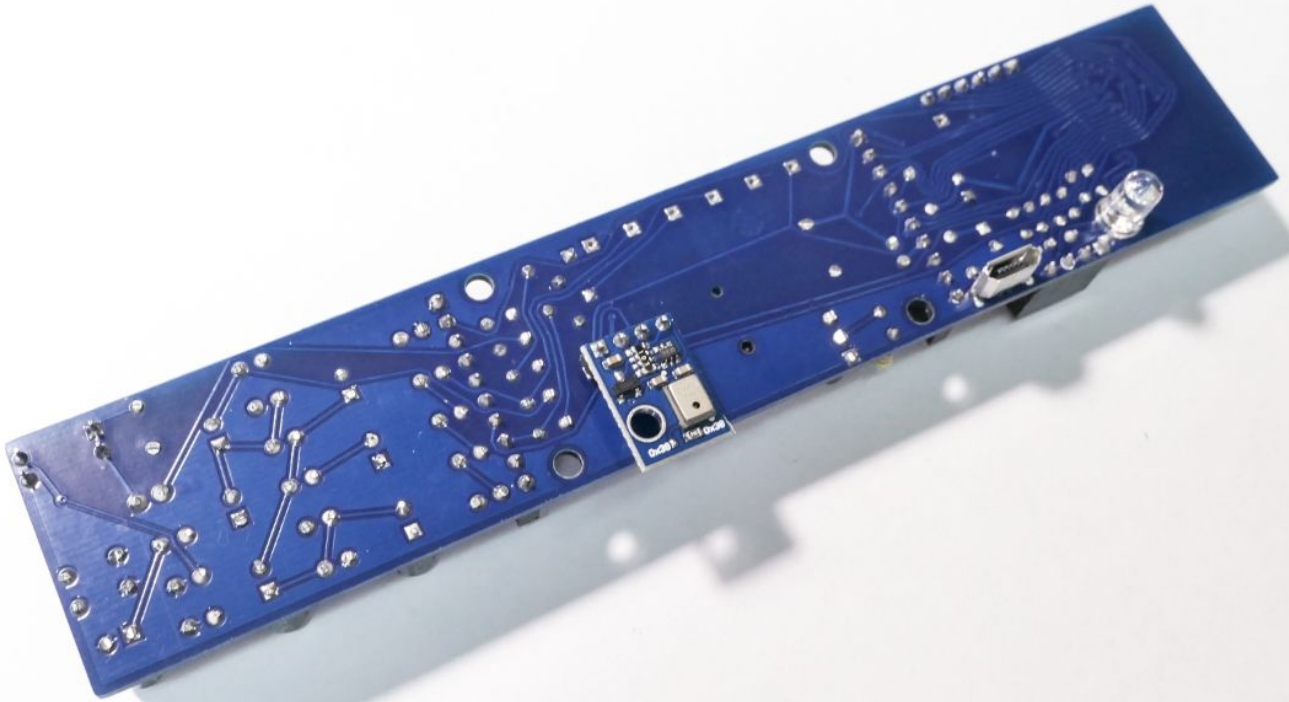




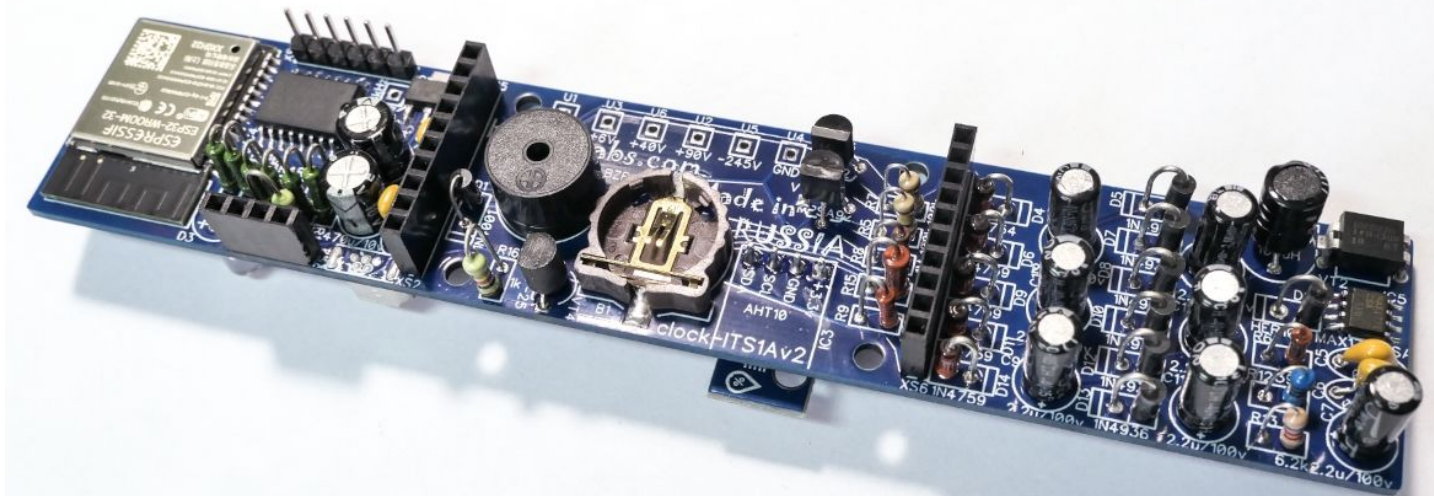


19) After all your boards should be like on photos:









**CONGRATULATIONS!**



# PARTS LIST

Please note, that elements in kit can be a little different. If you doubt value of element, check it with multimeter.

**IF VALUE OF ELEMENT IN SPECIFICATION AND ON PCB IS DEFFERENT, PLEASE USE VALUES FROM SPECIFICATION AND SCHEMATIC.**

## BOARD №1













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**BOARD №2**



