

Assembly instructions for LimeSDR Enclosure kit

1. Checklist:

In the beginning check that you have everything available and ready.

Contents of kit:

- 12x SMA to U.FL pigtails
- Aluminium shell bottom (4 holes)
- Aluminium shell top (fan cutout, 2 holes)
- 4 rubber pads
- 4 plastic screws
- 8 plastic nuts
- fan 30 x 30mm, 5v
- mesh, 30 x 30mm
- 2-pin header
- heatpad (1pcs, 30 x 30mm, cut later into more pcs)
- 1x heatsink, 20 x 20mm
- 2x heatsink 11 x 11mm
- 3x heatsink 9 x 9mm
- PCB panel (front, rear)
- 8 panel screws
- 4 bicolor LEDs
- 2 LED holders

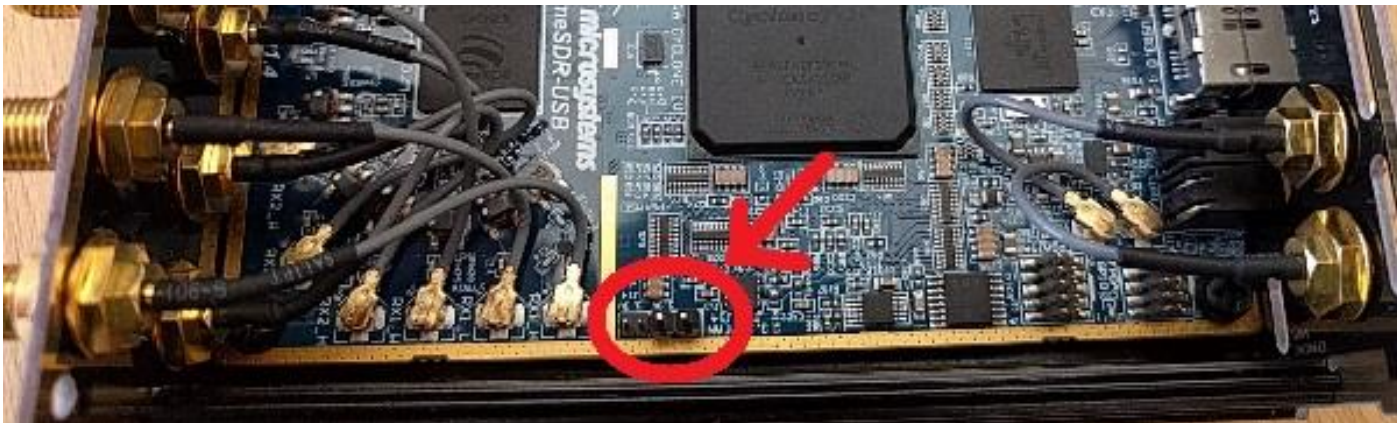


Tools:

- soldering iron kit
- basic screwdriver set
- sandpaper OR diamond files
- wrench size 8 (8 mm) for SMA pigtails

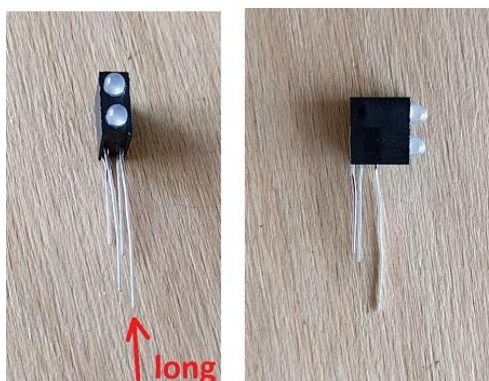
2. Prepare LimeSDR board:

FAN: populate/solder 0.1" pinheader on the board Pinheader



LEDs:

- cut plastic lip on LEDs and use sandpaper to wear plastic off around both leads
- test with multimeter (diode or small resistance test) leds work (red and green)
- LED orientation, holder orientation !!! longer lead is on right side when inserting leds
- bend leads down
- solder on board

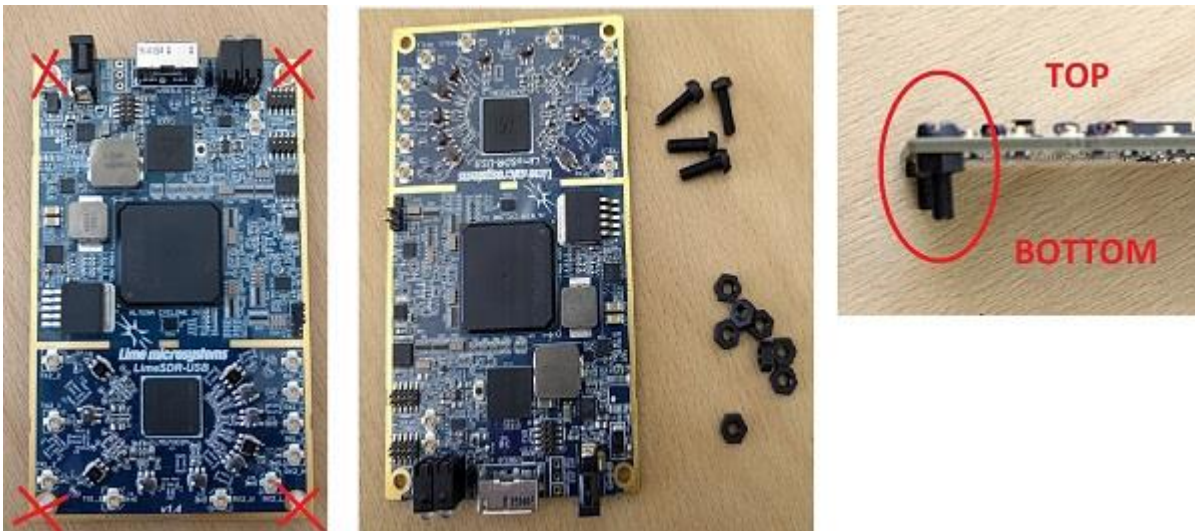


3. Mount fan on top shell:

1. position steel mesh
2. place fan as on photo (exhaust fan, cable downward facing), partially screw one metal screw, align steel mesh to cover the cutout
3. mount 2nd screw and tighten both



4. Mount "standoffs"



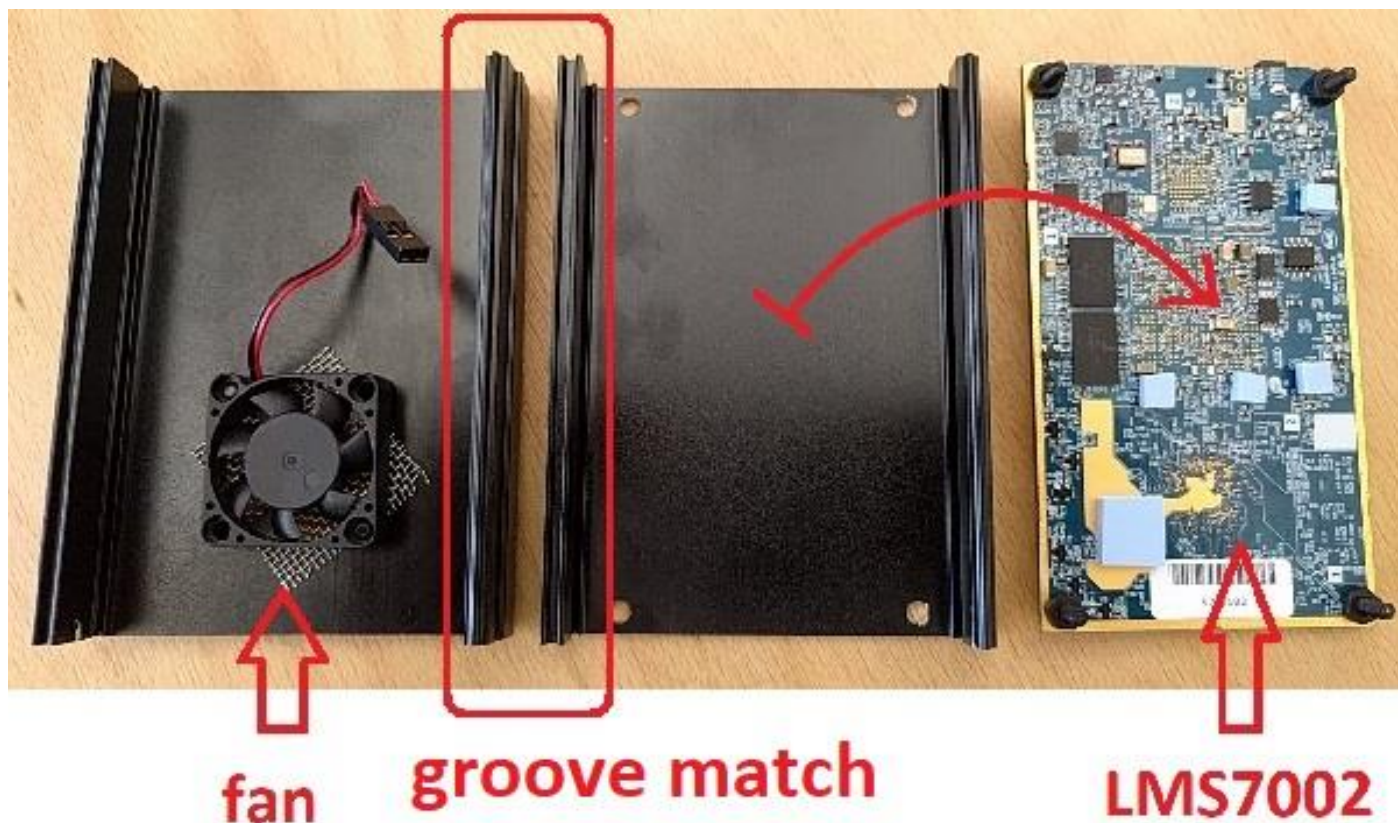
remove stock standoffs, put plastic screws from top and fix with plastic nut

5. Cut and attach heatpad



- take scissors and cut 4 smaller pieces, mount them on voltage regul. (AP7361-FGE, IC28, IC30, IC33, IC34)
- put remaining part on bare metal

6. Screw on bottom shell



!!! WARNING: Orientation of both shells is very important when mounting, see shell grooves

- place all three components as on photo 1.a fan on bottom 1.b grooves that fit together 1.c RF IC on bottom
- turn bottom shell over and screw remaining 4 plastic nuts

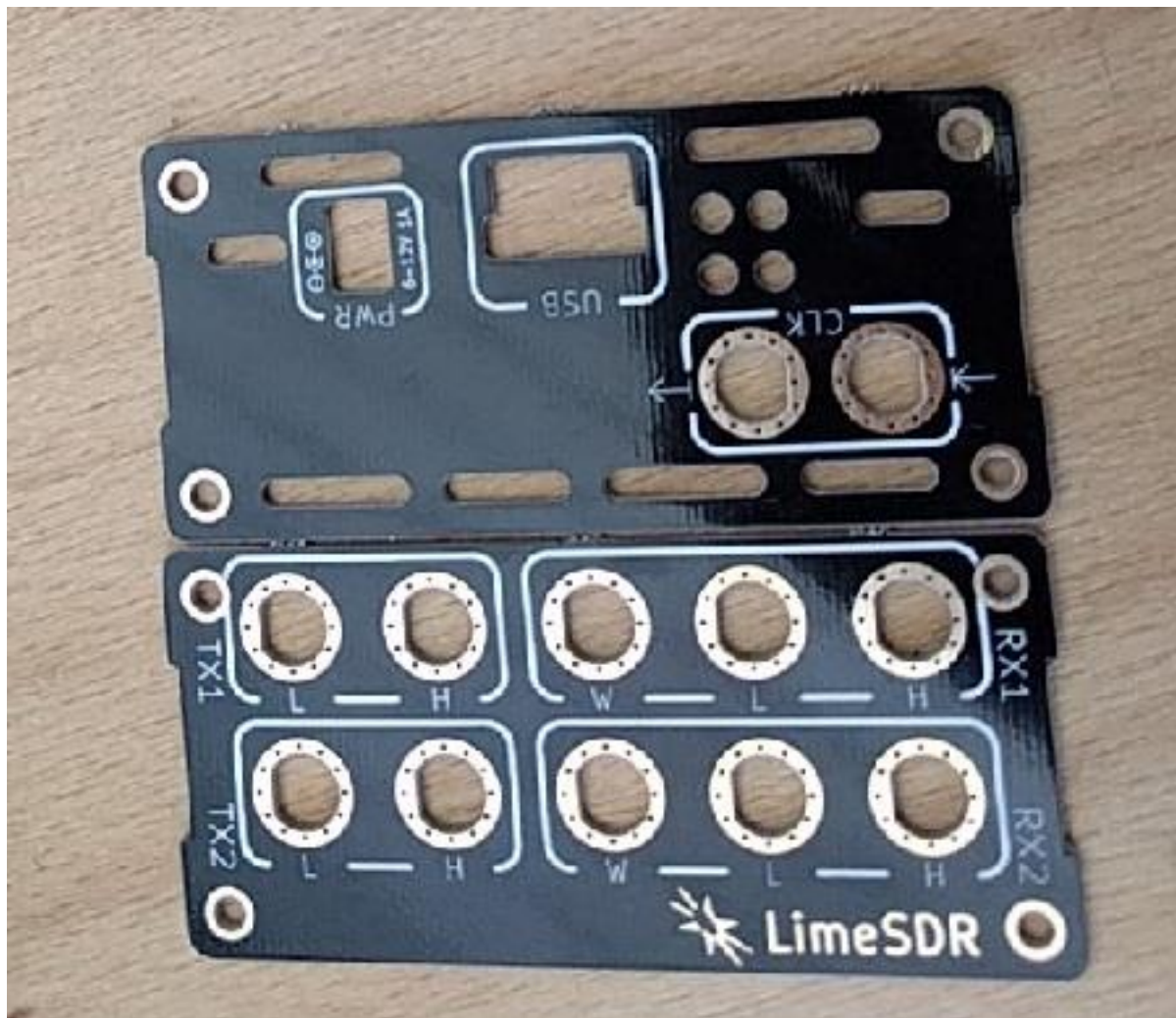
7. Attach rubber feet

Attached them at the red squares on photo.



8. Prepare front and rear panel

Break apart and use sandpaper or diamond files to smooth places where tabs were previously



(optional) Use black permanent marker and color around the PCB rim



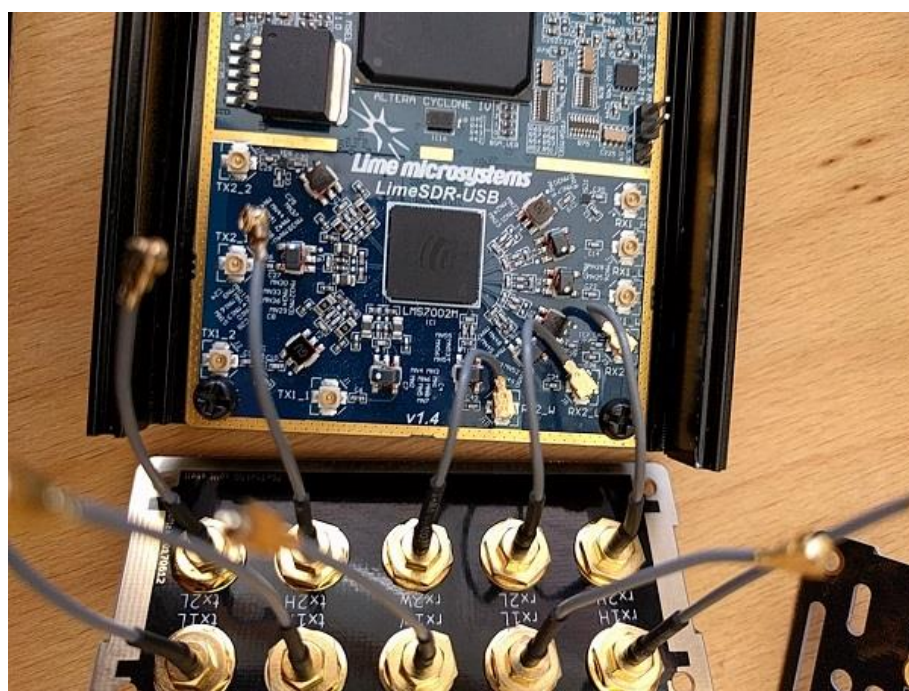
Use 8mm wrench to tighten SMA connectors firmly.



9. Mount SMA pigtails

Attach pigtails as marked on panels RX in v1.4 is marked as on front panel PCB TX1_1 = tx1L, TX1_2 = tx1H

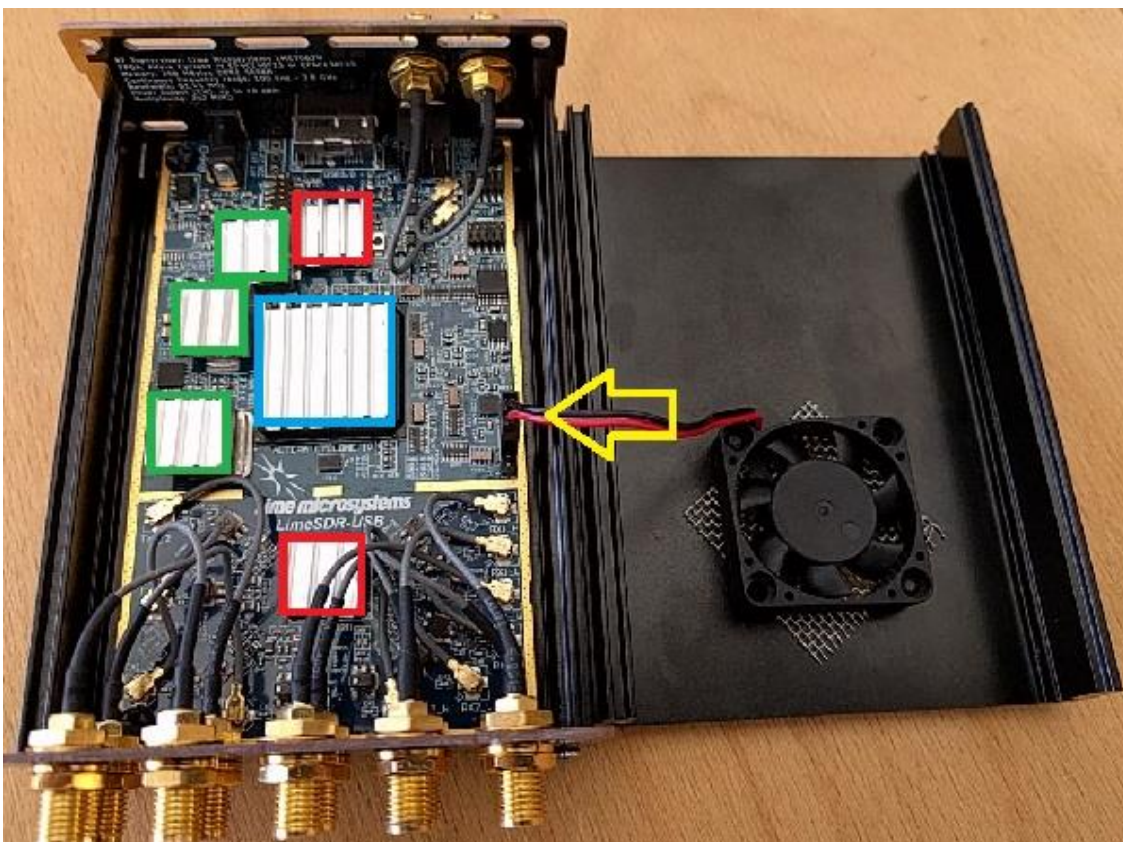
TX2_1 = tx2L, TX2_2 = tx2H



After attaching pigtailed you are ready to slowly mount both panels. Rearrange pigtailed as needed.



10. Attach heatsinks and fan



All heatsinks are rotated as airflow. | green - small | red - medium | blue - big | Fan connector as photo (red wire toward front panel)

Check FAN operation by manually changing state ON/OFF: <https://github.com/luftek/LimeSDR-USB/issues/19>

Continue using your LimeSDR! ;)