



PocketMesh R2-XL case for Meshtastic (RAK19007)

T TonyG

[VIEW IN BROWSER](#)

updated 23. 6. 2024 | published 23. 6. 2024

Summary

This is a water resistant case for RAKwireless RAK19007 base boards designed for use with the Meshtastic® project.

[Gadgets](#) > [Other Gadgets](#)

Tags: [nrf52840](#) [lora](#) [lorawan](#) [meshtastic](#) [nrf52](#)
[rakwireless](#) [waterresistant](#)

****You can purchase this case and others already printed:****

US customers can purchase from QuantumShadow3D:
(<https://www.etsy.com/shop/QuantumShadow3D>)

UK/EU customers can purchase from 3DChicken:
(<https://www.3dchicken.co.uk>)

**These models are intended for personal use only.
DO NOT copy, sell, trade or otherwise gain from my designs
without my explicit permission.**

Anyone interested in licensing this design for non-commercial (i.e. private) sale can message me here to discuss. Please respect the Creative Commons license restrictions I have chosen (<https://creativecommons.org/>)

licenses/by-nc-nd/4.0/) and I encourage anyone who sees my designs for sale contact me.

With all that said, now on to the models...

This is an extra larger version of my PocketMesh R2 water resistant case for RAKwireless RAK19007 WisBlock kits, designed with the Meshtastic project (<https://meshtastic.org>) in mind. It will accommodate the RAK19007 base board plus the RAK4631 (LoRa) and RAK12500/1910 (GNSS/GPS) modules.

Required hardware:

- TPU rubber filament for the body/cap gasket
- Two (2) M2x10mm socket head cap screws
- Two (2) M2x4mm screws and M2 nuts (or use M2.5 screws included with RAK kit)
- One (1) lithium ion battery pack (up to 3000mAh): <https://www.amazon.com/dp/B08T6GT7DV>; max battery dimensions are 66mm (L) x 36mm (W) x 11mm (H)
- JST PHR-2 polarity battery connector: required to connect the above MakerFocus battery to the RAK19007 baseboard as the included battery connector is incompatible. Will require soldering.

Options:

- **antenna boots: print using TPU**; choose the size appropriate for your antenna
- **internal-antenna** models: uses the RAK PCB antenna included in the RAK kit; place a small drop of superglue at the tip of the PCB antenna, then insert into the slot on the inside of the internal-antenna case body
- **cap-magnet** model: integrates a void to fit two magnets stacked (<https://www.amazon.com/gp/product/B075WV5HPH>); add a 'layer pause' command in your slicer program, drop in two magnets then resume the print to embed the magnets and make your case cap magnetic

Notes:

- **I TAKE NO RESPONSIBILITY FOR ANY DEVICES DAMAGED BY WATER OR OTHERWISE ANY USE OF THIS CASE**
- While I don't want to explicitly claim this case is waterproof for liability reasons, I can absolutely claim it is water resistant. I have submerged the case for 90 minutes under 6 inches/15 cm of water and the interior remained dry. I had to force it underwater since it floats, so total submersion really is not a problem and probably won't happen unless it's deliberate.

Model files



pocketmesh_r2-xl_v7-ext-antenna-ribs.stl



pocketmesh_r2-xl_v7-ext-antenna-hexagons.stl



pocketmesh_r2-xl_v7-ext-antenna-diamonds.stl



pocketmesh_r2-xl_v7-ext-antenna-logo.stl



pocketmesh_r2-xl_v7-ext-antenna-waves.stl



pocketmesh_r2-xl_v7_cap.stl



pocketmesh_r2-xl_v7_cap-magnet.stl



pocketmesh_r2-xl_v7_cap-insert-blank.stl



pocketmesh_r2-xl_v7_carrier-face.stl



pocketmesh_r2-xl_v7_button-reset-v3.stl



pocketmesh_r2-xl_v7_loop-external-antenna.stl



pocketmesh_r2-xl_v7_loop-internal-antenna.stl



pocketmesh_r2-xl_v7_gasket-bottom.stl



pocketmesh_r2-xl_v7_gasket-sma-external.stl



pocketmesh_r2-xl_v7_sma_boot-skinny-antenna.stl



pocketmesh_r2-xl_v7_sma_boot-universal-large.stl



pocketmesh_r2-xl_v7_sma_boot-universal-small.stl



pocketmesh_r2-xl_v7-int-antenna-logo.stl



pocketmesh_r2-xl_v7-int-antenna-hexagons.stl



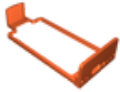
pocketmesh_r2-xl_v7-int-antenna-ribs.stl



pocketmesh_r2-xl_v7-int-antenna-diamonds.stl



pocketmesh_r2-xl_v7-int-antenna-waves.stl



pocketmesh_r2-xl_v7-carrier-frame.stl



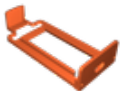
pocketmesh_h2_v6_wslv3_carrier-face.stl



pocketmesh_h2_v6_wslv3_carrier-frame.stl



pocketmesh_h2_v6_wt_carrier-frame.stl



pocketmesh_h2_v6_wslv3_carrier-frame-with-gps.stl

License ©

This work is licensed under a
[Creative Commons \(4.0 International License\)](https://creativecommons.org/licenses/by-nc-nd/4.0/)



Attribution—Noncommercial—No Derivatives

- ✗ | Sharing without ATTRIBUTION
- ✗ | Remix Culture allowed
- ✗ | Commercial Use
- ✗ | Free Cultural Works
- ✗ | Meets Open Definition