



RAK19007/ RAK5005 case for Meshtastic

T TonyG

[VIEW IN BROWSER](#)

updated 29. 4. 2024 | published 29. 4. 2024

Summary

This is a case for RAKwireless RAK19007 and RAK5005 base boards designed for use with the Meshtastic® project.

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

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

****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...

Update 15-September-2023:

- Fixed screw depth issue for GPSswitch and powerswitch front covers
- Uploaded v15 of all case models with many refinements
- Added new 'Waves' pattern
- Added back covers to support 6mm, 9mm, and 12mm thick li-po batteries
- Added 'Smooth' and 'Ribbed' side versions of the 18650 battery back covers

This is a case for RAKwireless RAK19007 and RAK5005 WisBlock kits, designed with the Meshtastic project (<https://meshtastic.org>) in mind. It will accommodate the RAK19007 or RAK5005 base board plus the RAK4631 (LoRa), RAK12500/1910 (GNSS/GPS), RAK13002 (IO), and RAK18001 (piezo buzzer) modules.

Required hardware:

- Four (4) M3x20mm socket head cap screws
- Four (4) M3 nuts
- Four (4) M2.5 screws (to secure RAK base board to frame)
- Small battery: one (1) lithium ion battery pack: 1,200mAh from <https://www.adafruit.com/product/258>
- Big battery: one (1) lithium ion battery pack: 2,500mAh from <https://www.aliexpress.us/item/3256802801560925.html> (603090 battery code)
- Bigger battery: one (1) MakerFocus 3000mAh lithium polymer battery pack: <https://www.amazon.com/3000mAh-Rechargeable-Protection-Insulated-Development/dp/B08T6GT7DV>; requires the 12mm battery back cover
- Biggest batteries: two (2) 18650 cells (protected cells highly recommended!)

Optional hardware:

- RAK1921 or similar 0.96" OLED screen
- Four (4) M2x4mm screws (to mount the OLED screen)
- Four (4) M2 washers (to mount the OLED screen)
- One (1) Miniature Slide Switch SS-12F16 G4 (for GPS power toggle): <https://amazon.com/dp/B08947137H>
- One (1) momentary micro push button (for IO5/user button): <https://amazon.com/gp/product/B07C7211PJ> - Note: user button requires either a RAK13002 IO board or a "mini IO board" (<https://>

www.etsy.com/listing/1254963521/mini-io-expansion-board-for-rak-wireless) that exposes the IO5 pin not physically present on the RAK19007 and RAK5005 base boards

- One (1) dual-18650 battery holder (if using the extended 18650 battery back cover): <https://www.mpja.com/PARALLEL-Battery-Holder-for-Two-18650-Lithium-Batteries/productinfo/36012+BH/>

Minimum required model files:

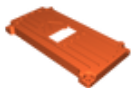
- RAK19007-5005_front-<pattern> (horizontally oriented screen)
- **+OR+** RAK19007-5005_front-<pattern> (vertically oriented screen)
- **+OR+** RAK19007-5005_noscreen-front-<pattern>
- **+OR+** -GPS-front-<pattern> (includes area for slide switch to toggle GPS power)
- RAK19007-5005_back-<your pattern and battery thickness choice>
- RAK19007-5005_button-plate (only if user button)
- RAK19007-5005_button-reset
- RAK19007(or 5005)_frame (user-button or no-user-button)

Notes:

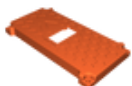
- Dimensions: 103mm (L) x 50mm (W) x 30mm (H) - Standard 12mm battery back
- Dimensions: 103mm (L) x 50mm (W) x 45mm (H) - Extended 18650 battery back
- OPTIONAL: GPS switches are no longer required as of Meshtastic firmware v2.2.4; triple press the user button to disable/enable power to the GPS module (if installed)

Model files

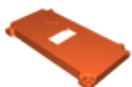
rak19007-5005_v15_front-ribs.stl



rak19007-5005_v15_front-hexagons.stl

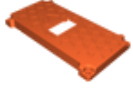


rak19007-5005_v15_front-mlogo.stl

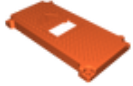




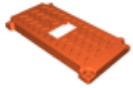
rak19007-5005_v15_front-blank.stl



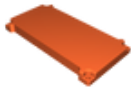
rak19007-5005_v15_front-circles.stl



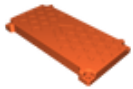
rak19007-5005_v15_front-dots.stl



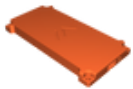
rak19007-5005_v15_front-waves.stl



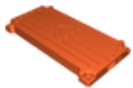
rak19007-5005_v15_front-noscreen-blank.stl



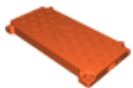
rak19007-5005_v15_front-noscreen-circles.stl



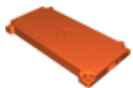
rak19007-5005_v15_front-noscreen-gpsswitch-mlogo.stl



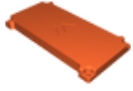
rak19007-5005_v15_front-noscreen-gpsswitch-ribs.stl



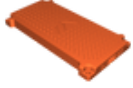
rak19007-5005_v15_front-noscreen-gpsswitch-circles.stl



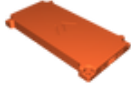
rak19007-5005_v15_front-noscreen-gpsswitch-dots.stl



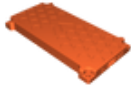
rak19007-5005_v15_front-noscreen-mlogo.stl



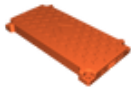
rak19007-5005_v15_front-noscreen-powerswitch-dots.stl



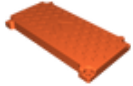
rak19007-5005_v15_front-noscreen-powerswitch-mlogo.stl



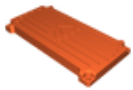
rak19007-5005_v15_front-noscreen-powerswitch-circles .stl



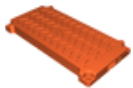
rak19007-5005_v15_front-noscreen-powerswitch-hexago... .stl



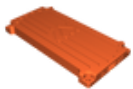
rak19007-5005_v15_front-noscreen-hexagons.stl



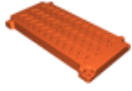
rak19007-5005_v15_front-noscreen-ribs.stl



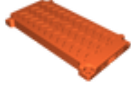
rak19007-5005_v15_front-noscreen-gpsswitch-waves.stl



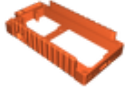
rak19007-5005_v15_front-noscreen-powerswitch-ribs.stl



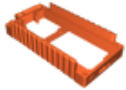
rak19007-5005_v15_front-noscreen-waves.stl



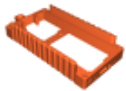
rak19007-5005_v15_front-noscreen-powerswitch-waves.stl



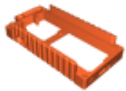
rak19007_v15_frame-user-button.stl



rak5005_v15_frame-no-user-button.stl



rak19007_v15_frame-no-user-button.stl



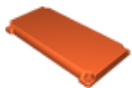
rak5005_v15_frame-user-button.stl



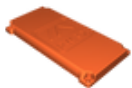
rak5005_v15_button-reset-short.stl



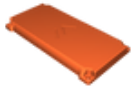
rak19007_v15_button-reset-tall.stl



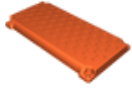
rak19007-5005_v15_back_6mm-battery-blank.stl



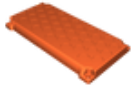
rak19007-5005_v15_back_6mm-battery-mpwrdr.stl



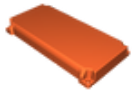
rak19007-5005_v15_back_6mm-battery-mlogo.stl



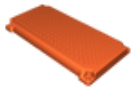
rak19007-5005_v15_back_6mm-battery-hexagons.stl



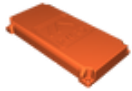
rak19007-5005_v15_back_6mm-battery-circles.stl



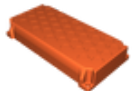
rak19007-5005_v15_back_9mm-battery-blank.stl



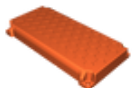
rak19007-5005_v15_back_6mm-battery-dots.stl



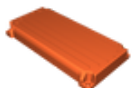
rak19007-5005_v15_back_9mm-battery-mpwr.stl



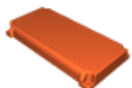
rak19007-5005_v15_back_12mm-battery-circles.stl



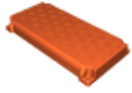
rak19007-5005_v15_back_9mm-battery-hexagons.stl



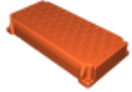
rak19007-5005_v15_back_9mm-battery-ribs.stl



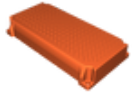
rak19007-5005_v15_back_9mm-battery-dots.stl



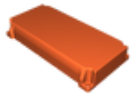
rak19007-5005_v15_back_9mm-battery-circles.stl



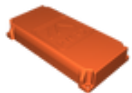
rak19007-5005_v15_back_12mm-battery-hexagons.stl



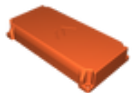
rak19007-5005_v15_back_12mm-battery-dots.stl



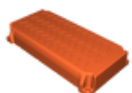
rak19007-5005_v15_back_12mm-battery-blank.stl



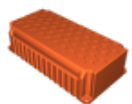
rak19007-5005_v15_back_12mm-battery-mpwrdr.stl



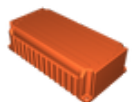
rak19007-5005_v15_back_12mm-battery-mlogo.stl



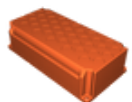
rak19007-5005_v15_back-12mm-battery-waves.stl



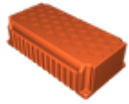
rak19007-5005_v15_back_dual-18650_ribbed-hexagons.stl



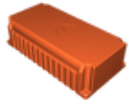
rak19007-5005_v15_back_dual-18650_ribbed-ribs.stl



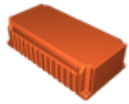
rak19007-5005_v15_back_dual-18650_smooth-circles.stl



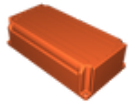
rak19007-5005_v15_back_dual-18650_ribbed-circles.stl



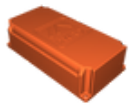
rak19007-5005_v15_back_dual-18650_ribbed-mlogo.stl



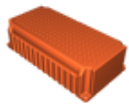
rak19007-5005_v15_back_dual-18650_ribbed-blank.stl



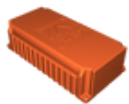
rak19007-5005_v15_back_dual-18650_smooth-ribs.stl



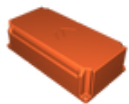
rak19007-5005_v15_back_dual-18650_smooth-mpwrdr.stl



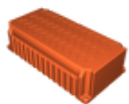
rak19007-5005_v15_back_dual-18650_ribbed-dots.stl



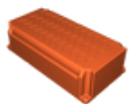
rak19007-5005_v15_back_dual-18650_ribbed-mpwrdr.stl



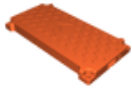
rak19007-5005_v15_back_dual-18650_smooth-mlogo.stl



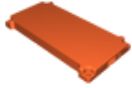
rak19007-5005_v15_back_dual-18650_ribbed-waves.stl



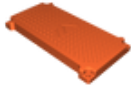
rak19007-5005_v15_back_dual-18650_smooth-waves.stl



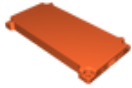
rak19007-5005_v15_front-noscreen-gpsswitch-hexagons.stl



rak19007-5005_v15_front-noscreen-gpsswitch-blank.stl



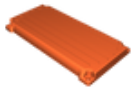
rak19007-5005_v15_front-noscreen-dots.stl



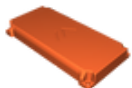
rak19007-5005_v15_front-noscreen-powerswitch-blank.stl



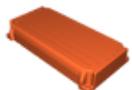
rak5005_v15_button-reset-tall.stl



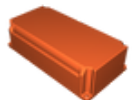
rak19007-5005_v15_back_6mm-battery-ribs.stl



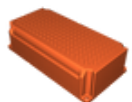
rak19007-5005_v15_back_9mm-battery-mlogo.stl



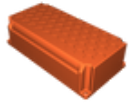
rak19007-5005_v15_back_12mm-battery-ribs.stl



rak19007-5005_v15_back_dual-18650_smooth-blank.stl



rak19007-5005_v15_back_dual-18650_smooth-dots.stl



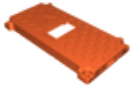
rak19007-5005_v15_back_dual-18650_smooth-hexagons.stl



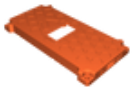
rak19007_v15_button-reset-short.stl



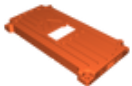
rak19007-5005_v15_button-plate.stl



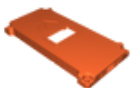
rak19007-5005_v15_front-powerswitch-hexagons.stl



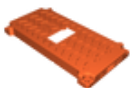
rak19007-5005_v15_front-powerswitch-circles.stl



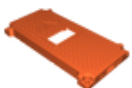
rak19007-5005_v15_front-powerswitch-ribs.stl



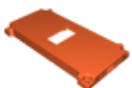
rak19007-5005_v15_front-powerswitch-mlogo.stl



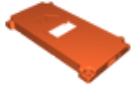
rak19007-5005_v15_front-powerswitch-waves.stl



rak19007-5005_v15_front-powerswitch-dots.stl



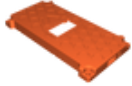
rak19007-5005_v15_front-powerswitch-blank.stl



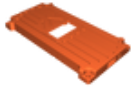
rak19007-5005_v15_front-gpsswitch-mlogo.stl



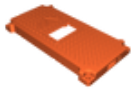
rak19007-5005_v15_front-gpsswitch-blank.stl



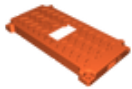
rak19007-5005_v15_front-gpsswitch-circles.stl



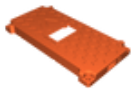
rak19007-5005_v15_front-gpsswitch-ribs.stl



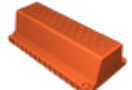
rak19007-5005_v15_front-gpsswitch-dots.stl



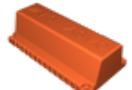
rak19007-5005_v15_front-gpsswitch-waves.stl



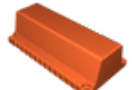
rak19007-5005_v15_front-gpsswitch-hexagons.stl



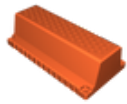
rak19007-5005_v24_back_18650-hexagons.stl



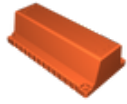
rak19007-5005_v24_back_18650-mlogo-long.stl



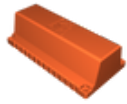
rak19007-5005_v24_back_18650-blank.stl



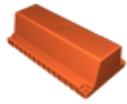
rak19007-5005_v24_back_18650-circles.stl



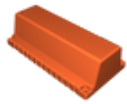
rak19007-5005_v24_back_18650-ribs.stl



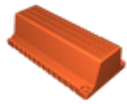
rak19007-5005_v24_back_18650-mpwrdr.stl



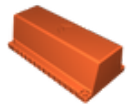
rak19007-5005_v24_back_18650-mlogo-short.stl



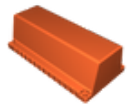
rak19007-5005_v24_back_18650-dots.stl



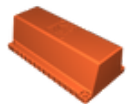
rak19007-5005_v24_back_18650-waves.stl



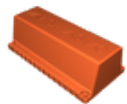
rak19007-5005_v24_back_21700-mlogo-short.stl



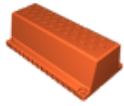
rak19007-5005_v24_back_21700-blank.stl



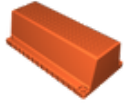
rak19007-5005_v24_back_21700-mpwrdr.stl



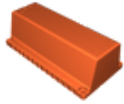
rak19007-5005_v24_back_21700-mlogo-long.stl



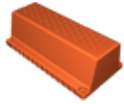
rak19007-5005_v24_back_21700-hexagons.stl



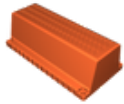
rak19007-5005_v24_back_21700-dots.stl



rak19007-5005_v24_back_21700-ribs.stl



rak19007-5005_v24_back_21700-circles.stl



rak19007-5005_v24_back_21700-waves.stl

Other files

laser-cut_acrylic_window_insert_v3.svg

License ©

This work is licensed under a
Creative Commons (4.0 International License)



Attribution—Noncommercial—No Derivatives

- ✗ | Sharing without ATTRIBUTION
- ✗ | Remix Culture allowed
- ✗ | Commercial Use

- ✖ | Free Cultural Works
- ✖ | Meets Open Definition