

Do I need an amateur radio license?

Short answer: No

Meshtastic and MeshCore operate in the 902–928 MHz ISM band under FCC Part 15 rules (47 CFR § 15.247 and related provisions). No amateur radio license is required for standard operation in the United States — meaning the device as configured by the official apps for your region, with licensed/ham mode left off. Note that unlicensed Part 15 operation carries conditions: your device must not cause harmful interference and must accept any interference received (47 CFR § 15.5).

Why many operators are licensed hams

The amateur radio community has been an early adopter of LoRa mesh. In standard (default, encrypted) configuration the protocols operate under Part 15, not Part 97 (amateur rules), and a license changes nothing about that mode. However, 902–928 MHz is also the amateur **33 cm band**, so licensed hams can optionally operate mesh radios under Part 97 with more power and higher-gain antennas — subject to the restrictions below. You don't need a license to use the mesh; a license adds optional capabilities.

When a license IS relevant

- **Operating above Part 15 power limits:** Under Part 15 the limit on 902–928 MHz is 1 W (30 dBm) conducted output for a digitally-modulated system, with an antenna gain up to 6 dBi (a 36 dBm / 4 W EIRP ceiling); above 6 dBi of gain you must reduce conducted power dB-for-dB, so you cannot simply add gain to raise EIRP. Exceeding these Part 15 limits is not permitted at all under Part 15 — and an amateur license does NOT authorize running a Part 15 device over its certified limits on the ISM band. Licensed amateurs may instead operate on 902–928 MHz under *Part 97* with more power (up to 10 W PEP for spread

spectrum, 47 CFR § 97.313(j)) — **but only with encryption disabled (Part 97 prohibits encrypting messages to obscure their meaning, § 97.113(a)(4)) and with call-sign identification at the end of each communication and at least every 10 minutes during it (§ 97.119)**. Default Meshtastic and MeshCore channels are encrypted, so **you cannot run encrypted mesh channels at higher amateur power, and raising power on a stock configuration is illegal even with a license.**

Meshtastic's "licensed (ham) mode" handles this: it sets your callsign, transmits it periodically, and disables encryption. Standard mesh stays under Part 15 limits.

- **Amateur-band operation generally:** Transmitting LoRa hardware under amateur privileges — on the 33 cm band or any other amateur allocation — requires an amateur license and full Part 97 compliance.
- **APRS gateway:** Feeding Meshtastic traffic into APRS-IS (the internet backbone of the ham APRS network) requires a valid amateur radio callsign — APRS-IS access is restricted to licensed amateurs. Transmitting APRS over RF (144.390 MHz in North America) additionally requires at least a Technician-class license under Part 97.

Canada

Similar licence-exempt rules apply in Canada under ISED **RSS-247** (with RSS-Gen general requirements). No license is needed for standard Meshtastic/MeshCore operation. The license-relevant cases above are stated in US (FCC) terms; the Canadian amateur equivalent is the Amateur Radio Operator Certificate issued by ISED.

Revision #3

Created 2026-05-03 05:20:07 UTC by Mesh America Admin

Updated 2026-06-08 19:22:14 UTC by Mesh America Admin