

MeshCore App: Radio Settings and Position

Radio Settings

Access via Settings → Radio (or Device → Radio Config depending on app version).

Preset Selection

The most important radio setting. Always use the preset that matches your local network:

- **USA/Canada (Recommended)** - North American convention (Oct-2025 "narrow"): 910.525 MHz, SF7, BW 62.5 kHz, CR5. Use this unless your local community uses something different.
- **Europe** - 868 MHz band. Use it on EU-region networks; make sure your hardware and antenna support 868 MHz.
- **Custom** - Manual parameter entry. Only use if you know exactly what you're doing and why.

“ Do not use Custom preset unless your network coordinator specifically instructs you to. Incorrect custom settings make your node invisible to the rest of the network.

“ **Important:** MeshCore firmware boots on the EU default (869.525 MHz) until you set a region, and the device *will* transmit on that default. You must set the correct region/preset for North America before relying on the node.

TX Power

Transmit power in dBm (valid range 1-22 dBm on SX1262 hardware). Higher power = more range and more power consumption. Under FCC Part 15.247 (902-928 MHz), the maximum conducted output is 30 dBm (1 W). With an antenna of 6 dBi or less this gives 36 dBm (4 W) EIRP. For every dB of antenna gain **above** 6 dBi you must reduce conducted power by the same dB (15.247(b)(4)), so EIRP stays at or below ~36 dBm. Example: a 9 dBi antenna requires reducing TX power to 27 dBm. The 36 dBm EIRP figure is a ceiling, not free headroom - do not assume you can run full 1 W into any high-gain antenna, and note that the fixed point-to-point high-gain exemption does not apply to point-to-multipoint mesh use. The app displays the maximum for your hardware; leave at default unless you have a specific reason to reduce it.

Position Settings

Access via Settings → Position.

Enable GPS

If your device has a GPS module, enable it here. GPS provides position for the contact map and enables distance calculation in the contacts list. On fixed infrastructure nodes, GPS is optional if you configure a static position manually.

Fixed Position

For nodes without GPS, or for fixed repeaters where GPS accuracy is not needed:

1. Enable "Fixed Position"
2. Enter latitude and longitude
3. Tap Save - the node will broadcast this position in its advertisements

Use your actual deployment coordinates, not your home address. The position is broadcast to the network and appears on community maps.

Position Privacy

If you don't want your exact position broadcast on the public network, disable position reporting, or set an approximate fixed position (e.g. a nearby landmark rather than your exact coordinates) instead of your precise location. Infrastructure operators typically share full position; personal nodes may prefer to share only an approximate location or none at all.

Advertisement Settings

MeshCore advertisements use one of two modes rather than a generic numeric hop limit: **flood** (rebroadcast by repeaters, so it propagates network-wide) or **zero-hop** (heard only by nodes in direct range, local only). The CLI equivalents are `advert` (flood) and `advert.zerohop`.

- **Advertisement Interval** - How often your node broadcasts its existence. There are two separate intervals: the flood advert interval is set in hours (3-168, default 12 hours), and the zero-hop advert interval is set in minutes (60-240). The default 12-hour flood interval is appropriate for stable deployments. Reduce the interval during initial setup to confirm discovery.
- **Advertisement Mode** - Choose flood for network-wide visibility (community repeaters) or zero-hop for local-only announcements.
- **Node Name** - Your node's display name. Use a consistent format with your community's naming convention.

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