

MeshMapper Wardriving Guide

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MeshMapper is a platform for mapping *actual measured* RF coverage of a MeshCore network - not just node locations, but real signal coverage at road level. This is the ground truth that theoretical planners cannot provide.

Getting the App

- **Android:** Google Play - search "MeshMapper Wardriver"
- **iOS:** App Store - search "MeshMapper Wardriver"
- **Web interface:** wd.meshmapper.net
- The app is **free**.

MQTT Observer Setup (Required)

MeshMapper requires an MQTT connection to observe mesh traffic. Connect to one of these brokers before starting a session:

- `mqtt-us-v1.letsmesh.net:443` (WebSocket TLS)
- `mqtt.meshmapper.cc:443` (WebSocket TLS)

Important: MeshCore devices only support one BLE connection at a time. **Disconnect the MeshCore companion app** before launching MeshMapper or the connection will fail.

Operating Modes

Mode	Description	Best For
Hybrid (recommended)	Alternates discovery requests and channel messages. 50% fewer transmissions than legacy Active mode.	General wardriving - balances coverage data quality with network impact
Passive	Discovery requests every 30 seconds; no channel messages.	Minimal network impact; good for densely populated mesh areas
Manual Ping	Single on-demand ping.	Spot-checking coverage at a specific location without driving

Mode	Description	Best For
Active	Legacy channel-message-only mode.	Backward compatibility - Hybrid is superior in all cases
Trace	Focus on a single repeater identified by its hex node ID.	Antenna alignment, diagnosing a specific repeater's coverage, post-installation validation

Coverage Map Color Meanings

Color	Code	Meaning
Green	BIDIR	Two-way confirmed contact - gold standard coverage. Your device and the repeater can hear each other.
Cyan	DISC	Discovery-based two-way confirmation - confirmed via discovery protocol rather than channel message.
Orange	TX	Transmit-only path - your signal reaches the repeater but return path is incomplete (asymmetric link).
Purple	RX	Receive-only - you can hear the repeater but it cannot hear you.
Grey	DEAD	Signal heard but not relayed - marginal contact; unreliable for mesh routing.
Red	DROP	No repeater responded - no coverage at this location.

Wardriving Best Practices

- Mount your device with the antenna as high as practical in the vehicle (dashboard or roof magnet mount).
- Drive at normal road speeds - the app samples frequently enough.
- Cover roads in a grid pattern for systematic area mapping.
- Use **Trace mode** after installing a new repeater to confirm its actual coverage footprint.
- Share your coverage data back to the community map so others benefit.

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