

☐☐ Start Here — Antennas & RF Guide

Antenna choice and placement together are the biggest lever you have over LoRa range - and height with clear line-of-sight usually matters more than antenna gain. This book covers antenna selection, installation, feedline, and RF fundamentals - from beginner to advanced. (See [Understanding Gain and dBi](#): optimise placement before spending money on a higher-gain antenna.)

☐☐ Quick Answers

- **"Do I need a better antenna?"** → [Do I need an external antenna?](#)
- **"Which antenna should I buy?"** → [Portable & Handheld Antennas](#), [Base Station & Outdoor Antennas](#), or [Directional Antennas](#)
- **"What's dBi mean?"** → [Understanding Gain and dBi](#)
- **"What cable/connector do I need?"** → [RF Connector Types Guide](#)

☐☐ What's In This Book

Antenna Fundamentals

- [How Antennas Work at 915 MHz](#)
- [Antenna Types for LoRa Mesh](#)
- [Antenna Gain and Coverage Tradeoffs](#)
- [Understanding Gain and dBi](#)

Antenna Selection

- [Portable & Handheld Antennas](#)

- [Base Station & Outdoor Antennas](#)
- [Directional Antennas](#)

Feedline and Connectors

- [Coax Cable Selection Guide](#)
- [RF Connectors for LoRa Hardware](#)
- [Minimizing Feedline Loss](#)
- [Feedline Loss Reference](#) - Loss tables for common cable types

Installation

- [Antenna Mounting Best Practices](#)
- [Mast and Pole Mounting](#)
- [Grounding and Lightning Protection](#)
- [Ground Planes for Monopole Antennas](#)

Testing and Tuning

- [SWR, VSWR, and Return Loss Explained](#)
- [NanoVNA Antenna Testing](#)
- [Field Antenna Testing Without Lab Equipment](#)

RF Fundamentals

- [Link Budget Explained](#)
- [Fresnel Zones and Clearance](#)
- [Interference and Noise at 915 MHz](#)

DIY Antenna Construction

- [Building a 915 MHz Yagi Antenna](#)
- [Building a Collinear Vertical Antenna](#)

➔ Related Books

- [Network Planning](#) - RF propagation, link budgets, coverage planning
- [DIY Build Guides](#) - Enclosures and physical installation

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