Feedline Loss Reference

At 915 MHz, cable loss is significant. A long run of cheap coax can negate the benefit of a quality antenna upgrade. This is the canonical loss table for the book; all values are at 915 MHz, sourced from manufacturer datasheets (Times Microwave for LMR types) and expressed per 100 ft of cable.

Loss at 915 MHz per 100 ft

Cable Type	Loss per 100 ft	Notes
RG-58	~20 dB	Avoid for any outdoor run over about 6 ft (2 m)
RG-8X	~12.6 dB	Acceptable for short indoor runs
LMR-200	~9.9 dB	Good for runs up to about 30 ft (10 m)
LMR-400	~3.9 dB	Use for runs over about 30 ft (10 m)
LMR-600	~2.5 dB	Very long runs; stiff and expensive

Loss scales linearly with length: divide the per-100 ft figure by 10 for a per-10 ft estimate, or multiply by 0.0328 for a per-metre estimate (for example, LMR-400 at ~3.9 dB/100 ft is ~1.28 dB per 10 m).

Practical guidance

- Rooftop install with a 10-15 ft (3-5 m) run: LMR-200 is ideal
- Runs over about 30 ft (10 m): LMR-400 minimum
- Never use RG-58 for permanent outdoor installs
- Each connector adds loss - a quality N connector adds ~0.1-0.3 dB, while cheaper or worn SMA can reach 0.5-1 dB. Either way, minimize adapters.

The proximity advantage: The best way to minimize cable loss is to mount the radio enclosure close to the antenna. A 0.5 m cable run with any cable type adds negligible loss.

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