Technical Article

LevNet RF™ Installation for Maximizing Wireless Range

Product: LevNet RF Wireless Solutions **Article ID:** 02102012-JE/TB-01

Date: February 10, 2012

Summary: This article describes field-proven practices for ensuring reliable wireless communications between LevNet RF EnOcean-enabled energy harvest controls.

Information:

Straighten antenna out and away from metal

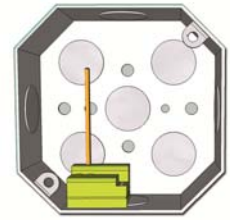
- **Utility boxes/relay panels:**

Worst Case:
Antenna and receiver inside metal box

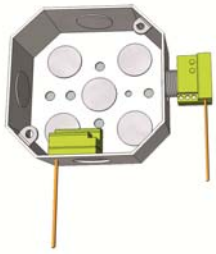
Better:
Antenna outside or receiver on side (min 1” away)

Best:
Antenna and receiver on top or bottom

- **Junction Boxes:**



Worst Case:
Antenna and receiver inside J-Box



Better:
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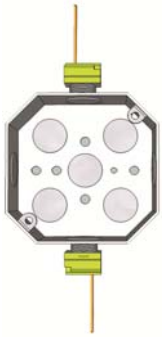
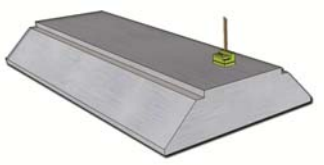


Best:
Antenna and receiver on top or bottom

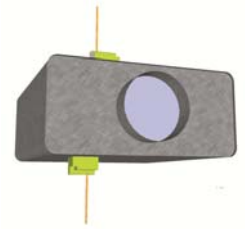
Leviton Mfg. Co., Inc. Lighting & Energy Solutions
20497 SW Teton Avenue, Tualatin, OR 97062 1-800-736-6682 Tech Line: 1-800-959-6004 Fax: 503-404-5594 www.leviton.com/les

- **Fluorescent Light Fixtures:**



Best:
Outside of fixture and away from “Keep Out” zones and ballasts

- **HVAC Ducts:**



Best:
Antenna and receiver on top or bottom (if ceiling is non-metal)

Create separation distance away from interfering electronics

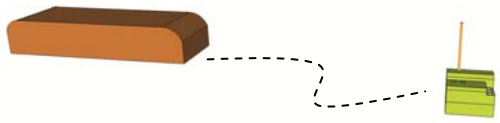
- **Fluorescent lighting ballasts:**

Worst Case:
Wireless receiver and antenna next to ballast or in “Keep Out” zones

Better:
Maximize separation distance (between wireless receiver and ballast) and pull antenna outside of fixture

Best:
Avoid placing wireless receiver and antenna within 6” of tube sockets

- **Lighting:**



Best:
Outside of fixture and away from “Keep Out” zones and ballasts

- **HVAC – PTAC Units:**

Best:
Antenna and receiver on top or bottom (if ceiling is non-metal)

Wireless Range Reducers

Material	Range Reduction*
Wood, drywall, glass (uncoated, without metal)	0-10%
Brick, particle board	5-35%
Metal, ferro concrete, mirrors	10-90%

Wireless Range Testing

Site survey tools are available that can help fine-tune wireless communications. For example:

- Indicate wireless signal strength
- Evaluate longer range scenarios that might require enabling repeaters

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