



Highly directional antennas achieve long range line of site communication performance. 2.4GHz radio base stations from Orchid really perform.

Custom Wireless 802.15.4 Transceivers

Custom wireless 802.15.4 transceivers from Orchid Technologies operate in the 900MHz, and 2.4GHz frequency bands. Occupying 802.15.4 channels 1 through 27, wireless communications on these frequencies can be very useful for low bandwidth data telemetry.

Custom Protocol Development

IEEE 802.15.4 specifies a means of wireless data transmission. Application requirements can dictate actual data transmission protocols used. Orchid technologies has developed protocol variations for beacon enabled and non-beacon enabled networks.

Wireless Network Topology

Wireless network topology may take varying forms: Star, mesh, store-and-forward, time slot enabled, and dynamic mesh are a few. Often a system can benefit from a hybrid design where a star-mesh topology most effectively routes data back to a central point.

Communications Link Budget

Transmitter power, power amplifier, antenna cable, transmitter antenna gain, link distance and terrain, receiver antenna gain, receiver low noise preamplifier, receiver gain are the elements that comprise the radio frequency link budget. Reliable communications distance depends on properly considering each element that affects the link budget.

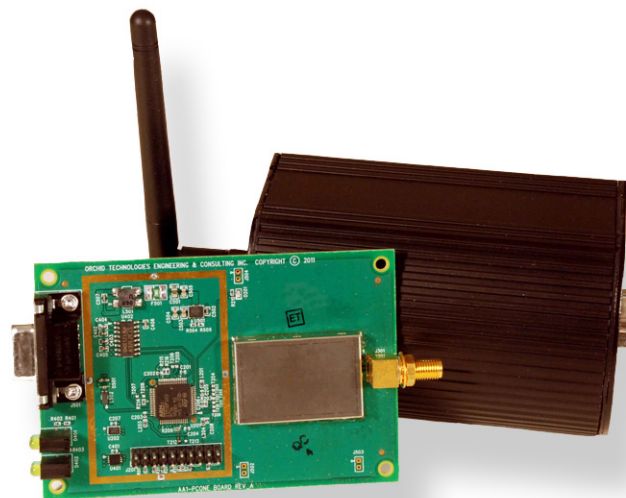


Orchid Technologies: Wireless Transceivers

The development of custom electronic products for our OEM clients is Orchid's entire business. The design of custom 802.15.4 wireless transceivers with rapid design cycles, demanding technical requirements, and unforgiving schedules sets us apart. Call Orchid Technologies today!

"Custom power-efficient 2.4GHz 802.15.4 radio modules from Orchid Technologies made our wireless network a success."

- VP Engineering



**ORCHID TECHNOLOGIES
ENGINEERING & CONSULTING, INC.**

Custom Engineering From Concept to Production

147 Main Street, Maynard, MA 01754 www.orchid-tech.com 978-461-2000 fax: 978-461-2003

Copyright © 2011 Orchid Technologies Engineering & Consulting Inc., all rights reserved. OTEC and the Orchid Technologies logo are trade marks of Orchid Technologies Engineering & Consulting, Inc. All other marks are the property of their respective owners.