Wireless Range Extender

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With its Wavenis™ wireless technology, Coronis Systems products offer some of the farthest network connections in the industry. Still, some real-world scenarios require longer range than individual end-points can achieve. In order to connect the most remote devices back to a network’s main concentrator or gateway, you may have to use range extenders (repeaters).

Wavetalk™ is a line of autonomous wireless repeaters designed to extend the operating range of Wavenis-powered devices in ultra low-power (ULP) networks.

Depending on the distance between end-points, Wavetalk offers either a 25mW base transceiver to communicate with ULP devices or a 500mW transceiver for longer-range coverage. Wavetalk range extenders help reduce overall costs by limiting the number of gateways and concentrators needed in a network.

OPTIMIZING WIRELESS NETWORKS

Wavetalk gives you the flexibility to deploy data collection and monitoring networks to suit any topology. With its 500mW transmitter, the long-range version of Wavetalk provides reliable data connections over distances of up to several kilometers, allowing you to benefit both from ultra low-power end-points and low overall equipment cost.

Wavetalk repeaters are often used to forward data via cellular network gateways.
Wavetalk Specifications

TECHNICAL FEATURES

• Autonomous battery supply
  - 25mW device uses 3.3 A.h (size A)
  - 7.6 A.h (size C) for 500mW Long Range version
• Radio transmission range
  - 25mW output: up to 1 km LOS
  - 500mW output: up to 4 km LOS
• 868 MHz - 915 MHz ISM bands
  - 868-25mW band: fixed (alarm band) or frequency hopping spread spectrum (FHSS) on 16 channel @ 9.6 kbps
  - 868-500mW band: fixed frequency (selection out of 3 channels) @ 32 kbps
  - 915 MHz band: frequency hopping spread spectrum (FHSS) @ 9,6kbps
• Digital frequency modulation (GFSK)
• Receiver sensitivity
  - 110dBm @ 0.1% Frame Error Rate @ 9.6kbps
• Dual-level transmission with automatic switching
  - 25mW band: +12dBm
  - 500mW band: +27dBm
• Approvals
  - ETS 300-220
  - FCC 15-247
  - RTTE 99/5/EC Directive
  - Electrical safety: EN60 950
  - EMC: EN 301 489
• Protection class IP65 or IP68
• Operating temperature: –4° to 158° F (-20° to +70°C)
• Dimensions: 4.3 x 2 x 1.2 in. (11 x 5 x 3 cm)
• Weight: 5.3 to 7 oz. (150 to 200 g)

FUNCTIONAL CHARACTERISTICS

• Extends wireless range of Wavenis-powered end-points
• Uses secure Wavenis communication protocol
• Several years battery life depending on usage
• Resistant to RF interference – sophisticated FHSS, data interleaving, BCH(31,21) mechanisms
• Build flexible wireless mesh networks of unlimited in size
• Tree, star, and mesh network topologies
• 433/868/915 MHz ISM Bands
• EN300-220-1, FCC15-249, & FCC15-247 compliant
• EMC compliant with EN 300-683
• Programmable polling frequency to optimize radio traffic.
• Available in 25mW-25mW, 25mW-500mW, 500mW-500mW
• All Wavenis products are designed with Bluetooth extension capabilities

PRODUCT COMPATIBILITY

Wavetalk is compatible with all Wavenis devices from Coronis Systems:

• Waveflow, Wavetherm, Wavesense, Wavelog, & Wavetank wireless monitors
• Wavecell Cellular/Wavenis gateway
• Wavenis Compact Flash and Wavecard OEM wireless cards for mobile metering using industrial handheld computers and tablet PCs
• Wavehub concentrator
• Waveport – serial / USB wireless modem

Ordering information

Wavetalk products are available with various configurations according to your needs. Reference numbers are based on the following options (i.e. WAVETALK-868-L-65).

<table>
<thead>
<tr>
<th>Product</th>
<th>Carrier frequency band</th>
<th>Power class</th>
<th>Protection class</th>
</tr>
</thead>
<tbody>
<tr>
<td>WAVETALK</td>
<td>868=868 MHz band</td>
<td>U = Ultra Low Power 25mW</td>
<td>65 = IP65</td>
</tr>
<tr>
<td></td>
<td>915=915 MHz band (on request)</td>
<td>L = Long Range 500mW</td>
<td>68 = IP68</td>
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