Wavetalk

Product summary

Extend the cover of a Wavenis point

Wavetalk is a simple Wavenis® wireless range extender that relays data transparently between Wavenis® wireless devices in order to increase the distance between them when necessary. Even though Wavenis® technology offers wireless range that is among the longest in the industry, there are situations where wide area coverage is required.
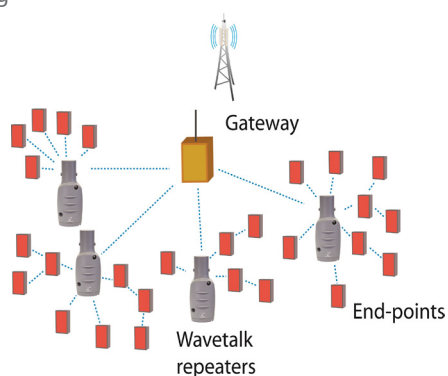
Typically used to link end-points and gateways, up to three Wavetalk 2 modules can be placed between a Wavenis gateway and an end-point.

- Extends Wavenis wireless range up to 4km (500mW) and 1km (25mW) per repeater (LOS)
- Supports up to 3 repeaters per branch
- Transparent data relay
- Sends alert spontaneously in case of low-battery[1]

Field-ready Wavenis platform

Wavetalk can be delivered ready-to-use. Robust, weatherproof casing ensures safe and reliable operation in the field. With its powerful integrated battery, Wavetalk offers worry-free operation for several years, helping to keep field maintenance costs down over time.

- Ready-to-use module in IP68 casing
- More than 10 years [3] autonomy
- Supports Wavenis synchronous or asynchronous networks

The key to the network backbone

Wavetalk range extenders are used in wireless network scenarios of all sizes to bridge the gap between distant Wavenis products. These modules offer full 2-way communications as a key part of large-scale Wavenis wireless networks. Connected to an Ethernet or cellular gateway, which serves as the root device in a given network, they provide the wireless backbone for end-points that would otherwise be beyond the wireless range of the gateway.

Before deployment, a site survey is carried out in order to define the best locations for installing Wavetalk modules. Once the range extenders are activated, field technicians simply add Wavenis end-points to the network using mobile software tools. Range extenders offer automated self-configuration and self-routing[1] in order to build up the network quickly.

Use Wavetalk to create a robust Wavenis wireless backbone

Product Specifications

- Exists in 25mW and 25/500mW versions
- Complex-Wakeup enabled (save battery life in dense network and fast reading)
- Supports 25mW and 500mW communication modes, with automatic switching
- Supports fixed networks using Wavenis synchronous or asynchronous modes

Wavenis Properties Overview

- Operates in license-free ISM 433, 866, 868, or 915MHz
- EN300-220 / FCC15.247 certified & compliant
- Typical rate:
  - 9.6kbps (433, 866 & 868MHz)
  - 19.2kbps (915MHz)
  - more on demand
- Frequency Hopping Spread Spectrum (FHSS)
- GFSK modulation
- Single channel operation for narrowband applications (alarms)
- Data interleaving, Forward Error Correction BCH (31,21)
- Automatic Frequency Control (AFC) for optimal performances over operating lifetime
- Quality of Service management (RSSI) and output power control
- Point-to-Point, Point-to-Multipoint (broadcast, polling) modes, and native repeater (up to 3 hops)
- Tree and star network topologies
- Designed for reliability, power savings, network coexistence
- Access hard-to-reach devices with link budget of 124dBm (25mW)
  - Line-of-sight range up to 1km (25mW/+14dBm and 10mW/+10dBm)
  - Line-of-sight range up to 4km (500mW / +27dBm)
  - Sensitivity: -110dBm @ 9.6kbps

General features

- Ideal for fixed network Smart Metering and M2M applications
- 500mW (868/915MHz), 25mW (433/868/915MHz) and AC/DC (868MHz) versions
- IP68 plastic casing ready-to-use, or OEM version
- Smart wake-up mechanism to avoid unnecessary communications
- Battery life up to 10 years[3]
- Up to 25 "child" nodes in synchronous mode; up to 50 in asynchronous mode[2]
- Cascade up to 3 range extenders for up to 12km total range
- Transmit alerts in case of low battery detection[1]
- Designed for large-scale wireless sensor networks where long range and ultra-low power consumption are critical
- Transfers data wirelessly between end-points and a Wavenis / Ethernet / Cellular gateway
- 2-way communications to relay data transmission, automatic alerts [1] and on-demand reading

Physical description

- Operating temperature range: -20° to +70°C
- For 25mW version:
  - Battery size (for finished product): 3.6V 3.6Ah
  - Dimensions and weight:
    - OEM (without battery): 65 x 23 x 14mm ; 10g
    - Ready-to-use: 98 x 47 x 35mm; 140g
- For 25/500mW version:
  - Battery size (for finished product): 3.6V 13Ah
  - Dimensions and weight:
    - OEM: 86 x 36 x 5mm ; 10g
    - Ready-to-use: 127 x 54 x 49mm; 350g

Product Codes

	OEM		Finished Product	
	10mW	25/500mW	25mW	25/500mW
433MHz	WTA433-OEM-10-A			
868MHz			WTA868-FP-25	WTA868-FP-500
915MHz			WTA915-FP-25	WTA915-FP-500

(1) In Wavenis synchronous mode networks only.
(2) Depending on environment and transmission frequency
(3) Depending on the number of connected end-points and the frequency of wireless access.

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