Wavenis
Ultra Low Power, Long Range
WSN Solutions

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Overview

- Company Profile
- WSN – It’s Real & Different Than You Imagined
- Technology Description
- Network & Product Overview
- Markets & Applications

Company Profile

- Coronis created in 2000 (HQ in Montpellier / France)
- Coronis offices in Chicago and Shanghai
- 50 people
- Partners and Distributors in 22 countries
- Products in over 30 countries
- Profitable
WSN ARE REAL

- 1 Million modules deployed
- 500,000 on order
- Working 25,000 to 50,000 point networks
- Telemetry
- Active RFID

Wavenis

Technology Description
Why Coronis started from scratch

- **Find the best trade-off between**
  - Ultra low-power, long range, WAN openness, low cost
- **Analysis of existing standards: no solution ...**
  - Bluetooth: range too short (10m)
  - ZigBee: range too short (20m) DSSS and consumption too high
  - WiFi: consumption too high

- **Our conclusion**
  - Design a proprietary solution with Bluetooth extension capabilities with ULP & long range features

Technology Highlights

- **Long battery life** (up to 15 years on primary battery)
- **Long range** (200m indoor – 5km LOS)
- **Rx & Tx modes** (200 msec to 12 seconds)
- **Radio listen mode** (500 usec)
- **Reliable transmissions** (FHSS, FEC, data interleaving)
- **Peer to Peer** (Two modules can communicate directly without a gateway)
Devices before network configuration

Network after configuration
Wavenis network management algorithms

Flexible operating modes
- PPP, broadcast, repeater
- Star, tree & mesh networks

ULP wireless network features
- Optimum wireless traffic
- Self-organizing
- Self-healing
- Easy network maintenance

Wavenis-based OEM wireless solutions

Product portfolio overview
Served ultra-low-power markets

Wavenis-based products
Wavenis-based products – Con’d
Wavenis-based WSN – Con’d

Wavenis OEM infrastructure
for large scale fixed WSN

- **Wavenis range extender**
  - Wavetalk (battery powered)
    - 1km (0.6 miles) @ 25mW
    - 5km (3.0 miles) @ 500mW
Wavenis OEM access-points for fixed WSN monitoring

- **Wavenis LAN modem**
  - Waveport (USB, RS232)
- **Cellular/Wavenis gateway**
  - Wavecell (up to x3,000 sensors)
- **Wavenis mini-concentrator**
  - Wavehub (up to x100 sensors, fast Walk-by)

Wavenis OEM Access-Points for mobile network monitoring

- **Wavenis compact flash**
  - Wavenis CF: for PDA, Tablet PC, Portable Devices
- **Wavenis modem**
  - Waveport: for integration in Handheld Computer
Active RFID

Features

- Range up to 300 feet
- Tags different modes
- 2-way communication
- Wireless readers
- Battery powered readers - mesh
- Cellular readers
- PDA enabled readers
Markets

- Transportation
- Cold Chain Management
- Health Care
- Vehicle Distribution
- Manufacturing
- Industrial
- Defense

Deployments

- Container tracking
- Vehicle Distribution
- Waste Management
- Cold Chain Management
- Students on Buses
- Prisoners
Custom Design Services

- Footprint optimization
- Custom antenna design
- Fast turnaround
- Cost-effective integration
- Wavenis stack porting
- Test bench for industrialization

Few of our Clients