

## Wireless Repeater Module for RF Sensors Network

GTalk is 25mW/500mW autonomous wireless repeater designed to extend the operating range of the GTelemetry RF Sensors network.

It is based on GT&T Ultra-Low-Power technology offering a battery life of up to several years with zero or minimal installation work.

This module provides a long range radio repeater function between devices (GTherm, GSense, etc.) in a secondary network and a central data collection point which can monitor several secondary networks.



### BENEFITS

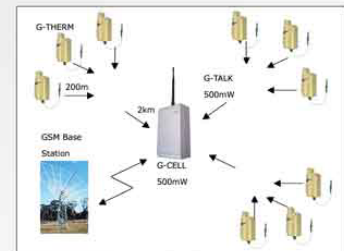
GTalk is a simple drop-and-deploy wireless network extender. When used with GSM/gateway GCell, it dramatically reduces the number of concentrators required in a fixed network. Since there are less base stations to install and maintain, the overall cost of the wireless network is substantially reduced.

GTalk's construct also allows it to be rapidly deployed in hostile environment with minimal installation tasks. Its small form factor and battery-driven autonomy also allows it to be repositioned for optimal network coverage.

### WIRELESS & NETWORK FUNCTIONS

The GTalk module is incorporated in a fixed-location remote monitoring ULP wireless network (see diagram below). It acts as the repeater element between other GTelemetry endpoint modules such as GFlow, GTherm, GSense... and central data collection devices such as the GCell GSM 500mW concentrator.

This module is designed to offer an optimum technical and economic solution for a fixed data collection network setup. Thanks to its 500mW emitter, GTalk Long Range is able to transmit data over distances of up to several kilometers thus reducing the number of GSM concentrators required in a fixed network.



A typical G-TELEMETRY network providing local and terrestrial coverage

### TECHNICAL CHARACTERISTICS

- Autonomous lithium battery
  - 3.3 A.h (size A) for the 25mW version
  - 7.6 A.h (size C) with Supercap for the 500mW Long Range version
- Radio transmission range
  - 25mW output: up to 1km LOS
  - 500mW output: up to 4km LOS
- ISM band 868MHz-915MHz
  - 868-25mW band: fixed (alarm band) or frequency hopping (FHSS) on 16 channels @ 9.6 kbps
  - 868-500mW band: fixed frequency (selection out of 3 channels) @ 32 kbps
  - 915MHz band: Spread spectrum frequency hopping (FHSS) @ 9.6kbps
- Digital frequency modulation (GFSK)
- Receiver sensitivity: -110dBm (1% Frame Error Rate @ 9.6kbps)
- Dual-level transmission with automatic switching:
  - 25mW band: +12dBm
  - 500mW band: +27dBm
- Compliance:
  - ETS 300-220
  - FCC 15-247
  - RTE 99/5/EC Directive
  - Electrical safety: EN60 950
  - EMC: EN 301-489, EN 300-683

### FUNCTIONAL FEATURES

- Use of the secure GT&T ULP communication protocol
- Operating autonomy of 7 to 15 years depending on operating conditions
- Resistant to RF interference—sophisticated FHSS, data interleaving, BCH(31,21) mechanisms
- Tree, star, and mesh network topologies
- Programmable polling frequency to optimize radio traffic
- Multi-modes for auto-control of repeats:
  - 25mW-25mW, 25mW-500mW
  - 500mW-25mW, 500mW-500mW
- Enables extension of Bluetooth

### ENVIRONMENTAL AND MECHANICAL CHARACTERISTICS

- Operating temperature: [-20°C; +70°C]
- Protection class IP 65 or IP68
- Dimension (H x L x W): 11x5x3cm
- Weight: 150 to 200g