GCard™

Ultra Low Power Radio Transceivers

Now you can integrate GT&T's ULP long range wireless functionalities into your products with a minimum effort and investment, and enjoy the advantages of ultra low power consumption, long range and flexible wireless networking features that GTelemetry offers.

GCard is a fully featured ULP RF transceiver. It offers a ready-to-use protocol stack which allows you to easily integrate GCard into your products. GCard can be simply used as a modem of your software applications via the hardware controller interface (HCI), or you can choose to use GT&T's Software Development Kit to port your own embedded applications to GCard's processor, which offers on-board storage space.

- Wireless communications for battery-powered products with extremely tight power consumption constraints
- Ad hoc mesh networking for sensor network applications, smart objects, home automation, alarms and security, metering, and more
- Active X, DLL interface for Windows and Windows Mobile platforms
- Serial bus connection to your existing platform
- Perfect for prototyping, pre-series design, and OEM products

GCard is your ideal RF solution. Try out the fully functional GCard evaluation kit today and see how it helps you with its most advanced wireless capabilities!

GENERAL FEATURES

- GTelemetry transceiver with protocol stack in onboard CPU (works like a modem)
- 25mW class for ultra low power
- 500mW class for very long-range
- 50 ohm RF port for antenna connection
- Extreme power efficiency: 10µA average operating current with 1s access time
- Modem operation: RS-232 and I²C to connect with your micro-controller platform
- Embedded operation
  - Up to 16 kB available to merge application code with GTelemery stack in EEPROM
  - Up to 512 bytes RAM for parameters
  - Use RS-232 for external connections
- Power Supply
  - Embedded linear regulator
  - I_peak_RX: 15mA typical (full run)
  - I_peak_TX_25mW: 45mA
  - I_peak_TX_500mW: 450mA
  - I_sby = 1µA typical
- Operating temperature: [-20°C; +70°C]
  Storage temperature: [-40°C; +85°C]
- Dimensions (HxLxD)
  - 25mW: 30 x 28 x 7 mm
  - 500mW: 37 x 30 x 7 mm

RF FEATURES

- License-free ISM Bands: 433/868/ 915 MHz
- Certification: ETS300-220 / FCC15.247
- 4.8 – 100 kbps throughput (typical usage around 10 kbps)
- Designed for reliability, power savings, network coexistence
- Frequency Hopping Spread Spectrum (FHSS)
- Single channel operation for narrowband applications (alarms)
- GFSK modulation
- Data interleaving, Forward Error Correction BCH (31,21)
- Quality of Service management (RSSI) and output power control
- Automatic Frequency Control (AFC) for optimal performance over operating lifetime
- Automatic sensitivity threshold management for increased power savings
- Accesses hard-to-reach devices with link budget of 125 dB (25mW) or more
  - Line-of-sight range up to 1 km (25mW)
  - Line-of-sight range up to 4 km (500mW)
  - Up to +15 dBm & +27dBm output power
  - Sensitivity: -110 dBm @ 9.6 kbps Frame Error rate: 0.1% with GTelemetry protocol

GTELEMETRY PROTOCOL STACK

- Point-to-Point, Point-to-Multipoint (broadcast, polling), and repeater modes
- Tree, star, and mesh network topologies
- Self-configuration and dynamic routing algorithm optimized for ULP networks
- Programmable access time: standby- receive duty cycle in operating mode 10ms <1s (typical value) <10s
- Relaxed synchronization schemes
- Complete Wavenis API Host Controller Interface (HCI)
- Active X drivers: Win32, and WinCE.net Windows; Wavenis DLL for Win32

OTHER GTELEMETRY TECHNOLOGY LICENSING OPTIONS

- GTelemetry cost effective OEM RF boards
- Evaluation kit

For more details regarding product, training and support, please contact the GT&T regional office the closest to you or email to info@gtteng.com.

Choose the options that best match your technical requirements

Channel Bandwith	25kHz	50 kHz	50-300 kHz
Data Rate	4.8 kbps	9.6 or 19.2 kbps	19.2 - 100 kbps
FHSS or mono-channel	Mono (x1 channel)	FHSS (x16 channels)	Mono (ETS) FHSS (FCC)
Line Of Sight	1km	1km	300m (25mW) 4km (500mW)