

Wirnet™ iBTS

LoRaWAN® Outdoor Gateway for the Internet of Things

Standard Version



The “Wirnet™ iBTS” is the ideal gateway to support you in your smart city, smart building or every smart project as it combines both an excellent Outdoor coverage (more than 15km in direct line-of-sight and 2km in urban environment) and operational excellence.



Smart Cities



Smart Building



Smart Metering



Smart Agriculture & Environment

Compact Version

Key Features

- **Outdoor** LoRa® Gateway,
- Ingress protection (IP66),
- Supported unlicensed bands : 863-874.4MHz (EMEA, India), 902-928MHz (North America), 915-928MHz (APAC, Latin America),
- Supported LoRaWAN® regional parameters: EU863-870, IN865-867, RU864-870, US902-928, AU915-928, AS923, KR920-923,
- **Modular configurations:**
 - from 16 channels (1 x LoRa RF modem) to 80 channels (4 x LoRa RF modem),
 - Single omnidirectional antenna, spatial diversity, dual polarization, tri-sectorization,
 - Possibility to support multiple unlicensed bands in a single gateway,
- Backhaul connectivity: Cellular 2G/3G/4G evolutive to 5G (mini-PCIe module), Ethernet 10/100 Mbps (RJ45),
- **Geolocation ready:** Using the fine timestamps on ALL the channels for improved geolocation services thanks to FPGA. Fully compliant with Semtech reference design v2. No proprietary locked solution; **Synchronization with GPS, combines RSSI and TDOA measurements.**

Key Differentiators

High performance, reliability & future-proof

- Semtech Reference Design v2,
- Built-in high rejection filters,
- LoRa_E Ready: Evolutive design using modem SDR (Software Design Radio) architecture.

Secure HW and SW architectures

- SecureBoot (Signed firmware),
- SecureStorage (keys and certificates in secured area) using ProvenCore™ solution,
- Secured links and backhaul protection (OpenVPN/IPsec),
- Reboot (watchdog) and recovery on previous Management config (or factory config if the boot issue is not fixed).

All product specifications are subject to change without notice

Zoom on “iBTS Standard” Version

- **Modular configuration:**
 - 1 x UC module,
 - **Select up to 2** x WAN modules (optional),
 - **Select up to 4** x LoRa® RF modem modules (16 channels each), Each LoRa RF modem allows 16ch RX (125 kHz, multi Spreading Factor) + 2ch RX (250kHz or 500kHz, mono Spreading Factor) + 2ch FSK + 2ch TX (without antenna diversity) to get up to 80 ch RX (with 4 x LoRa RF modem),
- Size: 295 x 317 x 125 mm (including mounting kit),
- Weight:
 - About 6,2Kg (including mounting kit) with 1 x LoRa RF modem,
 - About 7,2Kg (including mounting kit) with 3 x LoRa RF modems.

Zoom on “iBTS Compact” Version

- **Compact configuration:**
 - 1 x UC module,
 - 1 x WAN module (**optional**),
 - 1 x LoRa® RF modem module (16 channels),
- **Size:** 357 x 189 x 150 mm (including mounting kit),
- **Weight:** about 3Kg (including mounting kit).

Technical Features

- Sniffer for LBT (Listen Before Talk),
- Rx Sensitivity: -141 dBm (SF12),
- TX Power: configurable from 5dBm to 30dBm,
- Range -40°C +60°C, (for gateway only, without power supply),
- Humidity: 5% to 95%,
- Out-band radio scanners to monitor the entire band to detect real load of the band (Spectrum analysis compliant),
- Backup batteries to allow the clean shut down of applications in case of power cut,
- Power:
 - Power Over Ethernet **30W** for **Compact** version (accessory),
 - Power Over Ethernet **60W** for **Standard** version (accessory),
 - Power Over Ethernet 48V DC class 4 (accessory),
 - DC power supply (ex : solar panel use) : 11 to 56V DC (accessory),
 - Power control : ignition detection, software OFF switching, ON/OFF button.

Software Features

- **Same FW than Wirnet™ iStation and iFemtoCell:** same User eXperience, quicker integration,
- **Dynamic web interface (On-the fly modifications),**
- **Programmable Gateway:** Toolchain, libraries and header files for compilation of homemade applications, or extra packages additions,
- **Including:**
 - Operating System: KerOS with embedded GNU/Linux based on Yocto 2.4 and LTS kernel 4.14,
 - Native Language Support: Python2, C/C++ and Shell,
 - Included packages: SQLite (Database), Connman/Ofono, NTPd, lighttpd.

Value-added Services

- **Free access to Kerlink Wiki for customers,**
- Plug & Play installation (option),
- Wirnet™ iBTS is part of the end-to-end LoRa® connectivity solution with Kerlink Wanesty™ Management Center, remote monitoring and Operations Management suite (option),
- Maintenance Services (option),
- **Kerlink Project Management:** Kerlink supports you throughout your project by responding to your specific needs through its service offering and network of specialist integrators available worldwide (option).

Thanks to their expertise and experience, Kerlink teams are fully mobilized to help you develop your business and reduce your operational and commercial risks.

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