

## Wirnet iBTS

The Wirnet iBTS IoT gateway is a **robust, performant** and **highly scalable outdoor LoRaWAN gateway** for smart IoT network.



Its **carrier-grade conception** offers powerful embedded processing capabilities, secure design, advanced remote monitoring options, and enhanced radio network configuration, easy to operate even for non-telecom users. Already widely deployed worldwide to power tier one operators' networks, it is available in most global unlicensed frequency bands (like ISM).

The **Wirnet iBTS standard** allows flexible scalability, through modularity and antenna diversity, to simultaneously improve uplink receiver performance (Rx) and increase transmission downlink capacity (Tx).

The **Wirnet iBTS Compact** version will be the perfect match for operators and enterprises looking for a turnkey solution, offering first a light and compact form-factor. It will simplify installation with its built-in mono or dual-WAN backhaul and integrated antennas for GPS receiver and 2G/3G/4G cellular modem.

This LoRaWAN gateway is fully **compatible with LoRa® native sensors geolocation** and can be **remotely monitored and managed** with Kerlink network operations solutions, the Wanesy Management Center.



*LoRaWAN IoT network deployment by Raycap, using Kerlink Wirnet Station gateway*

*Photo credit- Raycap©*

## Wirnet iBTS in your IoT Network



Connected end-device



LoRa® Radio Network



Wimnet iBTS LoRaWAN Gateway



Core Network Operations Support System



Customer Application Server

## Embedded Base Station Controller and Radio Network Controller, for remote operations

### Strengths

- **Carrier grade, robust, modular and scalable** outdoor LoRaWAN Gateway
- **Low Power consumption and Wide Area coverage** (15+km in semi-urban area and 2km in urban area)
- **High capacity and reliability**, for **bidirectional communications** handling high volumes of end-points and messages.
- **Light infrastructure, easy to install, fast to configure and flexible to upgrade.**
- **High interferences-resistance** for better data transmission and permanent **high availability.**
- **Fully compatible** with network-based **LoRa® native geolocation** solutions

### Technical features

#### CPU & Memory:

- Powerful ARM processor with hardware watchdog and optimized power consumption management
- DDRAM 256 MB / 8 GB eMMC

#### Operating System:

- LoRa® Packet Forwarder, Linux OS, embedded base station controller (Wanasy Management Center remote management)
- Software packages and development tools included

#### Networking:

- Firewalling, routing, networking and tunneling features

#### Security:

- Secure boot, trust zone, firewall, software auto-recovery and secure firmware remote upgrade.

#### GPS:

- Integrated high sensitivity GNSS module
- Ready for GPS, GLONASS, BeiDou, QZSS and Galileo

#### Mechanical:

##### Standard casing:

- Robust and waterproof aluminium casing, only 6 kg for basic version (including mounting kit), with full array of connectors.

##### Compact casing:

- Robust and waterproof polycarbonate enclosure, only 3 kg (including mounting kit), with minimum set of connectors requested.

#### Power:

- PowerOverEthernet supply, DC power supply (for solar panel use for example)
- Power control and alerting, with remote monitoring and management using Wanasy Management Center
- Back-up battery

#### Communication:

- *Standard casing:* from 1 LoRa® RF modem (16 channels) up to 4 LoRa® RF modems (64 channels)
- *Compact casing:* 1 LoRa® RF module (16 channels)
- Bidirectional communications, range of 15+ km in sub-urban areas, and of 2 km in urban areas.
- Supported ISM bands: EU 863-870 MHz, India 865-867 MHz, US 902-928 MHz FCC, AUS 915-928 MHz, and AS 923 MHz
- Backhaul connectivity over GPRS/EDGE/HSDPA/UMTS/LTE (Europe, APAC, Americas bands – mono or dual WAN), Ethernet.

#### Environment and sensors:

- Large operating range, high humidity tolerance
- Certified for Ingress protection / Impact resistance / UV resistance / Flammability rating

- Embedded sensors for remote secure monitoring and management using Wanasy Management Center Base Station Controller.

**Geolocation:**

- Ready for LoRa® geolocation combining RSSI and Time Difference on Arrival (TDoA).
- Available for outdoor and indoor environments
- Compatible with Wanasy Geolocation

**Remote management:**

- Remote alarm notification, firmware upgrade, file transfer, configuration, radio monitoring and statistics (Wanasy Management Center)

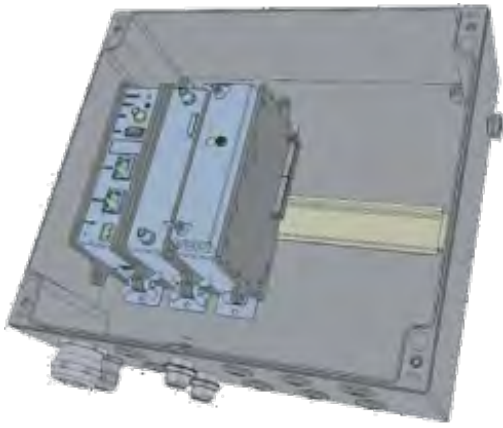
**Certification:**

- EU / FCC / IC / ETSI certified.

**Compatible accessories:**

- LoRa Antennas
- GNSS and WAN antenna
- Antennas mounting kit
- Surge protections
- Cavity filters

## Exemples de configurations



Configuration Data Only (or Loc) Omnidirectional :

- 1 UC board, on the left;
- 1 WAN board, on the middle;
- 1 LoRa modem module with 1 input for antenna (thus to be used with 16 channels), on the right.

## Use cases



Smart Cities



Smart  
Agricultures &  
Environment



Smart  
Transportation &  
Logistics



Smart Industries



Smart  
Building & Facilities

  
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