

Wirnet™ iFemtoCell-evolution

LoRaWAN® Indoor Gateway for the Internet of Things



The “Wirnet™ iFemtoCell-evolution” is the ideal gateway to support your smart city, smart building or every smart project that requests dedicated indoor coverage and/or network densification, providing both a unique superior coverage and operational excellence with an internal 3G/4G backhaul.



Smart Energy



Smart Cities



Smart Agriculture
& Environment



Smart Building
& Facilities

In France, Kerlink is certified ISO9001: 2015 by AFNOR certification. The Quality Management System gives high priority to Customer satisfaction and progress implementation.



Key Features

- Indoor LoRa® Gateway,
- Lifetime Guarantee,
- Ingress protection (IP30),
- 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,
- 8ch RX (125 kHz, multi Spreading Factor) + 1ch RX (250KHz or 500kHz, mono Spreading Factor) + 1ch RX (FSK) to get 10ch RX + 1ch TX,
- Backhaul connectivity: 4G Worldwide module with 3G/2G fallback and Ethernet (RJ45)
- Powered by:
 - AC/DC power supply (90-264VAC/12VDC) with 5.5x2.5mm plug
 - 5V DC supply via USB-C
 - Uninterrupted power supply with 5h or 24h autonomy (accessories)
- Highly secured device relying on a Trustzone firmware

Key Differentiators

High performance, reliability & robustness

- Our product is **made in France**,
- Semtech Reference Design v1.5 components,
- Integrated LTE antenna,
- Built-in high rejection filters,

Secure HW and SW architecture

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

All product specifications are subject to change without notice (V3.3)

Easy deployment

- Easy installation: Wall mounting by 2 oblong holes or lay on a table (4 domes),
- Easy access to connectivity:
 - Ethernet 10/100 Mbps (RJ45),
 - USIM card (mini-SIM format)
 - 3 programmable LEDs,
 - 1 LED (green/red) for Power status,
 - 1 LED (green/red) for Backhaul status,
 - 1 LED (green/red) for LoRa® RF activity Rx/Tx,
- USB (Type A) connector for configuration,
- USB (Type C) connector for debug probe, for configuration and Power (5V DC)
- SMA or RP-SMA for LoRa® antenna,
- On/Off button,
- Remotely configurable, manageable, via intuitive Web GUI,

Technical Features

- Sniffer for LBT (Listen Before Talk),
- Rx Sensitivity: -140 dBm (SF12),
- TX conducted Power: configurable from 5dBm to 24dBm,
- Maximum TX EIRP: 27 dBm,
- LoRa® swivel antenna, 3 dBi peak gain
- Range -20°C +55°C, (for gateway only, without power supply),
- Humidity: 5% to 95%,
- Size: 160 x 90 x 35 mm,
- Weight: 163g (Gateway only); 372g (with packing),
- Spectrum analysis,
- Casing: IP30,
- CPU: ARM Cortex A9,
- DDRAM 256MB,
- 8GB eMMC (6GB available for user).

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

Don't hesitate to contact us.

Software Features

- **Same Kerlink software on all i-Series (for infrastructure homogeneity and easy maintenance)**
- **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 LTS (Long Term support) and Kernel LTS
 - Native Language Support: Python 3, C/C++ and Shell,
 - Kerlink Common Packet Forwarder (Semtech Packet Forwarder, GWMP), Basic Station

Added-Value Services for all gateways

- **Access to Kerlink Wiki**

The Kerlink Wiki gives you full access to comprehensive and up-to-date documentation about the delivered solution: installation and setup instructions, configuration steps, connectivity options, etc.

The content of the wiki at the time of ordering is **the reference** and prevails in case of discrepancy.

Consult it before buying to ensure the solution fits your needs: [Click here](#)

- **Zero Touch Provisioning (ZTP) and Zero Touch Maintenance (ZTM)**
- Access to embedded Chirpstack LNS

Available Options

Maintain Program

For customers aiming to enhance their IoT network based on Kerlink gateways.

Including:

- Unlimited level 2/3 support
- Team of dedicated experts
- Response within 8 working hours
- Clear history and tracking
- Personalized support
- Access to our Waner Management Cockpit
 - Real-time overview of your gateway's health
 - Precise monitoring of your network's performance

Operate offer

For customers focused on their core business.

Including:

- Maintain Program
- Kerlink commitment on data air availability (SLAs)
- Network Operating Center with dedicated experts monitoring your network
- Pro-active and preventive maintenance
- Monthly reports about health of network (and recommendations)
- Dedicated Account manager

For more informations about our Maintain Program or our Operate offer, contact us: sales@kerlink.com



Certifications

| 868 | 915 | 923 |
|--|---|--|
| <ul style="list-style-type: none"> • Europe • Turkey | <ul style="list-style-type: none"> • USA • Canada | <ul style="list-style-type: none"> • Australia • New-Zealand • Singapore • Japan |

(For any specific need, please contact us)

Wirnet™ iFemtoCell-evolution - Ordering references

Product Ordering References

| Reference | Designation | Description | ISM Frequencies |
|--------------|-------------------------------------|----------------------------------|-----------------|
| PDTIOT-IFE03 | Wirnet iFemtoCell-evolution 868 MHz | 2G/3G/4G backhaul + ETH backhaul | 863-874.4MHz |
| PDTIOT-IFE04 | Wirnet iFemtoCell-evolution 915 MHz | 2G/3G/4G backhaul + ETH backhaul | 902-928MHz |
| PDTIOT-IFE05 | Wirnet iFemtoCell-evolution 923 MHz | 2G/3G/4G backhaul + ETH backhaul | 915-928MHz |

868 Accessory Ordering References (Wirnet™ iFemtoCell-evolution)

DEBUG

| | | |
|--------------|-------------|-----------------------|
| ACCIOT-SDE01 | Debug Probe | Universal Debug Probe |
|--------------|-------------|-----------------------|

SPARES

| | | |
|----------|---|--|
| KLK02843 | Indoor 868 antenna – 2dBi – SMA | Spare |
| KLK03503 | Interchangeable blades AC-DC power supply | 12V / 6W interchangeable input blades, wall plug adapter |

915 Accessory Ordering References (Wirnet™ iFemtoCell-evolution)

DEBUG

| | | |
|--------------|-------------|-----------------------|
| ACCIOT-SDE01 | Debug Probe | Universal Debug Probe |
|--------------|-------------|-----------------------|

SPARES

| | | |
|----------|---|--|
| KLK02887 | Indoor 915-923 antenna – 2dBi – SMA | Spare |
| KLK03503 | Interchangeable blades AC-DC power supply | 12V / 6W interchangeable input blades, wall plug adapter |

923 Accessory Ordering References (Wirnet™ iFemtoCell-evolution)

DEBUG

| | | |
|--------------|-------------|-----------------------|
| ACCIOT-SDE01 | Debug Probe | Universal Debug Probe |
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