

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

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,
- 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

- 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 ProvenCore™ 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 (V3.0)

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,
- Simple and convenient configuration, management, control and update via the Kerlink Wanesy™ Management Center (Alarm notifications, Firmware upgrade, platform statistics, RF statistics, RF spectrum analyzer...)
- 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).

Added-Value Services for all gateways

- Lifetime Guarantee
- Access to Kerlink Wiki
- Zero Touch Provisioning (ZTP) and Zero Touch Maintenance (ZTM)
- Access to embedded Chirpstack LNS

More options :

- Maintain offer : Priority support, Access to Wanesy Management Cockpit including inventory, Software packages management, remote reboot, alerting features
- Operate offer : SLAs, Network Operating Center, Pro-Active and preventive maintenance, Reports and recommendations for network optimization

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:

All product specifications are subject to change without notice (V3.0)

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 3.1 (dunfell) LTS and Kernel 5.4 LTS
 - Native Language Support: Python 3.8, C/C++ and Shell,
 - Included packages: SQLite (Database), Connman/Ofono, NTPd, lighttpd.



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 |
|--------------|-------------|-----------------------|

SPARES

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