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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,**
- **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 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).

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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).

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

- 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 Maganement 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:

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Available from
CONCEPT 13
www.concept13.co.uk
(The LoRaWAN Experts)

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LoRaWAN® Indoor Gateway for the Internet of Things

Certifications

868	915	923
• Europe • Turkey	• USA • Canada	• 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