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.

afaq ISO 9001 Qualité AFNOR CERTIFICATION

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 hardware secure core.**

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 (V2.3)

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,
• 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,
• Remote access via SSH

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 Software as Wirnet™ iBTS and iStation:** 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™ iFemtoCell-evolution is part of the end-to-end LoRa® connectivity solution with Kerlink Wanesy™ Management Center, remote monitoring and Operations Management suite (option),
• Wanesy™ SPN2 for Small Private Network, embedding a LoRa Network Server on the Gateway (option),
• Maintenance Services (option),
• **Kerlink Project Management:** a comprehensive service offering and a global network of specialist integrators to support your entire project.

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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160 mm

90 mm

35 mm

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

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868 Accessory Ordering References (Wirnet™ iFemtoCell-evolution)

Plug Cigarette Lighter		Description	Recommendation
KLK03371	Plug Cigarette Lighter		

UPS (Uninterruptible Power Supply)			
KLK03374	Nano UPS 5V-12V 6Ah		
ACCIOT-UPS00	Mini UPS 12V 7Ah	40W - DC/DC CONVERTER - 48VDC Input	

DEBUG			
ACCIOT-SDE01	Debug Probe	Universal Debug Probe	

915 Accessory Ordering References (Wirnet™ iFemtoCell-evolution)

DEBUG			
ACCIOT-SDE01	Debug Probe	Universal Debug Probe	

923 Accessory Ordering References (Wirnet™ iFemtoCell-evolution)

DEBUG			
ACCIOT-SDE01	Debug Probe	Universal Debug Probe	