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Wirnet™ iFemtoCell
LoRaWAN® Indoor Gateway for the Internet of Things

The "Wirnet™ iFemtoCell" 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.

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: Wi-Fi 2.4GHz and Ethernet (RJ45)
- Powered by:
- Power supply (230VAC/12VDC) with provided jack connector 2.5mm/5.5mm,
- Uninterrupted power supply with 24h autonomy (accessory),
- **Highly secured device relying on a Trustzone firmware**

Key Differentiators

High performance, reliability & robustness
- Semtech Reference Design v1.5 components,
- Integrated Wi-Fi antenna,
- Built-in with high rejection filters.

Security HW and SW architecture
- SecureBoot (Signed firmware) Option,
- 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).

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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),
— WPS push button,
— 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,
• SMA or RP-SMA for LoRa® antenna,
• Reset 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: -141 dBm (SF12),
• TX Conducted Power: configurable from 5dBm to 27dBm, 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 compliant,
• 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 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.

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

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160 mm

90 mm

35 mm

Certifications

868	915	923
• Europe • Turkey • India	• USA • Canada	• Australia • New-Zealand • Singapore • Argentina • Brazil • Taiwan • South Korea • Japan • Hong-Kong • Malaysia • Indonesia • Vietnam • Thaïland • Philippines

(For any specific need, please contact us)

Wirnet™ iFemtoCell - Ordering references

Product Ordering References

Reference	Designation	Description	ISM Frequencies
PDTIOT-IFE00	Wirnet iFemtocell 868 MHz	8CH LoRa, Indoor, Wifi backhaul + ETH backhaul	863-874.4MHz
PDTIOT-IFE01	Wirnet iFemtocell 915 MHz	8CH LoRa, Indoor, Wifi backhaul + ETH backhaul	902-928MHz
PDTIOT-IFE02	Wirnet iFemtocell 923 MHz	8CH LoRa, Indoor, Wifi backhaul + ETH backhaul	915-928MHz

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

868 Accessory Ordering References (Wirnet™ iFemtoCell)

DEBUG

ACCIOT-SDE00	Debug Probe	DEBUG PROBE / WIRNET STATION (KLK-C0218)

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)

DEBUG

ACCIOT-SDE00	Debug Probe	DEBUG PROBE / WIRNET STATION (KLK-C0218)

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)

DEBUG

ACCIOT-SDE00	Debug Probe	DEBUG PROBE / WIRNET STATION (KLK-C0218)

SPARES

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