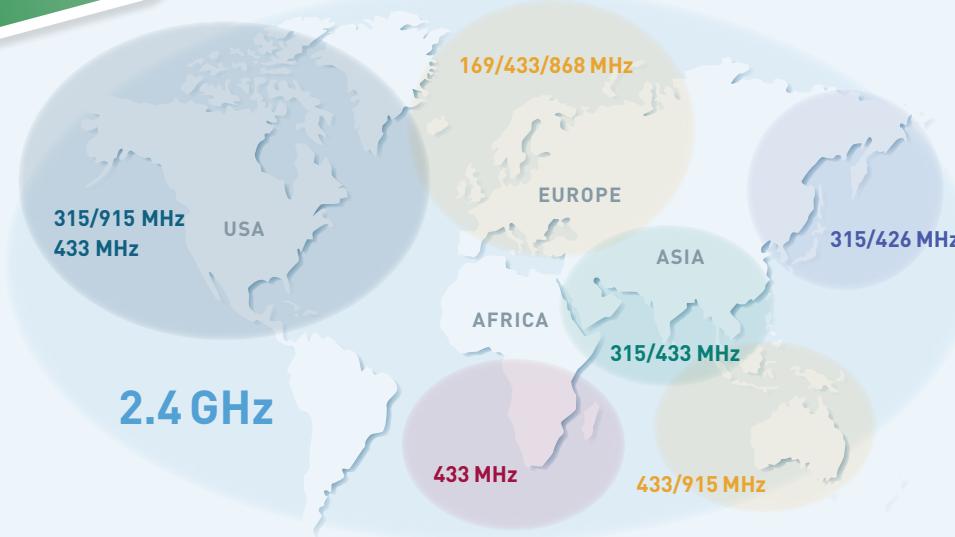



 NEW!

Short Range Products



The product line is based on family concepts: **TinyOne®**, **ME**, **LE** and **ZigBee®**

TinyOne® family, consisting of TinyOne® Lite, TinyOne® Plus and TinyOne® Pro products pin-to-pin compatible dedicated to wireless applications operating in the ISM band (868 and 915 GHz), thus providing efficient power consumption management, low-data rates, and long distance.

TinyOne® Lite, TinyOne® Plus and TinyOne® Pro are delivered with proprietary Star Network Stack and proprietary Low Power Mesh Stack. Telit's stack is fully configurable and upgradeable over-the-air from point-to-point communication to a star communication with listen before talk and allows mesh networking with efficient power consumption management. The efficient power management process enables multi-year battery powered operation, simple installation, and auto association including self healing and auto-repair functionalities as well as mobility functions.

ME Family is the latest generation of Wireless M-Bus products compliant with EN13757 part 4 and part 5 Wireless M-Bus standard optimized for one- or two-way data exchange with gas, water, heat and electricity meters and concentrators.

LE Family is the best solution for ultra low power and low latency time applications that require point-to-point or multipoint (broadcast) network communication operating in ISM band (868MHz and 433MHz). Simple plug and play protocol Star Network Stack for RF communication is ideal to replace applications with communication over cable.

NE Family is based on Telit proprietary protocol Low Power Mesh concept with the cluster-tree network structure

ZigBee® ZE family offers an extremely compact form factor with complete pin-to-pin alignment. The family consists of low-power digital radios based on the IEEE 802.15.4 standard at 2.4 GHz for wireless networks and uses a standard communication protocol dedicated to a range of markets and applications such as home automation and control, building automation, advanced metering, and telecom applications.

The ZigBee® ZE family OEM modules are based on the same concept while providing a small SMD component for optimized integration ranging from 1mW up to 100mW. The modules are offered with or without an embedded antenna and are available with the proven world-class in-house ZigBee® PRO stack.

Moreover ME, LE, NE and ZE family are fully pin-to-pin compatible.

Telit designs wireless data transmission solutions for machine-to-machine applications.

Telit's product portfolio offers a wide range of innovative and reliable RF solutions ranging from ready-to-use wireless radio modems to OEM RF modules and RF design services.

Solutions from Telit operate in the license-free worldwide ISM frequency bands of 433 MHz, 868 MHz, 915 MHz, and 2.4 GHz and are available in both standardized and proprietary low-power, low-data rate RF technologies for the m2m/industrial markets.

The long-term experience and extensive expertise in cost-effective state-of-the-art radio solutions allow a significant reduction in TCO (total cost of ownership) and time-to-market. Additionally, having full IP stack ownership and a multi-chip vendor approach ensure continuity of supply and highly reliable products.

433 MHz band

- Frequency: 433.05 – 434.79 MHz
- Application: Europe, Australia, South Africa, Asia
- Standard: ETSI 300-220
- Power: up to 25 mW
- Duty cycle: 10% to 100%
- Family: LE

915 MHz band

- Frequency: 902.00 – 928.00 MHz
- Application: U.S., Canada, Australia
- Standard: FCC 15.247
- Power: 1 W with possibility to have 6dB gain antenna
- Duty cycle: Frequency Hopping Spread Spectrum, 400 ms allowed per channel, hop on 50 channels min
- Families: TinyOne® Pro

868 MHz band

- Frequency: 868.00 – 870.00 MHz
- Application: Europe
- Standard: ETSI 300-220
- Power: 5 to 500 mW (Depending on sub-band)
- Duty cycle: 0.1 to 100% (Depending on sub-band)
- Families:
 - TinyOne® Lite/Plus/Pro
 - PowerOne™
 - ME, LE, NE

2.4 GHz band

- Frequency: 2400 – 2483.5 MHz
- Application: Worldwide
- Standard: IEEE 802.15.4
- Power: 2.5 mW to 100 mW
- Duty cycle: N/A
- Families:
 - ZE51-2.4 / ZE61-2.4 (ZigBee® compliant)

QUALITY

INVESTMENT PROTECTION

BUSINESS SCALABLE

EASE OF INTEGRATION

Telit



Terminal

Short Range to GSM | GPRS Gateways

Terminal

GG863-SR

Gateway



ARM9 ARM9 220 MIPS Embedded

Quad Band GPRS

GPRS Class 10

RoHS Compliant

Linux

Embedded FTP and SMTP Client

Extended Temperature Range

Extended RF Sensitivity

SR to GSM/GPRS Gateways

Embedded TCP/IP Stack

Telit GG863-SR is an all-in-one gateway terminal that brings together the GSM/GPRS and short-range technology, hosting programmable GE863-PRO³ and any of the short-range modules from Telit's wide product offer in a unique cost-saving, fully customized solution. Thanks to the possibility of choosing among different ISM bands (433MHz, 868MHz, 915MHz and 2.4GHz), protocol stacks [ZigBee, Wireless M-Bus or proprietary], network topologies [Star, Mesh, Cluster tree] and coverage [from 70m to 4km], time to market and total cost of the final application are significantly reduced. The behavior of the gateway can be customized through the embedded Linux complete development environment and dedicated libraries for GSM and short range, thus simplifying integration in a final application.

License-Free System for Frequencies <1 GHz

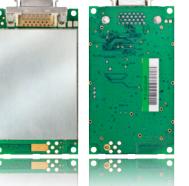
Compact

License-Free System for Frequencies <1 GHz

Compact

PowerOne™ 868 MHz RF modules

9.6 Kbps - 500 mW



ETSI ETSI Compliant

RoHS and WEEE Compliant

Embedded S-One Stack + Mult. Protocol Modes

High Performance for Long-Range Applications

RS232, RS422 and RS485 Serial Interfaces

Mod-, Profi-, JBus and Unitelway Compatible

Deported Analog and Digital I/Os

PowerOne™ OEM RF modules, working in the license-free 868 MHz ISM band are high power radio solutions for long-range applications. Due to high RF performance and the powerful S-One embedded firmware, the modules are perfectly suited for long distance data transmission systems. These RF modules include RS232/RS485/RS422 serial interfaces and are ModBus, ProfiBus, JBus, and Unitelway compatible. The modules can be easily integrated into an application, thus reducing valuable development time and costs for industrial applications, I/O management, GPS data transmission for localization & fleet management, and urban display monitoring.

License-Free System for Frequencies <1 GHz

Terminal

License-Free System for Frequencies <1 GHz

TinyOne® Plus 868 MHz

38.4 Kbps - 25 mW

License-Free System for Frequencies <1 GHz

Terminal

License-Free System for Frequencies <1 GHz

TinyOne® Pro 868 MHz

38.4 Kbps - 500 mW

License-Free System for Frequencies <1 GHz

PowerOne™ 868 MHz

9.6 Kbps - 500 mW

License-Free System for Frequencies <1 GHz

Terminal

License-Free System for Frequencies <1 GHz

TinyOne® Plus 868 MHz

38.4 Kbps - 25 mW

License-Free System for Frequencies <1 GHz

TinyOne® Pro 868 MHz

38.4 Kbps - 500 mW

License-Free System for Frequencies <1 GHz

PowerOne™ 868 MHz

9.6 Kbps - 500 mW

License-Free System for Frequencies <1 GHz

Terminal

License-Free System for Frequencies <1 GHz

TinyOne® Plus 868 MHz

38.4 Kbps - 25 mW

License-Free System for Frequencies <1 GHz

TinyOne® Pro 868 MHz

38.4 Kbps - 500 mW

License-Free System for Frequencies <1 GHz

PowerOne™ 868 MHz

9.6 Kbps - 500 mW

License-Free System for Frequencies <1 GHz

Terminal

License-Free System for Frequencies <1 GHz

TinyOne® Plus 868 MHz

38.4 Kbps - 25 mW

License-Free System for Frequencies <1 GHz

TinyOne® Pro 868 MHz

38.4 Kbps - 500 mW

License-Free System for Frequencies <1 GHz

PowerOne™ 868 MHz

9.6 Kbps - 500 mW

License-Free System for Frequencies <1 GHz

Terminal

License-Free System for Frequencies <1 GHz

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38.4 Kbps - 25 mW

License-Free System for Frequencies <1 GHz

TinyOne® Pro 868 MHz

38.4 Kbps - 500 mW

License-Free System for Frequencies <1 GHz

PowerOne™ 868 MHz

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38.4 Kbps - 500 mW

License-Free System for Frequencies <1 GHz

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9.6 Kbps - 500 mW

License-Free System for Frequencies <1 GHz

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38.4 Kbps - 500 mW

License-Free System for Frequencies <1 GHz

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TinyOne® Pro 868 MHz

38.4 Kbps - 500 mW

License-Free System for Frequencies <1 GHz

PowerOne™ 868 MHz

9.6 Kbps - 500 mW

License-Free System for Frequencies <1 GHz

Terminal

License-Free System for Frequencies <1 GHz

Embedded

License-Free System for Frequencies <1 GHz

Embedded

LE50-433 RF modules

100 Kbps - 25 mW



License-Free System for Frequencies <1 GHz

Embedded

LE50-868 RF modules

115.2 Kbps - 25 mW



License-Free System for Frequencies <1 GHz

Embedded

NE50-868 RF modules

38.4 Kbps - 25 mW



WEEE and WEEE Compliant

Ultra Low Power Consumption+Std-by Mode

DOTA - Upgradeable and Configurable Over-the-Air

Available LGA Format

TTL RS232 Interface + Digital and Analog I/Os

2.54 mm DIP Adapter Available

Embedded In-House Star Network Stack

Telit LE50-433 modules are the latest generation of multi-band multi-channel radio module with advanced proprietary embedded stack easy to integrate and use in point-to-point or star network communication. LE50-433 modules operate in 433 MHz band with ultra-low power stand by mode, efficient wake up on radio and budget link of 123 dB (119 dB for EU). Available in LGA format, these pre-certified RF modules provide TTL RS232 interface, integrated digital and analog I/Os and can be integrated into a system, thus reducing development time and cost for applications in building automation, irrigation, tracking, lightning and access control. LE50-433 is also pin-to-pin compatible with other modules from Telit LE Family (LE50-868), ZE Family (ZigBee 2007 and PRO stack), NE Family (Mesh low power) and ME Family (Wireless M-Bus).

WEEE and WEEE Compliant

Ultra Low Power Consumption+Std-by Mode

DOTA - Upgradeable and Configurable Over-the-Air

Available LGA Format

TTL RS232 Interface + Digital and Analog I/Os

2.54 mm DIP Adapter Available

Embedded In-House Star Network Stack

Telit LE50-868 modules are the latest generation of multi-band multi-channel radio module with advanced proprietary embedded stack easy to integrate and use in point-to-point or star network communication. LE50-868 modules operate in 868 MHz band with ultra-low power stand by mode, efficient cyclic-wake up, budget link of 123 dB and dedicated telemetry mode. Available in LGA format, these pre-certified RF modules provide TTL RS232 interface, integrated digital and analog I/Os and can be integrated into a system, thus reducing development time and cost for applications in building automation, irrigation, tracking, lightning and access control. LE50-868 is also pin-to-pin compatible with Telit ZE Family (ZigBee 2007 and PRO stack), ME Family (Wireless M-Bus) and NE Family (Mesh low power).

Telit NE50-868 RF modules are based on Mesh network concept in the license-free 868 MHz ISM band. With adjustable output power from 5 mW to 25 mW NE50-868 modules can reach up to 1500 m in LOS. Advanced proprietary embedded low power mesh stack allows efficient power management on both end nodes and routers, network latency defined on the system requirements by setting different synchronous network time, data rate or message format, connecting up to 100 end nodes per router in a cluster tree architecture that enables scalability. Low power mesh stack is designed for battery powered sensor networks that can be built automatically making it easily to integrated, thus reducing development time and cost for applications in building automation, metering (water, gas, electric), irrigation, tracking, lightning and access control. Telit NE50-868 is pin to pin compatible with ZE Family (Zigbee), ME Family (Wireless M-Bus) and LE Family (Telit Star Network), while future 915 and 433 MHz version are planned.

License-Free System for Frequencies <1 GHz

Embedded

License-Free System for Frequencies <1 GHz

Wireless M-Bus EN13757

Embedded

ME50-169 RF modules

38.4 Kbps - 25 mW



License-Free System for Frequencies <1 GHz

Wireless M-Bus EN13757

Embedded

ME50-868 RF modules

100 Kbps - 25 mW



IEEE 802.15.4 | ZigBee®

Embedded

IEEE 802.15.4 | ZigBee®

Embedded

ZE 51-2.4 RF modules

250 Kbps - 2.5 mW



WEEE and WEEE Compliant

Available with Integrated Antenna

SMD Component

Embedded In-House ZigBee® PRO stack

Standard In-House Firmware Available

Integrated Digital TTL I/Os and Analog Inputs

DOTA - Upgradeable and Configurable Over-the-Air

USB Dongle Version Available

The ZE51-2.4 and ZE61-2.4 are compact, SMD, and complete ZigBee®-ready modules based on the Texas Instruments CC2530 System on Chip with 256KB flash memory dedicated for ZigBee profiles or custom applications and are optionally available with an integrated antenna. The ZE51-2.4 supports low power modes up to 2.5mW fully compatible and with the same form factor as ZE61-2.4, the extended version of the low cost ZE51-2.4, having link allocation of 120 dB and 100mW output power. Telit RF Technologies offers the proven world-class in-house ZigBee® PRO stack easy-to-use C-API. All ZE products are available with fully owned IPR (Intellectual Property Rights) and independently developed ZB PRO stack assuring full technical support during development, deployment and maintenance phases as well as possible dedicated customization to reduce the TCO (Total Cost of Ownership) finally providing a real competitive advantage.

Telit ME50-169 modules are the latest generation of Wireless M-Bus products compliant with EN13757 part 4 Wireless M-Bus standard optimized for one- or two-way data exchange with gas, water, heat and electricity meters and concentrators. ME50-169 modules operate in 169MHz band with ultra-low-power for maximum battery life and have a 134 dB budget link, suited for long range applications. Available in LGA format, these pre-certified RF modules provide a TTL RS232 interface, integrated digital and analog I/Os and can easily be integrated into a system, thus reducing development time and cost. ME50-169 is also pin-to-pin compatible with ME50-868 (Wireless M-Bus 868MHz), Telit ZE Family (ZigBee 2007 and PRO stack), NE Family (Mesh low power) and LE Family (basic point to point, broadcast stack).

Telit ME50-868 modules are the latest generation of Wireless M-Bus products compliant with EN13757 part 4 and part 5 Wireless M-Bus standard optimized for one- or two-way data exchange with gas, water, heat and electricity meters and concentrators. ME50-868 modules operate in 868MHz band with ultra-low-power for maximum battery life and have the best budget link on the market of 122dB. Available in LGA format, these pre-certified RF modules provide a TTL RS232 interface, integrated digital and analog I/Os and can easily be integrated into a system, thus reducing development time and cost. ME50-868 is also pin-to-pin compatible with Telit ZE Family (ZigBee 2007 and PRO stack), NE Family (Mesh low power) and LE Family (basic point to point, broadcast stack).

Product Range

| Short Range to GSM GPRS Gateways | Form Factor | Range | Frequency | Radio Data | Output Power | Core | Cellular | Embedded Stack Option | Antenna Option |
|--|-------------|--------------|--------------------------|------------------|----------------|---|-----------------------------|--------------------------------|----------------|
| GG863-SR Gateway | Terminal | up to 4000 m | 433, 868,915 or 2400 MHz | up to 250 Kbps | up to 500 mW | ARM9 200 MHz 128 MB flash/64 MB RAM mit Linux OS | Quad band GSM/GPRS class 10 | Mesh, ZigBee or Wireless M-Bus | Removable |
| License-Free System for Frequencies <1 GHz | | | | | | | | | |
| TinyOne® | Form Factor | Range | Frequency | Radio Data | Output Power | Sensitivity (BER < 10 ⁻³) | Standby | Embedded Stack Option | Antenna Option |
| TinyOne® Plus 868 MHz RF modules | Embedded | 1500 m | 868 MHz | 4.8 to 38.4 Kbps | 5, 10 or 25 mW | -105 | 4µA | Mesh & Star | |
| TinyOne® Plus 868 MHz | Terminal | 1500 m | 868 MHz | 4.8 to 38.4 Kbps | 5, 10 or 25 mW | -105 | 70µA | Mesh & Star | Removable |
| TinyOne® Pro 868 MHz RF modules | Embedded | 4000 m | 868 MHz | 4.8 to 38.4 Kbps | 500 mW | -105 | 4µA | Mesh & Star | |
| TinyOne® Pro 868 MHz | Terminal | 4000 m | 868 MHz | 4.8 to 38.4 Kbps | 500 mW | -105 | 70µA | Mesh & Star | Removable |
| TinyOne® Pro 915 MHz RF modules | Embedded | 4000 m | 915 MHz | 38.4 Kbps | 500 mW | -100 | 4µA | Star | |
| PowerOne™ | Form Factor | Range | Frequency | Radio Data | Output Power | Sensitivity (BER < 10 ⁻³) | Standby | Embedded Stack Option | Antenna Option |
| PowerOne™ 868 MHz RF modules | Compact | 16000 m | 868 MHz | 4.8 and 9.6 Kbps | 25 to 500 mW | -115 | 10µA | Star | |
| PowerOne™ 868 MHz | Terminal | 16000 m | 868 MHz | 4.8 and 9.6 Kbps | 25 to 500 mW | -115 | 15µA | Star | Removable |
| LE Family | Form Factor | Range | Frequency | Radio Data | Output Power | Sensitivity (BER < 10 ⁻³) | Standby | Embedded Stack Option | Antenna Option |
| LE50 - 433 RF modules | Embedded | 2000 m | 433 MHz | Up to 115.2 Kbps | 25 mW | -109 | 1µA (*) | Star | |
| LE50 - 868 RF modules | Embedded | 2000 m | 868 MHz | Up to 115.2 Kbps | 25 mW | -109 | 1µA (*) | Star | |
| NE Family | Form Factor | Range | Frequency | Radio Data | Output Power | Sensitivity (BER < 10 ⁻³) | Standby | Embedded Stack Option | Antenna Option |
| NE50 - 868 RF modules | Embedded | 1500 m | 868 MHz | Up to 115.2 Kbps | 25 mW | -103 | 1µA (*) | Mesh | |
| Wireless M-Bus EN13757 | Form Factor | Range | Frequency | Radio Data | Output Power | Sensitivity (BER < 10 ⁻³) | Standby | Embedded Stack Option | Antenna Option |
| ME50 - 169 RF modules | Embedded | 5000 m | 169 MHz | Up to 38.4 Kbps | 25 mW | -120 | 1µA (*) | Wireless M-Bus | |
| ME50 - 868 RF modules | Embedded | 2000 m | 868 MHz | Up to 100 Kbps | 25 mW | -108 | 1µA (*) | Wireless M-Bus | |
| IEEE 802.15.4 ZigBee® | Form Factor | Range | Frequency | Radio Data | Output Power | Sensitivity (BER < 10 ⁻³) | Standby | Embedded Stack Option | Antenna Option |
| ZE51-2.4 RF modules / ZE61-2.4 RF modules | Embedded | 1 km/4 km | 2400 MHz | 250 Kbps | 2.5 mW /100 mW | -97 / -100 | 1µA (*) | ZigBee PRO | Integrated |

(*) wake up on interrupt



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