# Telit

# LE910 Cat.1 Series

**LTE** Cat.1 10/5 Embedded



28.2 mm

28.2 mm

2.2 mm
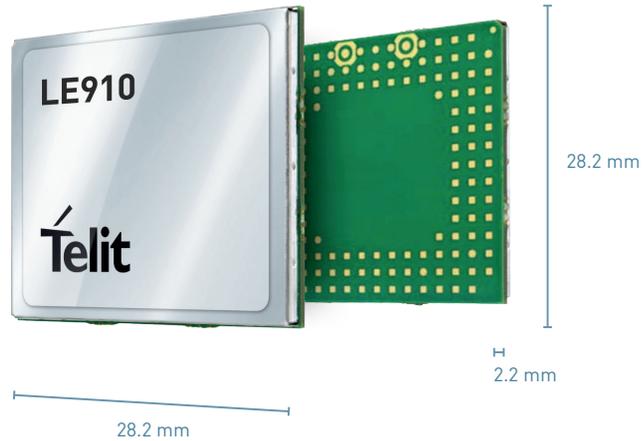
## Product Description

The LE910 series of Cat. 1 modules are optimized for LTE low category networks and are available in single mode and 3G/2G fallback options. In addition to VoLTE support, the LE910Cat.1 series are swappable with other modules in the xE910 family.

## Key Benefits

- Easy to integrate with peripherals and actuators using USB 2.0 HS, UART and user definable GPIOs
- Ideal platform for IoT applications and mobile data and computing devices with ultra-compact design and extended operating temperature range
- Internet friendly with integrated TCP/IP and UDP/IP stacks, as well as HTTP, SMTP, FTP, SSL
- Simple drop-in migration and technology design reuse path to 2G and 3G with any xE910 module
- Over-the-Air firmware update

## Family Concept

These LTE low category variants are members of Telit's flagship xE910 module family delivering 4G radio access technology in the 28.2 x 28.2 x 2.2 mm family form factor. The Telit xE910 Unified Form Factor Family is comprised of 2G, 3G, and 4G, 3GPP and 3GPP2 products sharing a common form factor as well as electrical and programing interfaces which allows developers to implement a "design once, use anywhere" strategy.

## IoT Connectivity Ready

This product is capable of supporting the extensive suite of Value Added Services from IoT Connectivity including Module Management and others which make the management of IoT deployments under mobile networks effective, enhancing profitability and reliability. It is also Portal-ready which means that the AT command library in this module includes a set of high-level commands designed exclusively for quick and hassle-free on-boarding of the device to the portal and to back-end systems and servers. Telit Portal-ready modules powered by deviceWISE make application-level data flows and controls simple to program, maintain and improve.

## Variants

Different series of variants are available to fulfill the requirements of North America (AT&T, T-Mobile, Verizon, Rogers,Telus), Japanese and European market. Multiband configurations, covering different sets of 4G bands as well as MNO certifications, are available.

# ENABLING END-TO-END IOT SOLUTIONS

| | LE910-SV1 | LE910-SVL | LE910-NA1 | LE910B1-NA | LE910B1-SA | LE910-EU1 | LE910B1-EU | LE910-JN1 |
|---|---|---|---|---|---|---|---|---|
| Market | North America (Verizon) | North America (Verizon) | North America (AT&T, T-Mobile)* | North America (AT&T, T-Mobile)* | North America (AT&T, T-Mobile) | Europe | Europe | Japan (NTT DoCoMo) |
| **Frequencies** | | | | | | | | |
| 4G bands (MHz) | B2(1900) B4(AWS1700) B13(700) | B4(AWS1700) B13(700) | B2(1900) B4(AWS1700) B5(850) B12/B13(700) | B2(1900) B4(AWS1700) B5(850) B12/B13(700) | B2(1900) B4(AWS1700) B12(700) | B1(2100) B3(1800) B7(2600) B8(900) B20(800) | B3(1800) B8(900) B20 (800) | B1(2100) B19(850) B21(1500) |
| 3G bands (MHz) | | | B2(1900) B5(850) | B2(1900) B5(850) | | | | |
| 2G bands (MHz) | | | | | | B3(1800) B8(900) | | |
| Voice | VoLTE | VoLTE | | VoLTE | VoLTE | | | |

# LE910 Cat.1 Series

## Product Features

- LTE FDD Cat.1, 3GPP release 9 compliant
- Rx Diversity and MIMO DL 2x2
- SIM application Tool Kit 3GPP TS 51.014
- Serial port multiplexer 3GPP TS27.010
- SMS over IMS
- Built in UDP/TCP/FTP/SMTP stack
- Control via AT commands according to 3GPP TS 27.005, 27.007 and Telit Custom AT commands
- VoLTE

## Data

**LTE Cat.1**
- Uplink up to 5 Mbps
- Downlink up to 10 Mbps

## Environmental

- Dimensions 28.2 x 28.2 x 2.2 mm
- Operating and Storage Temperature Range -40°C to +85°C
- REACH and RoHS compliant

## Interfaces

- 144-pin LGA Interface
- 10 I/O ports (@1.8V) including multifunctional I/Os
- USB 2.0 HS
- UART
- 1.8 V / 3 V SIM interface
- RF pad, RX Div. & MIMO pad

## Approvals

- FCC/IC, PTCRB, GCF (North America)
- R&TTE/GCF (Europe)
- Radio/Telecom Biz Act (Japan)

## Electrical & Sensitivity

- Output power
  - Class 3 (0.2 W, 23 dBm) @ LTE
  - Class 3 (0.25 W, 23 dBm) @ 3G
  - Class 4 (2W) @ GSM 900
  - Class 1 (1W) @ DCS 1800
- Supply voltage
  - Nominal: 3.8 VDC
  - Range: 3.3 - 4.2 VDC

## Software and Application Development

**AppZone application resources**
- Programming language: C
- IDE: Eclipse
- Dedicated File System: 5 MB
- Separate App. RAM Space: 2 MB

**\*Single SKU** option available for LE910-NA1 with flexibility to switch between AT&T/T-Mobile/Canada and Verizon software configuration and vice versa, due to both bands subset support (B2, B4, B5, B12, B13 for AT&T/T-Mobile/Canada and B2, B4, B13 for Verizon) featuring a Fast Time Switch from one configuration to the other one.

[05.2017]

## Join the Telit Technical Forum

Join the Telit Technical Forum and discuss ideas with other members in the IoT community. System integrators, developers and partner companies can exchange opinions and ideas amongst themselves and receive timely valuable assistance from any of the four Telit Technical Support Centers (TTSC) around the world. At the same time, the open forum offers an invaluable technical knowledge database on everything concerning IoT.