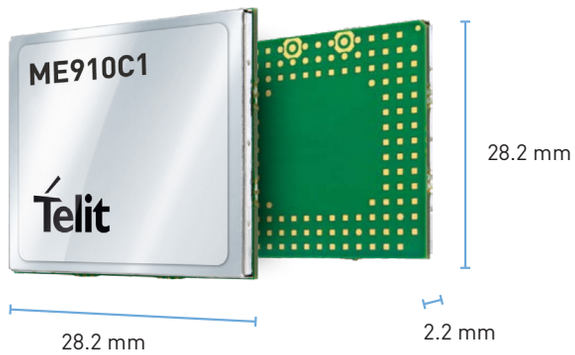
ME910C1 Series

LTE Cat M1/NB1 Embedded



Product Description

The ME910C1 is the Category M1/NB1 evolution of the Telit LE910 Series of LTE modules. Specified in the approved Release 13 of the 3GPP standard, Cat M1/NB1 devices are specifically tailored for IoT applications, offering optimized power consumption and enhanced coverage. This model further enriches the widely deployed Telit xE910 family of 28 x 28 mm LGA modules.

The ME910C1 is an LTE UE Category M1/NB1 device with maximum downlink and uplink data rate in the range of 300kbps. This next generation of products supports the new features specified by 3GPP to boost IoT applications, such as the Power Saving Mode (PSM) and the extended Discontinuous Reception (eDRX), which allow the devices to wake up periodically to deliver only very small amounts of data to the network and then go back to sleep for

most of the time, thus allowing longer battery operation. Enhanced coverage, with up to +15dB/+20dB in maximum coupling loss (MCL) compared to the other cellular technologies, is also one of the key benefits of this new LTE flavour. LTE Cat M1/NB1 devices are therefore optimized in cost, size and power consumption compared to higher UE categories. These advantages make the ME910C1 the perfect platform to enable a quick implementation of LTE technology in IoT/M2M where low cost and low power are more relevant than high speed.

The ME910C1 helps increase the addressable market for LTE technology to include a broad range of new applications and use cases best served with lower maximum data rate, ultra-low power, reduced complexity and cost. Some examples are smart meters, industrial sensors, healthcare monitors, home automation, asset tracker and many more low data rate IoT devices. The ME910C1 is offered in different band configurations for regional deployment as well as a worldwide variant for global coverage. It supports dual mode Cat M1/NB1 (NB-IoT) capability and 2G fallback. ME910C1 is highly recommended for new designs, but also in particular as a migration path for existing GPRS or CDMA devices, both new and updated designs benefit from a significant extension in lifecycle with LTE Cat M1/NB1.

Key Benefits

- Design once and deploy globally, thanks to the xE910 form factor family
- Perfect platform for regional IoT applications such as smart metering, security & surveillance, point of sales, health monitoring, fleet management, asset tracking and wearable devices
- LTE UE Category M1/NB1 compliant to the latest 3GPP Release 13 enhanced Machine-Type Communication (eMTC) and Narrow Band IoT (NB-IoT), specifically designed for IoT use cases, offering minimum power consumption and extended coverage

OneEdge™ Features

To address complexity expected in future exponential growth in the number of IoT devices, integrated, embedded and cloud software components are necessary to increased manageability, lowering cost points for deploying and maintaining such networks. To that end, the ME910G1 is offered with a software suite of management and deployment tools:

- **Lightweight M2M device management protocol compliance**, enabling detailed management of extremely low-power devices and FOTA updates with the goal of more robust and secure connections.
- **Telit simWISE**, a module-embedded SIM technology enabling reduced footprint, simple manufacturing, and more secure communications and management for connected devices.
- **Telit IoT AppZone**, an integrated development environment (IDE) acting as a reference workbench and development tool for all Telit products, running applications directly inside the Telit module.
- **Telit's Connection Manager**, a tool for automating the most common operations for initial connection of devices to cellular networks.
- **Location**, a facility that provides location of devices even in the absence of GNSS connection.

AVAILABLE FOR

EMEA
North America
APAC
Japan
Australia

Telit ONEEDGE™

Complete, Ready to Use Access to the Internet of Things

IoT Modules | IoT Connectivity | IoT Platforms

Family Concept

The ME910C1 is a member of Telit's flagship xE910 module family delivering 4G radio access technology in the 28.2 x 28.2 x 2.2mm family form factor. The Telit xE910 Unified Form Factor Family is comprised of 2G, 3G, and 4G that are 3GPP and 3GPP2 products sharing a common form factor as well as electrical and programming interfaces which allows developers to implement a "design once, use any-where" strategy.

	ME910C1-NA	ME910C1-E1	ME910C1-E2	ME910C1-AU	ME910C1-J1	ME910C1-K1	ME910C1-WW	ME910C1-P1	ME910C1-P2
Market	North America Single SKU	Europe	Europe	Australia	Japan	Korea	WorldWide Single SKU	Worldwide **simWISE** Ready	Worldwide **simWISE** Ready
M1/NB1 support	M1	Dual mode M1&NB1	Dual mode M1&NB1 + 2G	Dual mode M1&NB1	Dual mode M1&NB1	Dual mode M1&NB1	Dual mode M1&NB1 + 2G	Dual mode M1&NB1	Dual mode M1&NB1 + 2G
Frequencies									
4G bands (MHz)	B2(1900), B4(AWS1700), B12(700) B13(700)	B3(1800), B8(900), B20(800)	B3(1800), B8(900), B20(800)	B3(1800), B5(850) B8(900), B28(700)	B1(2100), B3(1800), B8(900) B18(800) B19(800), B26(850)	B3(1800), B5(850), B8(900), B26(850)	B1(2100), B2(1900), B3(1800), B4(AWS1700), B5(850), B8(900), B12(700), B13(700), B18(800), B19(800), B20(800), B26(850), B28(700)		
2G bands (MHz)			B2(1900), B3(1800), B5(850), B8(900)				B2(1900), B3(1800), B5(850), B8(900)		
Approvals	FCC, GCF, PTCRB, AT&T, Verizon	RED, GCF, IMDA, TIM, Deutsche Telekom	RED, GCF, IMDA, Telefonica, Vodafone, Deutsche Telekom	RCM, Telstra, GCF	Jate, Telec, NTT DoCoMo	KCC, SKT	PTCRB, GCF, RED, FCC/IC, RCM, Jate, Telec, CCC, AT&T, Verizon, NTT DoCoMo, Deutsche Telekom, Anatel **, Telstra *	PTCRB, GCF, RED, FCC/IC	

* in plan
**in process

ME910C1 Series

Product Features

- LTE UE Category M1/NB1
- 3GPP release 13 compliant
- Half Duplex FDD
- Single Rx, single antenna
- 3GPP Rel. 12 Power Saving Mode (PSM)
- 3GPP Rel. 13 Extended Discontinuous Reception (eDRX)
- 3GPP Rel. 13 Extended coverage
- Control via AT commands according to 3GPP TS27.005, 27.007 and customized AT commands
- SIM application Tool Kit 3GPP TS 51.01
- SMS
- IPv4/IPv6 stack with TCP and UDP protocol
- OMA Lightweight M2M (LWM2M)
- Over-the-Air firmware update
- Telit Application Development Environment: AppZone C
- SSL
- Optional embedded GNSS (GPS, GLONASS, Beidou, Galileo)

Data

LTE Category M1
- Uplink up to 375 kbps
- Downlink up to 300 kbps

LTE Category NB1
- Uplink up to 62.5 kbps
- Downlink up to 21 kbps

EGPRS (2G Fallback variants)
- Uplink up to 236 kbps
- Downlink up to 296 kbps

Physical & Environmental

- Dimensions 28.2 x 28.2 x 2.2 mm
- Extended temperature range: -40 to +85 °C

Interfaces

- 10 I/O ports maximum including multifunctional I/Os
- USB 2.0 HS
- UART
- SPI
- I2C
- 1.8 V / 3 V SIM interface

Electrical

- Supply voltage
  - Nominal: 3.8 VDC
  - Range: 3.4 - 4.2 VDC

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