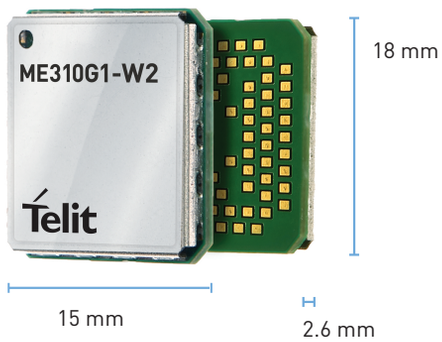
ME310G1-W2

PRELIMINARY

LTE Cat M1/NB2 Embedded



Product Description

The ME310G1-W2 is an LTE Category M1/NB2 (Cat M1/NB2) module supporting 450 MHz bands. It is conceived for IoT applications requiring secure and robust connectivity through LTE 450 MHz private networks, such as smart metering, smart grid, smart city, smart agriculture, mPERS, mission-critical services and public safety.

Due to the deep indoor propagation of the 450 MHz frequency, this module is ideal for indoor devices such as smart meters often in the center of the home. Also, the extensive coverage range of the 450 MHz band allows provisioning of wireless services to over large areas with a minimal number of base stations.

Compliant with 3GPP Release 14 (Rel. 14), the ME310G1 LTE UE Cat M1/NB2 module enables increased power saving for IoT applications using Power Saving Mode (PSM) and extended Discontinuous Reception (eDRX). PSM and eDRX allow devices to wake up periodically while delivering only the smallest amounts of data necessary before returning to sleep mode. Enhanced coverage, enabled by maximum coupling loss (MCL) of up to +15 dB/+20 dB, provides superior in-building penetration compared to earlier cellular LTE standards.

LTE Cat M1/NB2 devices are optimized in cost, size and power consumption compared to higher UE categories. 3GPP Rel. 14 further improves these features by adding techniques to increase the data rate for LTE-M and NB-IoT. These advantages make the ME310G1 ideal for enabling the quick implementation of LTE technology in which low cost and low power consumption are more relevant than high speed.

Key Benefits

- Deep indoor and wide-area propagation due to 450 MHz frequency
- Small size and low power consumption
- Optimized for ease-of-design and high-yield and low-cost manufacturing
- Compliant to 3GPP Rel. 14 Cat M1/NB2, tailored for IoT devices
- Ideal solution for smart metering, smart grid, smart city, smart agriculture, mPERS, mission-critical services and public safety

Family Concept

The xE310's flexible perimeter footprint family includes pin-to-pin compatible 2G (GE310-GNSS) and Cat M1/NB2 (ME310G1) modules, enabling integrators to design a single PCB layout and deploy any combination of 2G and 4G technologies.

Telit's miniature xE310 family delivers high technical and business value for OEMs, integrators and IoT device designers interested in low-power, low-cost, small-footprint devices to take digital transformation initiatives to the next level across their organization.

The 94-pad LGA footprint delivers a comprehensive set of features with a surplus of reserve pads to futureproof the end device with additions like Bluetooth connectivity and GNSS. The flexible perimeter space allows modules in the family to go in sizes from around 300 mm2 to below 200 mm2. The xE310 allows for both single and multi-technology products, such as combination cellular, GNSS and other solutions, in fixed and mobile applications for smart utilities, home and commercial automation, telematics, POS, and smart cities.

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ME310G1-W2

Model	Market	M1/NB2 Support	Frequencies	Output Power
ME310G1-W2	EMEA LATAM	Dual mode M1/NB2	LTE B1, B3, B5, B8, B20, B28, B31, B72	LTE B1, B3, B5, B8, B20, B28: 21 dBm (Power Class 5) LTE B31, B72 (450 MHz): 26 dBm

Product Features

- LTE UE Cat M1 (1.4 MHz)/NB2 (200 kHz)
- 3GPP Rel. 14 compliant
- Half-duplex FDD
- Single Rx, single antenna
- 3GPP Rel. 12 PSM
- 3GPP Rel. 13 eDRX
- 3GPP Rel. 13 extended coverage
- Control via AT commands according to 3GPP TS27.005, 27.007 and customized Telit AT commands
- SIM application tool kit 3GPP TS 51.01
- VoLTE (planned)
- SMS over NAS
- IPv4/IPv6 stack with TCP and UDP protocol
- TLS/DTLS
- Embedded GNSS (GPS, GLONASS, Beidou, Galileo)
- OMA Lightweight M2M (LwM2M)
- Firware Over-the-Air (FOTA) update using delta upgrade techniques

Data

LTE Cat M1 (Rel.14)

- Uplink up to 1Mbps
- Downlink up to 588Kbps

LTE Category NB2 (Rel.14)

- Uplink up to 160 Kbps
- Downlink up to 120 Kbps

Physical & Environmental

- Extended temperature range: -40°C to +85°C
- Compact dimensions: 15 mm x 18 mm x 2.6 mm

Interfaces

- Six I/O ports
- 1.8V SIM Interface
- USB 2.0 HS
- UART
- SPI
- I2C

Approvals

- RED (in process)
- GCF (in process)

Electrical & Sensitivity

- Supply voltage
  - Nominal: 3.8 VDC
  - Operating voltage range: 3.4–4.2 V
  - Extended voltage range: 2.6–4.5 V

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[05.2020]

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