

ELS31



Dual Band
LTE Cat. 1



Multi Design
Capability
(LGA)



USB 2.0
High Speed
compatible



Highly
Compact
Size



Embedded
TCP/IP Stack



Advanced
Temperature
Management



FOTA
configurable &
free of charge



BIP
Bearer
Independent
Protocol



LTE

Cat.1 M2M Module

Highly Efficient 4G LTE Connectivity Optimized for the IoT.

Cinterion® ELS31 Cat. 1 LTE M2M Module: delivering power-enhanced performance and M2M-optimized speeds

The first of its kind Cinterion® ELS31 LTE Cat. 1 wireless module is revolutionizing highly efficient 4G LTE connectivity for Machine-to-Machine (M2M) and industrial Internet of Things (IoT) applications. The device features power-optimized performance and M2M-optimized speeds of 10Mbit/s download and 5Mbit/s uplink. It delivers overall cost efficiencies for the vast number of IoT applications that are not dependent on high speed connectivity but still require the longevity and reliability of LTE networks as 2G and 3G phase out in decades ahead. It is ideal for a wide variety of applications including metering, tracking and tracing, fleet management and mHealth.

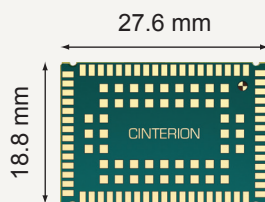
Gemalto LTE Cat.1 modules deliver a long lifespan, significant bandwidth and power efficiencies and a feature set specific to the needs of industrial IoT solutions such as extended operating temperatures from -40°C to 85°C. Sharing the same footprint as existing Cinterion industrial portfolio products, the ELS31 enables easy migration to LTE from 2G and 3G devices. It also supports multi-designs for

different network standards. All Cinterion M2M Modules come with Full Type Approval (FTA) and local network operator certifications to ensure easy integration and a fast time to market for innovative solutions.

The small ELS31 comes in Gemalto M2M's unique LGA (Land Grid Array) package perfectly suited to the manufacturing needs of small, high-volume M2M devices with a focus on reliable and efficient processes. The module is designed for best in class power consumption and includes support for common industrial interfaces such as USB and UART. ELS31 is a single-mode module specifically designed for LTE networks.

Network standards are expected to continue to evolve encompassing increasingly efficient LTE categories (e.g. Cat.0/Cat.M), Future Cinterion modules will support easy forward/backward migration and compatibility by sharing the same form-factor.

Perfect M2M at Minimal Footprint



LTE optimized M2M and IoT

Gemalto LTE Cat. 1 modules are less complex in comparison to higher LTE categories. Tailored specifically for the needs of M2M applications, they offer an optimized feature set and power-enhanced performance. As 2G/3G interworking does not need to be considered for ELS31, reduced approval costs can be achieved for M2M solutions. Mobile network operator or region specific variants are available.

Future proof and support for multi-designs

The unique and stable Cinterion module form factor of ELS31 supports an easy migration between existing and future standards. Currently, this form factor is supported in Gemalto 2G/3G modules. A potential migration to future standards is foreseen, LTE lower categories (e.g. Cat.0/Cat.M) will be supported in compatible modules.

Gemalto M2M Support includes:

- > Personal design-in consulting for hardware and software
- > Extensive RF test capabilities
- > GCF/PTCRB conformance pretests to validate approval readiness



Local engineers, an exceptional help-desk, a dedicated team of R&D specialists and an advanced development center are the hallmarks of our leading support offer.

Cinterion® ELS31 Features

GENERAL FEATURES

- > LTE (FDD) 3GPP Rel. 9+
- > LTE-Bands 4, 13 (1700/2100 AWS, 700)
- > SIM Application Toolkit, Rel. 99
- > Control via AT commands (Hayes, 3GPP TS 27.007 and 27.005)
- > Full Gemalto M2M AT command set and services (Rel. 2 only)
- > IP services (Rel. 2 only) transparent & nontransparent TCP/UDP client and server, HTTP/FTP/SMP client, TLS support for TCP/UDP/HTTP/FTP/SMTP clients
- > Supply voltage range 3.3 - 4.5 V, optimized for minimal power consumption
- > Dimension: 27.6 x 18.8 x 2.1 mm
- > Operating temperature Range -40°C to +85°C
- > Weight: ca. 2.7 g

SPECIFICATIONS

- > LTE Cat. 1 single layer DL-MIMO DL/UL max: 10.3Mbps / 5.2 Mbps
- > Supplementary services & USSD support
- > IMS support, SMS via IMS
- > SMS text and PDU mode, 3GPP and 3GPP2 formatting
- > Verizon APN class handling

SPECIAL FEATURES

- > Embedded MIM (MFF2) prepared
- > Firmware updatable via Flash, USB and Over the Air (FOTA)

INTERFACES (SMT-LGA, 114 PADS)

- > Pads for primary LTE Antenna, LTE DL MIMO-Antenna
- > Digital Audio Interface for future VoLTE enhancements (PCM and I2S) (Rel.2 only)
- > USB 2.0 High-speed interface up to 480 Mbps
- > CDC ACM and CDC ECM
- > High-speed serial interface
- > 2 UICC and U/SIM card interfaces 1.8V / 3V (one for embedded SIM)
- > 10 GPIO pins (Rel.2 only)
- > I2C, ADC interface (Rel.2 only)

DRIVERS

- > Driver for Windows Vista® / Windows® 7 / Windows® 8 / Windows 10

APPROVALS

- > FCC, GCF, IC, UL
- > Verizon certification (pending)
- > California RoHS

For more information, please visit

www.gemalto.com/m2m, developer.gemalto.com, www.facebook.com/gemalto,
or follow @gemaltom2m on twitter.

The information provided in this brochure contains merely general descriptions or characteristics of performance, which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract. All product designations may be trademarks or product names of Gemalto M2M GmbH or supplier companies whose use by third parties for their own purposes could violate the rights of the owners. Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners. ARM9 is a registered trademark of ARM Limited.

Gemalto M2M GmbH
St.-Martin-Str. 60
81541 Munich
Germany



➔ WWW.GEMALTO.COM/M2M

