

Cinterion® EGX81 Efficient IoT Gateway

LTE M, NB-IoT and 2G connectivity



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EGX81



Multiple MTC technologies for global operation

- | 3GPP Rel. 14 Cat.M1, Cat.NB1, Cat. NB2, 2G
- | Single global SKU option



Time to market acceleration

- | Simple connect with plug and play interfaces
- | Easy to integrate for quick deployment



Highest efficiency for long term operation

- | Revolutionary Power Class 5 (20 dBm)
- | Efficient eDRX and PSM



State of the art security

- | Secure boot
- | Embedded eSIM option
- | Secure key store with pre-integrated trusted identities



Easy cloud connectivity and remote management

- | MQTT(s) for cloud interworking with public IoT clouds
- | Remote firmware updates
- | Remote configuration and diagnostics

The Cinterion® EGX81 Efficient Gateway raises the bar on IoT simplicity by quickly connecting Industrial IoT solutions with virtually zero design time and minimal integration effort. It greatly accelerates time to market offering plug and play Low Power Wide Area (LPWA) global connectivity that supports an easy evolution to 5G as technology needs change. The compact, feature-rich device delivers out of the box LTE-M, NB-IoT and 2G connectivity from a single global SKU. An ultra-rugged housing and range of highly efficient IoT-optimized data speeds make the EGX81 gateway ideal for battery-operated, remote use cases such as track and trace, smart meters, smart city, agriculture, connected sensors and healthcare applications.

Key Features

The Cinterion EGX81 gateway supports all LTE bands plus Quad Band GSM and it delivers a suite of MTC technologies including LTE Cat. M1, Cat. NB1 and Cat. NB2. Support for 3GPP Release 14 eliminates the need for hardware updates when technology needs evolve, which is especially important as 5G spreads worldwide. An efficient architecture provides the highest efficiency for a long life by leveraging revolutionary power class 5 (20 dBm) and efficient eDRX and PSM. State of the art security features protect the device and data with a secure boot, trusted identities pre-integrated in the root of the gateway, and secure key storage enabling trustful enrollment in cloud platforms. An optional integrated Gemalto eSIM

strengthens security, simplifies manufacturing, and streamlines logistics while providing flexibility in the field with easy remote provisioning and dynamic subscription updates.

What's more, the EGX81 gateway is supported by Cinterion® IoT Suite Services, a platform that helps IoT fleet operators manage the connectivity, security, and software lifecycle of IoT solutions enabling business continuity and longer application lifespans. Additionally, a Thales programmable hardware watchdog ensures reliable operation, and the unique incremental Firmware Over-the-Air (FOTA) implementation dramatically reduces the size of update binaries, thereby stretching battery life.

Plug-and-play simplicity speeds up deployment

Simple and reliable plug-and-play cellular connectivity quickly connects industrial applications with very little integration or approval effort. It gives new implementers a cost-effective, easy way to bring IoT optimization to their enterprise.

Incremental FOTA ensures power efficiency and longevity

Incremental Firmware Over The Air updates allow revision of only the portion of code that needs updating. This significantly reduces transmission time, power draw and throughput, which are all essential in preserving the investment in NB-IoT technology over the long life of IoT solutions.

Optional Thales eSIM simplifies and secures IoT connectivity

An embedded SIM strengthens security, authenticates devices, encrypts data and securely manages connections to cellular networks. It works seamlessly with Thales's subscription management solution to maintain connectivity for the lifecycle of devices. All this simplifies integration, manufacturing and logistics and lowers TCO.

Cinterion® EGX81 Features

General Features

- LTE Cat. M1/NB1/NB2
- FDD-LTE Bands 1, 2, 3, 4, 5, 8, 12, 13, 18, 19, 20, 25, 26, 27, 28, 66
- Quad-Band GSM: 850, 900, 1800 and 1900MHz
- Data only
- SIM Application Toolkit with BIP
- Control via standardized commands (Hayes, TS 27.007 and 27.005) and Gemalto M2M AT commands
- Embedded IPv4 and IPv6 TCP/IP stack access via AT command and transparent TCP/UDP services
- Internet Services: TCP server/client, UDP client, DNS, Ping, HTTP client, FTP client, MQTT client
- Secure Connection with TLS/DTLS
- Supply voltage range: 5 - 30 V
- Dimension: 80 x 55 x 23 mm (excluding connectors)
- Operating temperature: -30°C to +75°C
- Weight 65g

Specifications

- 3GPP Rel.14 Compliant Protocol
- Compliant to GSM phase 2/2+ 3GPP Rel. 99
- E/GPRS Class 10
- LTE Cat. M1 Class 5(+20dBm ±2dB) for all supported LTE Cat. M1 bands
- LTE Cat. NB1/NB2 Class 5(+20dBm ±2dB) for all supported LTE Cat. NB1/NB2 bands

- LTE Cat.M1 (HD-FDD)
DL: max. 300kbps, UL: max. 1.1Mbps
- LTE NB1 (HD-FDD)
DL: max. 27kbps, UL: max. 63kbps
- LTE NB2 (HD-FDD)
DL: max. 124kbps, UL: max. 158kbps
- Mobile Station class B
- SMS support (via NAS, via GSM)

Approvals

- RED, CE, FCC, IC, UL, CCC
- GCF, PTCRB
- Local approvals and major MNO certifications
- REACH, RoHS and EuP compliant
- CTIA Cybersecurity

Interfaces

- Antenna Connector SMA (female)
- Mini-SIM card reader, 1.8V and 3.0V
- Plug-in power supply connector (6-pole Western jack @ EGX81 RS232 variant)
- V.24 / V.28 RS-232 interface (D-sub 9-pole female socket) @ EGX81 RS232 variant)
- 6 pin header with RS485 interface, power and ignition/reset @ EGX81 RS485 variant
- Operating status and Watchdog operation indication LED's

Special Features

- Cinterion® IoT Suite Services: software updates, trusted identity
- Driver for Windows® 7 / Windows® 8 / Windows 10
- Driver for Linux
- Firmware update via serial interface
- Real time clock with alarm functionality
- Flexible mounting concept (DIN rail mounting, C-rail mounting, Screw fixing, use of cable ties)
- Programmable hardware watchdog

Thales in IoT: Driving digital transformation with the power of the IoT

Thales delivers innovative IoT technology that simplifies and speeds enterprise digital transformation. For more than 20 years, our customers – in a wide range of industries - trust our IoT solutions to seamlessly connect and secure their IoT devices, maximise field insights, and accelerate their global business success.

Thales solutions:

- **Connect** assets to wireless networks and cloud platforms
- **Manage** the long lifecycle of IoT solutions
- **Secure** devices and their data
- **Analyse** real-time data transforming it into business intelligence that improves decision making

Our 360° approach provides the essential building blocks needed to simplify design, streamline development and accelerate time-to-market.

For more information, please visit www.thalesgroup.com/iot or follow [@ThalesIoT](https://twitter.com/ThalesIoT) on Twitter