EXS82/62

LTE Cat. M/NB/2G

Product Description

The Cinterion® EXS82/62 IoT wireless module platform is driving evolution from LTE to 5G and enabling Low Power Wide Area (LPWA) connectivity for billions of new industrial applications. The platform delivers global LTE-M and NB-IoT connectivity with optional 2G fallback plus support for evolving 5G technologies. Delivering a range of highly efficient IoT-optimized data speeds, the platform is ideal for small, battery-operated devices in remote locations including smart meters, asset trackers, healthcare apps, wearables and smart city solutions.

Key features

The Cinterion EXS82/62 IoT module platform supports all LTE bands and delivers a suite of MTC technologies including LTE Cat. M1, Cat. NB1 and Cat. NB2. EXS82 comes with support for 2G. Support for 3GPP Release 14 eliminates the need to migrate to a new chipset when technology needs evolve. The module offers an efficient architecture with PSM and eDRX plus embedded processing. The EXS82/62 also includes a module services engine that supports a range of Internet services and optimized operations. State of the art security features protect the device as well as data and provide secure enrollment in cloud platforms enabling trust in the IoT ecosystem.

An integrated eSIM authenticates IoT devices, encrypts data, and securely manages the connection to cellular networks. In order to help extend the life span of IoT solutions, Thales's unique Incremental Firmware Over The Air (FOTA) technology keeps IoT solutions current, allowing revision of only the portion of code that needs updating thus saving power and bandwidth. The module's simplified power supply design and advanced management system extends battery lifetime and improves total cost of ownership.

The EXS62/82 is supported by Cinterion IoT Suite Services, an optional platform that manages the connectivity, lifecycle and security of IoT solutions ensuring continuity and long life.

Industrial Family Benefits

The Cinterion EXS82/EXS62 IoT wireless module platform is part of Thales's Industrial family, which offers reliability, IoT-optimized features and extreme efficiency for a range of cellular standards from 2G to 5G-ready Low Power Wide Area technologies including LTE-M and NB-IoT. All Industrial modules share an identical footprint enabling seamless backward and forward migration to protect your IoT investment as technology needs change. Smart module platforms with embedded systems improve design simplicity and lower Total Cost of Ownership. All Cinterion modules are compatible with Thales's comprehensive suite of solutions, services and platforms that help enterprises Connect, Secure and Monetize™ IoT technology.

Streamlining the device-to-cloud journey

EXS82/62 leverages unique digital IDs inherent to each Cinterion IoT Module along with a secure digital handshake to verify the authenticity of devices and applications. This allows streamlined and swift enrollment in any major IoT cloud platform. It also simplifies development and manufacturing eliminating the need for OEMs to provide their own secure production facilities.

Incremental FOTA

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.

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. In addition, it simplifies integration, manufacturing and logistics while enabling smaller designs.

Embedded processing with SDK

EXS62/82 features an integrated processor with Real-Time Operating System (RTOS), enables you to build a secure and robust embedded application that runs on IoT Module leveraging the module's onboard resources. i.e.: Processor, Memory, Interfaces, GNSS, and Security. With theCinterion IoT SDK, it is easy to build a complete IoT Application sufficient for many use cases.

AVAILABLE FOR

Worldwide

EXS82/62

Product Features

- FDD-LTE Bands 1, 2, 3, 4, 5, 8, 12, 13, 18, 19, 20, 25, 26, 27, 28, 66, 71, 85.

- Quad-Band GSM: 850, 900, 1800 and 1900 MHz*

- Integrated GNSS support (GPS/BeiDou/Galileo/ GLONASS)

- Compatible with Cinterion® Industrial module footprint

- SIM Application Toolkit with BIP

- Control via standardized commands (Hayes, TS 27.007 and 27.005) and Cinterion® AT commands

- Embedded IPv4 and IPv6 TCP/IP stack access via AT command, provides: TCP/UDP Client, UDP Endpoint, TCP Listener, HTTP client, FTP client, MQTT client, NTP service, CoAP Client

- Secure Connection with TLS/DTLS

- Supply voltage range: 2.6-4.8 V

- Dimensions: 27.6 x 18.8 x 2.3 mm

- Weight: approx. 2.5 g

- Operating temperature: -40°C to +90°C

EXS82 only

*** included in future firmware versionEuP, REACH and RoHS complian*

Specifications

- 3GPP Rel.14 Compliant Protocol

- LTE Power Class 5 (20 dBm)

- LTE Cat.M1 DL: max. 300 kbps, UL: max. 1.1 Mbps

- LTE Cat.NB1 DL: max. 27 kbps, UL: max. 63 kbps

- LTE Cat.NB2 DL: max.124 kbps, UL: max. 158 kbps

- E/GPRS Class 10*

- SMS support (via NAS, via GSM

Special Features

- eSIM Remote Provisioning** (IoT Connectivity Activation)

- Firmware updatable via interface and Over the Air (OTA) / incremental FOTA

- LWM2M support with Cinterion IoT Suite

- eDRx: 81.92s <0.77mA, and PSM 4.5µA

- Advanced Security

- Embedded Processing

Approvals

- RED, FCC, IC, UL, Anatel

- CTIA Cybersecurity

- GCF, PTCRB

- AT&T, Verizon (cat M)

- EuP, REACH and RoHS compliant

Interfaces

- Pads for primary LTE antenna and GNSS antenna

- 2 high-speed serial interface

- USB 2.0 interface

- UICC and U/SIM card interface 1.8V

- SPI, I2C, PWM signal line

- ADC, GPIO

Drivers

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

- Driver for Linux