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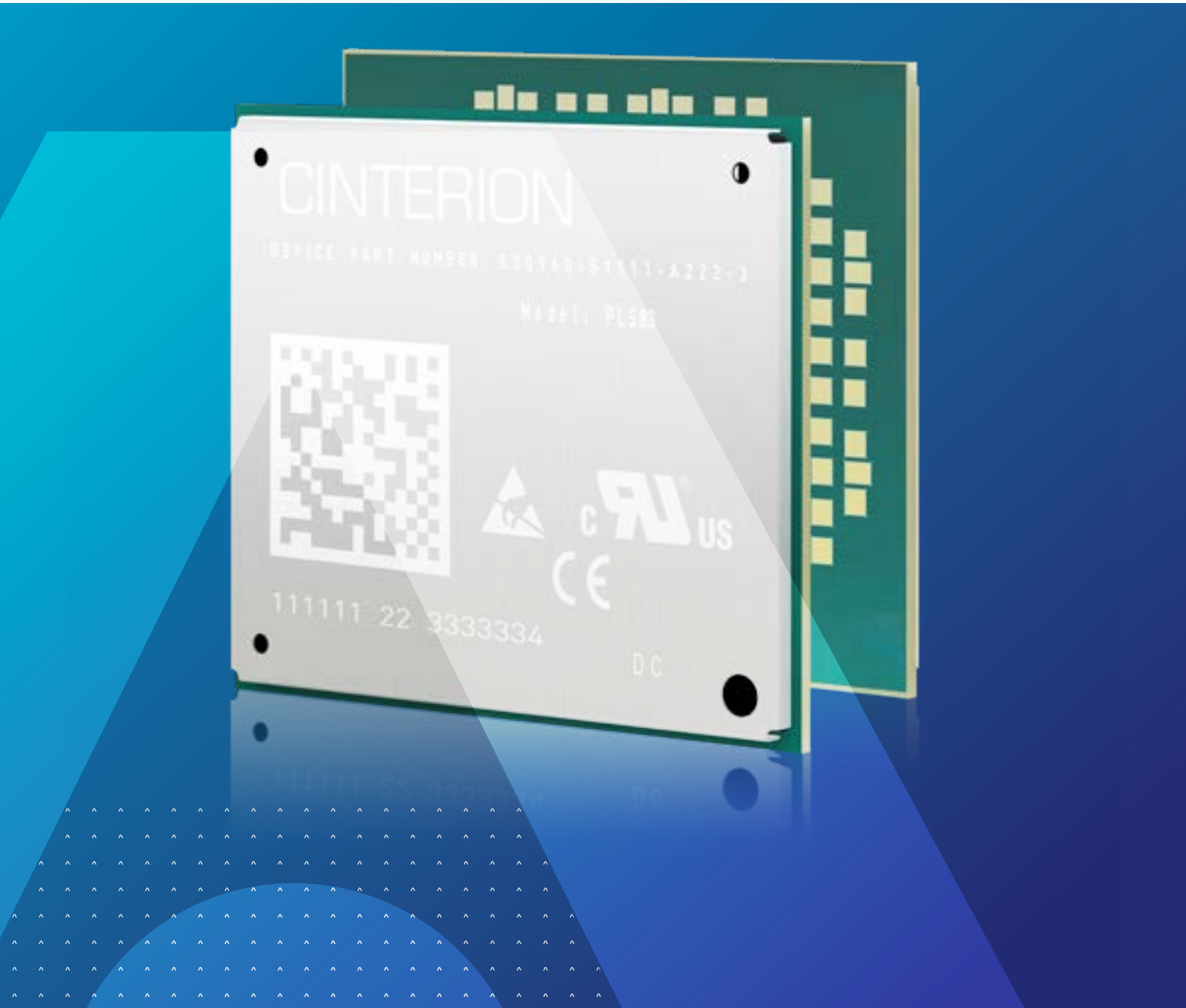
Building a future we can all trust

Cinterion PLS83-W Series

LTE Cat.4 with 2G/3G fallback for global and regional IoT connectivity



PLS83-W

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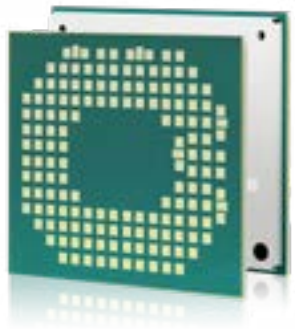


PLS83 Series

Global and Regional LTE coverage with fallback options

- Lte Cat 4, Global and multiple Regional variants with latest network bands grouping
- 3G and 2G fallback

Fully Featured modem implementation

- Inegrated IP connectifvity
- VoLTE and CS voice
- Thales extended set of AT commands

Lower Total Cost of Ownership

- Embedded GNSS
- Embedded SIM
- Embedded Processing

State of the art security

- Secure boot
- Secure key store
- Key lite cycle management

Connectivity and Lifecycle Management

- Secure enrollment toward main cloud platforms
- Remote update and device management

The Thales Cinterion® PLS83-W provides high-speed global IoT connectivity delivering 18 Band LTE Cat.4 with 2G/3G fallback for seamless coverage across a wide variety of different wireless networks. When global connectivity is not required, a suite of variants deliver targeted regional connectivity for North America, Europe and Asia Pacific, Latin America, India and Japan. Offering IoT optimized speeds of 150Mbit/s download and 50Mbit/s uplink, the PLS83 IoT module is ideal for industrial IoT applications such as transportation and industrial automation and gateways. All of these applications require high bandwidth plus the longevity and stability of LTE networks along with continuous coverage in regions where a 4G connection is not present.

Key Features

The Cinterion PLS83-W LTE Cat.4 IoT module delivers a combination 18 Band FDD and TDD LTE Cat.4, Eight Band 3G UMTS/WCDMA and Quad-Band GSM. This provides seamless global coverage from a single product SKU; however, regional variants provide more targeted coverage. The feature-packed device includes a comprehensive AT command set for simplified device control along with IP connectivity, voice over LTE (VoLTE) and circuit-switched voice. Integrated GNSS support (GPS/BeiDou/Galileo/GLONASS) provides precise positioning and timing data which is essential for global track and trace applications. Optional embedded eSIM technology strengthens security, reduces design complexity and simplifies manufacturing and logistics. What's more, optional embedded processing further streamlines design and development while strengthening processing capabilities and optimizing the total cost of ownership. Advanced security features including a secure boot, secure storage and key lifecycle management protect data and devices.

Offered in the Cinterion Industrial Plus form factor, the PLS83 series offers footprint compatibility with Cinterion IoT modules ranging from 2G to ultra-high-speed LTE. In particular, the highly efficient Cinterion PLS63 LTE Cat.1 series offers seamless software and hardware compatibility for all variants with the Cinterion PLS83 LTE Cat.4 IoT module. Footprint and software compatibility greatly improves deployment agility and simplifies migration between technologies. Additionally, all Cinterion modules come with Full Type and carrier approvals plus expert Thales technical support to help speed time to market.

Seamless integration with Cinterion IoT Suite ensures long life solutions

The PLS83-W is supported by the Cinterion IoT Suite, an optional lifecycle management platform that optimizes connectivity and manages the security and lifespan of IoT solutions to ensure continuity and longevity.

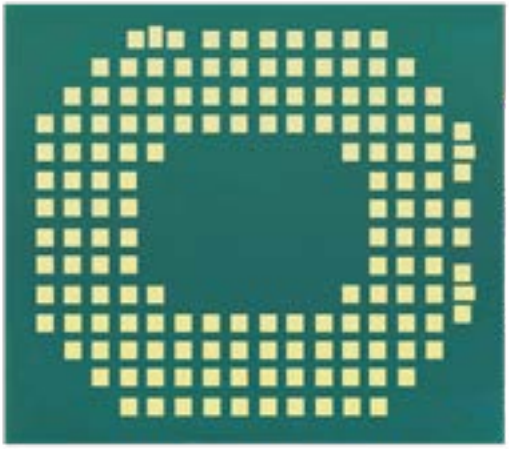
Optional eSIM simplifies and secures IoT connectivity

An optional 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 helps to lower Total Cost of Ownership.

Regional variants meet all connectivity needs

When global connectivity is not required, regional variants provide targeted coverage:

- PLS83-EP for EMEA/APAC providing 7 Band LTE Cat.4, three Band 3G UMTS/WCDMA, and Quad-Band GSM
- PLS83-J for Japan delivering 6 Band LTE Cat.4 and Quad-Band 3G HSPA/UMTS



- PLS83-LA for LATAM delivering 11 Band LTE Cat.4, six Band 3G HSPA/UMTS and Quad-Band GSM
- PLS83-X, PLS83-X2 and PLS83-X3 and PLS83-X4 for NORAM providing up to 10 Band LTE Cat.4 and Tri-Band 3G HSPA/UMTS
- PLS63-I for India providing 6 bands LTE, 3 Band 3G and Quad-Band 2G

Cinterion PLS83-W Features

General Features

- 3GPP Rel.10 Compliant Protocol Stack
- FDD-LTE: bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 18, 19, 20, 26, 28, 66
- TD-LTE: bands 38, 40, 41
- UMTS (WCDMA/FDD): bands 1, 2, 3, 4, 5, 6, 8, 19
- Quad Band GSM: 850, 900, 1800, 1900 MHz
- Integrated GNSS support (GPS/BeiDou/GLONASS/Galileo)
- SIM Application Toolkit, letter classes b, c, e with BIP and RunAT support
- Control via standardized and extended AT commands (Hayes, TS 27.007 and 27.005)
- Embedded IP stack with IPv4 and IPv6 support
- TCP/IP stack access via AT command and transparent TCP/UDP services
- Secure Connection with TLS/DTLS
- Internet Services TCP/UDP server/client, DNS, Ping, HTTP, SMTP, FTP client
- LGA pad soldering mount, MSL3
- Supply voltage range: 3.0 - 4.5 V
- Dimension: 33 x 29 x 2.6 mm
- Operating temperature: -40°C to +95°C
- RoHS compliant

Specifications

- FDD-LTE Cat.4
  DL: max. 150 Mbps, UL: max. 50 Mbps
- HSDPA Cat.10 / HSUPA Cat.6 data rates
  DL: max. 14.4 Mbps, UL: max. 5.76 Mbps
- E/GPRS Class 12
  DL: max. 237 kbps, UL: max. 237kbps
- SMS text and PDU mode support
- Multiple Operator VoLTE support, CSFB (circuit-switched fallback)
- High quality narrow and wideband voice support for a handset, headset and hands-free operation (HR, FR, EFR and AMR-WB)

Special Features

- USB Interface features a composite mode, compliant to Windows, Linux and Mac
- Firmware update via USB and ASC
- RLS Monitoring (Jamming detection)
- Informal Network Scan
- Cell ID based Location Support
- Module Services
- Embedded Processing (optional)
- eSIM

Approvals

- RED, GCF, CE, FCC, PTCRB, IC, UL, CCC, IFETEL, UKCA, Anatel, JATE, TELEC
- AT&T (Firstnet), Verizon, Telstra, NTT Docomo, KDDI

Interfaces

- Power Supply for Baseband, Radio Domain
- Pads for RX-Diversity /MIMO Antennas
- Pads for GNSS antenna
- USB 2.0 interface up to 480 Mbps
- High-speed serial modem interface ASC0
- 16 GPIO lines shared with DSR, DTR, DCD (all ASC0), ASC1 (RXD, TXD, RTS, CTS), SPI, Fast-Shutdown, Network-Status-Indication, PWM, Pulse-Counter lines, TX-Indicator, 700MHz- Indicator
- ADC and I2C interface
- Digital audio interface (PCM and I2S modes)
- Dual UICC and U/SIM card interfaces 1.8V/3V
- Lines for Module-On and Reset
- DAI
- SGMII

Drivers

- USB, MUX driver for Microsoft® Windows 7™, Microsoft® Windows 8™ and Microsoft® Windows 10™
- RIL Driver for Android
- Ofono for Linux

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.

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