

# Cinterion® PLAS9 Wireless Module

LTE Advanced Connectivity With 3G and 2G Fallback



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2G Fallback



## PLAS9

-  **Multi Band LTE Cat 6**
-  **Dual Band 2G Penta Band 3 GSM**
-  **USB 3.0 High Speed Compatible**
-  **Multi Design Capability (LGA)**
-  **Bearer Independent Protocol**

The Thales Cinterion® PLAS9 wireless module is built for demanding, high performance IoT applications delivering LTE advanced connectivity under extreme conditions. With Cat. 6 LTE technology, the PLAS9 enables sizzling data speeds of 300 Mbit/s download and 50 Mbit/s uplink plus seamless fallback to 3G and 2G networks. Providing reliable coverage in RF noisy urban areas as well as locations where 4G is still developing, it is an ideal solution for industrial routers and gateways, digital signage, industrial mobile computers and tablets.

### Key Features

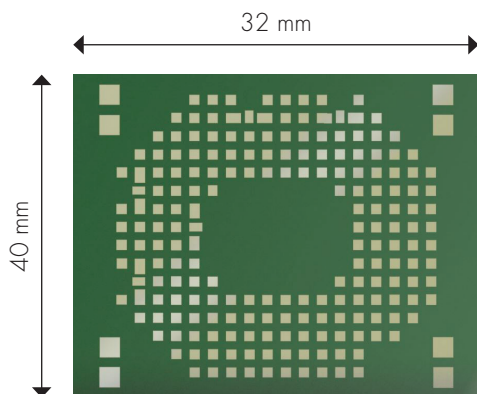
The PLAS9 provides global coverage and 3G/2G fallback on just two variants, the PLAS9-X and PLAS9-W. The module's innovative RF concept enables extreme performance and sensitivity and connection stability. MIMO 2x2 antenna interfaces enable consistent performance and improved data speeds. With carrier aggregation, PLAS9 delivers enhanced peak user data rates and optimized use of spectrum for improved connectivity performance.

Thales's proprietary 156 LGA footprint enables optimized heat dissipation that prevents warping while allowing the freedom to select the most beneficial soldering paste and stencil height suited to each individual application.

### Industrial Plus Family Benefits

The PLAS9 wireless module is part of the Cinterion Industrial Plus family, which leverages the latest wireless standards to deliver IoT optimized data speeds and Multi Band capabilities to ensure seamless global coverage. They share a common footprint providing a seamless migration path to protect your IoT investment and they are available in local and global variants including 2G, 3G, CDMA, LTE and LTE Advanced. They come with full type approval (FTA) and they are certified by the largest global network operators. All Cinterion modules are compatible with Thales's comprehensive suite of solutions, services and platforms that help enterprises Connect, Secure and Monetize IoT technology.

# LTE Advanced for Demanding Industrial IoT



## Carrier Aggregation

Delivering a major benefit of LTE Advanced technology, PLAS9 supports carrier aggregation which allows Mobile Network Operators to combine two or more carriers into one data channel for enhanced data capacity, improved peak user performance and optimized use of spectrum.

## Future Proof and Multi Design Capability

Extreme durability, long life components and a unique LGA form factor compatible with past and next generation wireless modules ensures easy migration between wireless standards from a single design, which helps to improve Total Cost of Ownership.

## Advanced Radio Frequency Design

A highly integrated RF design improves reliability and stability in harsh and fluctuating conditions providing excellent performance in noisy urban areas.

## Thales Advantages:

- Trusted partner to 450+ global MNOs ensures products evolve in sync with networks and modules are pre-certified for all global mobile networks
- Core competency in MIM, SIM and eUICC technology allows simplified integration with modules and lower Total Cost of Ownership
- Expert design consulting, local market engineering support and a skilled 24/7 help desk streamline development and deployment
- Global leader in digital security solutions and platforms
- Experienced provider of software solutions for Quality of Service and product life cycle management
- Extensive RF test capabilities and GCF/PTCRB pretests to validate readiness for solution approval process

## Cinterion® PLAS9 Features

### General Features

- Regional variants
  - PLAS9-X: Hexa-Band LTE-Advanced FDD: 700 MHz (B12/B17, B13, B29), 850 MHz (B5), 1700 MHz (B4), 1900 MHz (B2)
  - PLAS9-W: Hendeka-Band LTE-Advanced FDD: 700 MHz (B28A, B28B), 800 MHz (B20), 850 MHz (B5, B18, B19, B26), 900 MHz (B8), 1800 MHz (B3), 2100 MHz (B1), 2600 MHz (B7) Quad-Band LTE-Advanced TDD: 1900 MHz (B39), 2300 MHz (B40), 2500 MHz (B41), 2600 MHz (B38)
- LTE (FDD 3GPP Release 9; 2x2 DL-MIMO)
- UMTS/HSPA (FDD) 3GPP Release 8; Rx diversity
- GSM/GPRS/EDGE 3GPP Release 6; DARP/SAIC
- SIM Application Toolkit, 3GPP release 99
- Control via AT commands (Hayes, TS 27.007, TS 27.005)
- Supply voltage range 3.3 - 4.2 V, highly optimized for minimal power consumption
- Dimension: 40 x 32 x 2,8 mm
- Operating Temperature Range: -40 °C to +95 °
- RoHS, RED and REACH compliant, EuP support

### Specifications

- LTE Cat. 6DL: max. 300 Mbps, UL: max. 50 Mbps, 2x2 DL MIMO
- HSPA+ DL Cat.24 / UL Cat. 6, Dual Carrier DL: max. 42 Mbps, UL: max. 5.76 Mbps
- EDGE Class 12 data rates DL: max. 237 kbps, UL: max. 237 kbps
- GPRS Class 12 data rates DL: max. 85.6 kbps, UL: max. 85.6 kbps
- Data only
- SMS text and PDU mode

### Special Features

- USB 2.0/3.0 interface supports multiple composite modes and a Linux-/Mac- compliant mode
- Firmware update via USB

## Interfaces (LGA Pads)

- 156 pad LGA mount
- Pads for primary, secondary Antenna
- USB 3.0 super speed (5 Gbps)
- 2 UICC (SIM/MIM) interfaces 1.8V / 3V
- 10 programmable GPIOs including wake-up and lowcurrent indication, 2 ADCs

## Drivers

- NDIS/USB driver for Microsoft®, Windows 7™, Windows 8™ and Windows 10™
- RIL driver for devices based on Android OS™

## Approvals

- R&TTE, GCF, CE, FCC, IC, PTCRB, UL
- California RoHS
- AT&T, Telstra and Verizon operator approvals
- Other local approvals and certifications on request

## 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](http://www.thalesgroup.com/iot) or follow [@ThalesIoT](https://twitter.com/ThalesIoT) on Twitter

