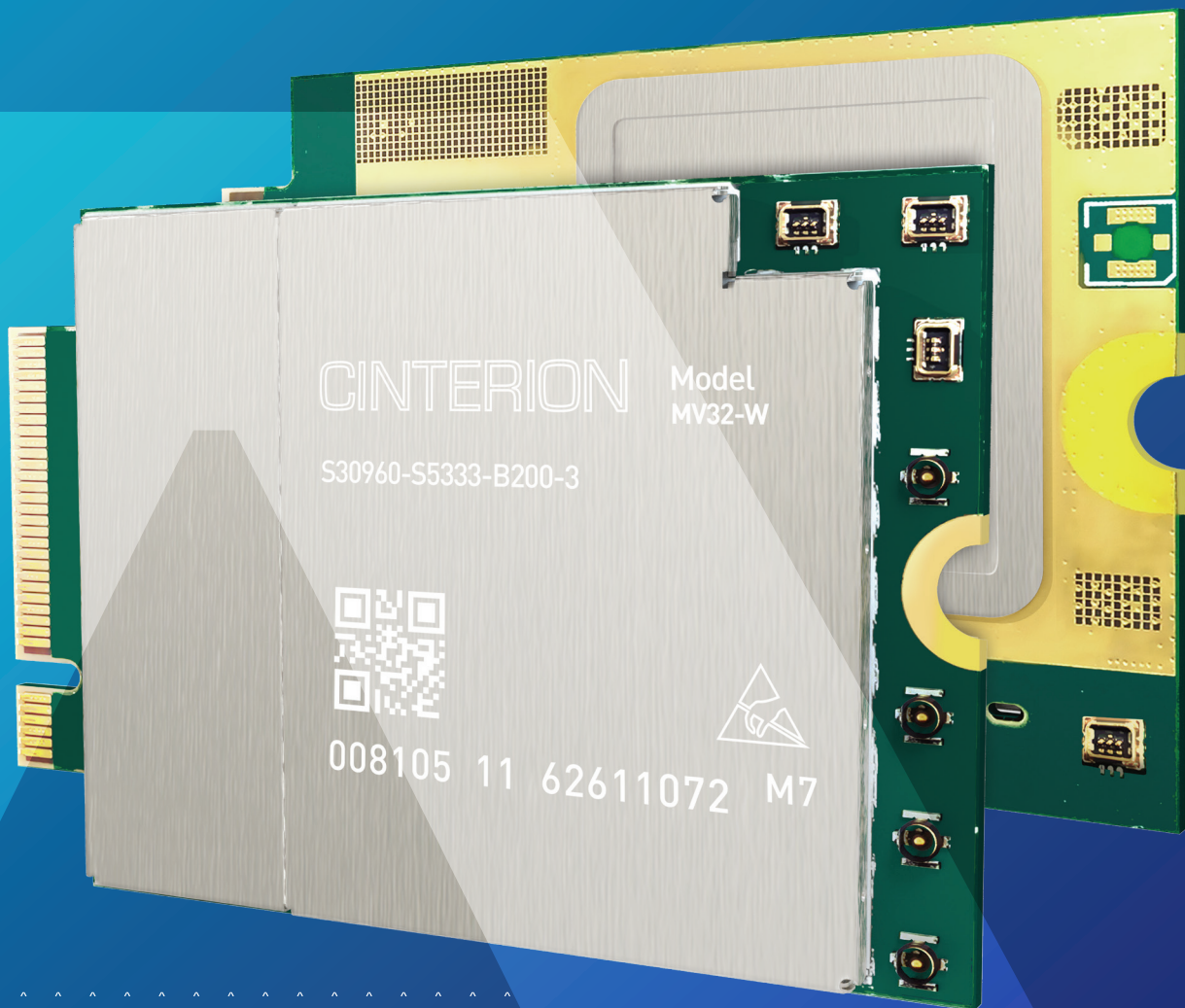**THALES**
Building a future we can all trust

5G

Cinterion® MV32-W Modem Card

Next Generation Ultra-High-Speed 5G M.2 modem card

5G

Cinterion® MV32-W Modem Card

Next Generation Ultra-High-Speed 5G M.2 modem card

Access to the entire 5G spectrum
- **5G Sub-6**, eMBB with reliable, low latency communication capabilities
- Global 5G coverage on one single SKU
- LTE Cat.20 fallback

Most compact plug and play M.2 data card
- Smallest standard 30x42 M.2 with PCIe3.0 and USB 3.1
- Support of Windows11, Linux and Android 11+

Flexible Network usage
- Dual SIM support with Dual-SIM Single Standby (DSSS)
- Key Mobile Network Operator approvals
- Flexible SIM support: embedded SIM or dual external SIM support
- Dynamic Connectivity Activation for Public and Private Networks

Outstanding Thermal Performance
- Temp: -40 to +85 C°
- Advanced temperature management
- Superior thermal design

The Cinterion MV32-W is the latest generation of 3GPP release 16 compliant 5G modem cards, a new addition to the MV series after the success of the first generation MV31. The MV32 further improves on class-leading thermal efficiency and enables unrivalled throughput performance in an extremely compact card form factor with an integrated Thales eSIM inside.

With 3GPP Release 16 support, the MV32 modem card, stays at the forefront of the 5G technological evolution, combining both enhanced mobile broadband (eMBB) and ultra-reliable low latency communication (URLLC) to serve high bandwidth and mission critical applications such as industrial router/gateways, 8K video stream security and camera applications, smart manufacturing, robotics and private network implementations.

The smallest of its kind, this compact solution supports the entire 5G spectrum with extended Sub6 and millimeter wave frequencies, surpassing previously known performance levels with blistering fast data speeds in both downlink and uplink,

plus fallback to LTE and 3G networks. The MV32 promises to provide the most secure 5G connectivity anywhere and everywhere on the globe.

Key Features:

The MV32-W is offered as a single global variant delivering connectivity for 5G, with LTE Cat. 20 and 3G fallback. It brings extreme technological complexity into one super compact, pluggable and convenient form factor to simplify the move to the latest 5G technology, enabling an easy migration from both LTE and first generation 5G. With the Thales eSIM inside (optional dual external SIM support as well), the MV32-W strengthens security, simplifies manufacturing, and streamlines logistics while providing flexibility in the field with 5G connectivity activation - easy remote provisioning and dynamic subscription management. This helps to simplify IoT solution design and logistics while lowering Total Cost of Ownership (TCO).

Housed in an ultra-rugged, compact 42mm x 30mm x 2.6mm M.2 form factor, it further improves the award winning MV31 design, with both PCIe and USB on the same SKU and support for up to 4x mmWave antennas. The step type shielding and the unique PCB design coupled with an industry-leading temperature management system ensures better thermal characteristics and longer operation under heavy duty conditions. The advanced positioning technology with dual-frequency GNSS supports GPS, Glonass, Beidou and Galileo for precise positioning anywhere in the world.

All Cinterion IoT connectivity solutions come with global customer support, Full Type Approval (FTA), and mobile network operator certification to support a fast time to market. The MV32-W simplifies 5G connectivity implementation significantly and Thales promises outstanding expert support for every step from design to approval.

The leading 5G modem card solution – Your business advantage

▌ **Save costs: maximum connectivity flexibility with Cinterion Connectivity Activation combined with the onboard Thales eSIM, to reduced complexities in manufacturing, logistics and installation.**

▌ **Guaranteed Reliability: your customers are always online due the most reliable, resilient and secure 5G connection over lifetime, security from the edge to the cloud thanks to Thales' industry leading security implementations and penetration tested assurance.**

▌ **Fastest time to market: Thales stands for experienced support during design, manufacturing and approvals whether its on public or private networks.**

General Features:

▌ 5G SA and NSA (3GPP Release 16)

FDD: n1, n2, n3, n5, n7, n8, n12, n13, n14, n18, n20, n25, n26, n28, n30, n66, n70, n71
TDD: n38, n40, n41, n48, n53, n77, n78, n79
SDL: n75, n76

▌ LTE Advanced-Pro (3GPP Release 15)

FDD: B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29, B30, B32, B66, B71, B75, B76
TDD: B34, B38, B39, B40, B41, B42, B43, B46, B48

▌ UMTS/HSPA+ (3GPP Release 8):

FDD Bands 1, 2, 4, 5, 8

▌ Integrated Dual Frequency GNSS:

▌ L1 (GPS, Glonass, Beidou, Galileo)

▌ L5 (GPS, Beidou, Galileo)

▌ SIM Application Toolki

▌ Supply voltage: 3.3V typical

▌ Dimensions: 30mm x 42mm x 2.6 mm

▌ Temperature range -40°C to +85°C

▌ Weight: approx. 8g

▌ Data only, VoNR TBC

Specifications:

▌ 5G FR1 Max DL/UL: TBC

▌ 5G FR2 Max DL/UL: TBC

▌ LTE Adv.-Pro DL Cat. 20 / UL Cat. 13, Max DL/UL: 2.0 Gbps/211 Mbps*

▌ 4x4 MIMO DL / 2x2 MIMO UL

▌ HSPA+ Dual Carrier DL Cat. 24 / UL Cat. 6, Max DL/UL: 42 Mbps/11 Mbps*

*Theoretical maximum data rates

Approvals:

- RED (RoHS, REACH), FCC, GCF, PTCRB, ISED, RCM, JATE/TELEC, NCC

- Global MNO Approvals – AT&T incl. Firstnet, VzW, TMO-US, Vodafone, Telstra, NTT, KDDI, Softbank

Interfaces

- PCIe3.0/4.0 and USB 3.1 on the same SKU

- 4x MHF4 onboard connectors for Sub6GHz 4x4

- SIM/USIM interfaces supporting 1.8/3V

- 4x connectors for mmWave antennas

Drivers

- Windows® 11

- Linux® Kernel 5.10.x+

- Android 11+

Special & Security Features

- Dual SIM support with Dual-SIM Single Standby (DSSS)

- SIM Switching between internal eSIM or external SIM

- Secure Boot

- Advanced Device Security

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

For more information, please visit **www.thalesgroup.com/IoT** or follow **@ThalesIoT on Twitter**