thalesgroup.com/iot

THALES

5G

Cinterion® MV31-W Modem Card

Ultra High-Speed 5G with LTE and 3G Fallback



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

5G

Cinterion® MV31-W Modem Card

Ultra High-Speed 5G with LTE and 3G Fallback



Supporting the whole 5G spectrum

- Sub 6 GHZ operation, with optional millimeter wave support
- Global 5G coverage on one single SKU
- LTE Cat. 20 fallback

Most compact plug and play M.2 data card

- Compact standard 30x42 M.2 with PCIe3.0
- Plug and play support of Windows® 10 and Linux

Flexible Network usage

- Dual SIM support with Dual Standby Single Active support
- Main MNOs approval
- Flexible SIM support: Consumer and M2M eSIM with onboard option

True Industrial IoT

- Temp: -40 to +85 C°
- Advanced temperature management
- Special heat dissipation design

Proven cellular configuration

- Unique RF Core encapsulates complexity and increases reliability
- Core cellular configuration tested and approved in high volume computing application

The Cinterion® MV31-W IoT modem card delivers ultra high-speed 5G enhanced mobile broadband (eMBB) for performance IoT applications such as industrial routers and gateways, digital signage, industrial computers and tablets in both Stand Alone (SA) and None Stand Alone (NSA) modes. The compact solution is the smallest of its kind supporting the entire 5G spectrum with FR1 sub-6GHz and FR2 mmWave bands. It enables blistering fast data speeds of multiple gigabit per second transmission capability in both downlink and uplink plus-fallback to 4G LTE and 3G networks. It also provides excellent global coverage in both urban areas and regions where 5G is still emerging.

Key Features:

The MV31-W is offered in a single global variant delivering connectivity for 5G, LTE Cat.20 while also supporting fall-back to 3G HSPA+ in needed. The module supports 4x4 MIMO antenna connections shared with GNSS reception whilst providing interfaces for 3 x 2in1 IF antenna connectors for mmWave operation. The MV31-W brings extreme technological complexity into one pluggable and convenient form factor to simplify the move to 5G. With optional integral dual SIM, eSIM support, the MV31-W strengthens security, simplifies manufacturing, and streamlines logistics while providing flexibility in the field with 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 2.5mm M.2 form factor. Step type shielding ensures better heat dissipation and extended operating temperature ranges while software update packages ensure reliability and long product lifecycles. Advanced positioning technology with dual-frequency

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

GNSS supporting 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 MV31-W is at the fore front of innovation and promises easy connectivity unlocking the full capability of 5G extreme data throughput and low latency communication.

Smallest 5G M.2 data card 30x42



42mm x 30mm x 2.5mm M.2

Global support for the whole 5G spectrum

Offering global 5G with LTE and 3G fall-back from a single SKU, the MV31-W greatly simplifies the IoT value chain allowing a single design for all world regions.

Thales eSIM simplifies and secures IoT connectivity

An integral dual SIM, eSIM strengthens security, authenticates devices, encrypts data, and securely manages connections to cellular networks. It works seamlessly with Thale's subscription management solution to maintain connectivity for the long lifecycle of devices. In addition, it simplifies integration, manufacturing, and logistics while enabling smaller designs.

Easy evolution and lifecycle management Thales Core Connectivity Solutions Ready

An ultra-rugged, compact 42mm x 30mm x 2.5mm M.2 form factor supports easy migration from 2G to 3G through LTE Advanced to 5G while seamless integration with the Cinterion IoT Suite ensures cost-effective lifecycle management and IoT investment protection.

General Features:

- 5G SA and NSA (3GPP Release 15)
  - FR1 FDD-LTE Bands: n1, n2, n3, n5, n7, n8, n12, n20, n28, n66, n71
  - FR1 TD-LTE Bands: n38, n41, n77, n78, n79
  - FR2 mmWave: n257, n258, n260, n261
- LTE Advanced-Pro (3GPP Release 15)
- FDD-LTE Bands: 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29, 30, 32, 66, 71
- TD-LTE Bands: 34, 38, 39, 40, 41, 42, 46 (LAA), 48 (CBRS)
- UMTS/HSPA+ (3GPP Release 8):
  - FDD Bands: 1, 2, 4, 5, 6, 8, 9, 19
- Optional mmWave support
- Worldwide coverage in single SKU
- 5G Standalone (SA) and Non-Standalone (NSA) Support
- Integrated Dual Frequency GNSS: Simultaneous L1 and L5 supporting GPS, GLONASS, Galileo and Beidou
- Dual SIM with embedded eSIM support
- Supply voltage range 3.14V - 3.63V
- Dimensions (W x L x H): 30mm x 42mm x 2.5 mm - Smallest 5G M.2 data card 30x42
- Data only

Specifications:

- 5G Sub6 Ghz: Max throughput DL/UL ~4 Gbps/ ~0.7 Gbps
- 5G mmWave: Maximum throughput DL/UL ~7 Gbps/~3 Gbps
- LTE Cat. 20: Max throughput DL/UL 2 Gbps / 150 Mbps
- HSPA+ Rel8: Max throughput DL/UL 42 Mbps / 11 Mbps

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Approvals:

- RED, RoHS, REACH, CE, IC, FCC, ISED, GCF, PTCRB, RCM, JATE/TELEC
- MNOs supported: AT&T, Verizon, Sprint, FristNet, Vodafone, Telefonica/O2, Swisscom, Telstra, Optus, NTT Docomo, Softbank, China Mobile, Chine Unicom, China Telecom

Interfaces (34 Pin Edge Connector)

- PCIe 3.0 / USB 3.1
- 4x MHF4 on-board connectors for Sub6 GHz frequencies (shared with GNSS)
- 3x 2-in-1 IF connectors for mmWave antennas

Drivers

- Windows® 10
- Linux®
- Android (optional)

Special Features

- Dual SIM support with Dual Standby Single Active support
- Optional eSIM on module
- Dynamic Power Reduction (DPR) with control over software
- Unique hardware design for performance and thermal efficiency

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 on Twitter**

thalesgroup.com/iot

Thales has a policy of continuous development and improvement and consequently the equipment may vary from the description and specification in this document.
This document may not be considered as a contract specification. Graphics do not indicate use or endorsement of the featured equipment or services.

© Thales 2020 Ref: Criterion EMS31_13_08_2020

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000