MV31

5G/LTE

Product Description

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 Benefits

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+ if needed. The module supports 4x4 MIMO antenna connections shared with GNSS reception whilst providing interfaces 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, it has an award winning design. The step type shielding and the unique PCB design coupled with a sophisticated temperature management system ensures better heat dissipation and longer operation under heavy duty conditions. Advanced positioning technology with dual-frequency GNSS supporting GPS, Glonass, Beidou andGalileo 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.

AVAILABLE FOR

Worldwide

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 Beido
- Supply voltage range 3.14V - 4.8V
- Dimensions (W x L x H): 30mm x 42mm x 2.5 mm - Smallest 5G M.2 data card
- Temperature range: Extended operation -40°C to +85°C
- Data only

Specifications

- 5G Sub6 Ghz: Max throughput DL/UL ~4 Gbps/ ~0.7 Gbps*
- 5G mmWave: Max throughput DL/UL ~6 Gbps/~3 Gbps*
- LTE Cat. 20: Max throughput DL/UL 2 Gbps / 150 Mbps*
- HSPA+ Rel8: Max throughput DL/UL 42 Mbps /11Mbps

  *Theoretical maximum data rates

Approvals

- CE/RED, RoHS/REACH, FCC, ISED, GCF, PTCRB, RCM, JATE/TELEC, NCC
- MNOs supported: AT&T incl. Firstnet, Verizon, TMO US, NTT Docomo, KDDI, Softbank

Interfaces (34 Pin Edge Connector)

- PCIe 3.0 / USB 3.1 Gen.2 SuperSpeed
- 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

Special Features

- eSIM onboard + external SIM or optional ext. Dual SIM
- Dynamic Power Reduction (DPR) with control over software
- Unique hardware design for performance and thermal befficiency

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