FN990B34/B40

5G/LTE

Product Description

FN990B34 and FN990B40 M.2 modems are Telit Cinterion's next-generation 5G data cards. They feature sub-6-only technology with state-of-the-art LTE, WCDMA and GNSS support.

These data cards are ideal for future-proof broadband applications, ensuring 5G and Gigabit LTE benefits in a feature-packed modem.

The industrial-grade M.2 form factor suits many high-performance and bandwidth-intensive enterprise and industrial applications.

FN990B applications include:

- Enterprise routers and gateways
- Fixed wireless access
- Indoor and outdoor CPE
- Mobile computing
- Professional broadcasting
- Video surveillance

The FN990B34 and FN990B40 have a wide frequency band design for global usage. They incorporate support for all scenarios prescribed by 3GPP Release (Rel) 17 5G deployments, including:

- Stand-alone (SA) and non-stand-alone (NSA)
- LTE and 5G NR dual connectivity (EN-DC)
- Dynamic spectrum sharing (DSS) between LTE and 5G
- Network Slicing

These data cards leverage the full feature set of the groundbreaking fifth-generation Qualcomm® Snapdragon® X72 5G Modem-RF System. They support all major sub-6 GHz frequency bands. With an array of regulatory, MNO and industry-standard certifications, the FN990B series provides users with maximum deployment flexibility.

The modem is available in two pin-to-pin compatible SKUs with different maximum 5G bandwidth capabilities.

Key Benefits

- Supports 5G sub-6 FDD and TDD for global deployment
- Supports SA and NSA operations, 5G core network Opt. 3a/3x and Opt. 2 for full network compatibility
- Latest generation 4G/5G Rel 17 chipset
- 4G Cat 20 up to 5xCA
- Intra- and interband UL CA supported on 4G networks for better throughput performance for uplink-centric applications (e.g., 4K/8K video streaming)
- 3G HSPA+ Rel 8 for fallback to legacy networks
- Standard M.2 (NGFF) data card form factor
- Supports PCIe Gen 3 and USB 3.1 Gen 2 for maximum application design flexibility
- State-of-the-art GNSS receiver with L1 and L5 bands support
- Supports OpenWRT Linux distribution for easy and secure management of network routing capabilities

AVAILABLE FOR

NA

EMEA

APAC

FN990B34/B40

Variants

	FN990B34	FN990B40
Market	Global (North America, EMEA, APAC)	
5GFR1 Bands	n1, n2, n3, n5, n7, n8, n12, n13, n14, n18, n20, n25, n26, n28, n29 (DL), n30, n38, n40, n41, n48, n53, n66, n67, n68, n70, n71, n75, n76, n77, n78, n79, n90, n91, n92, n93, n94	
5GFR1 Bandwidth	140 MHz, 2CC CA DL	200 MHz, 3CC CA DL
5G FR2 Bands	N/A	
LTE Bands	1, 2, 3, 4/66, (5/18/19/26), 7, 8, 12/17, 13, 14, 20, 25, 28, 30, 29 (DL), 32 (DL), 34, 38, 39, 40, 41, 48 (CBRS), 46 (LAA, RX), 67 (DL), 68, 70, 71, 75 (DL), 76(DL)	
WCDMA Bands	B1, B2, B4, B5 (B6, B19), B8	
Approvals	FCC, IC, CE/RED, NCC, RCM, GCF, PTCRB, Various MNOs*	

** Planned*

Product Features

- 5G 3GPP Rel 17 sub-6 FDD and TDD, SA and NSA operations
- 5G core network Opt. 3a/3x and Opt. 2
- 4G: 7 CA up to 20 layers DL/2 CA UL, 256-QAM DL/UL
- 3G: 3GPP WCDMA Rel 99, HSDPA, HSUPA, HSPA+ and DCHSPA+ (DL/UL 42/11 Mbps)
- GNSS: GPS, GLONASS, Galileo and BeiDou support
- Two GNSS paths to support simultaneous L1 and L5 operation
- 4 x 4 MIMO DL support on all 4G and 5G MHB and UHF bands
- 2 x 2 MIMO DL support on LB and B46 bands 2 x 2 MIMO UL support on bands 1, 25, 3, 7, 41, 48, 66, 77, 78, 79
- Four LTE and sub-6 antenna connectors with GNSS shared path
- SRS support: 1T/2R (TDD_LTE), 1T/4R, 2T/4R (TDD_NR SA)
- 3GPP standard and proprietary Telit Cinterion AT commands
- AppZone development environment

Hardware and Electrical Specifications

- Dimensions: 30 x 52 x 2.25 mm
- 1.8/3 V SIM interface
- Optional embedded SIM (eSIM)
- USB 3.1 Gen 2
- PCIe Gen3: one lane
- Drivers support:
  - Windows 11
  - Linux
- Operating temperature range:

  -40° C to +85° C
- LTE/5G sub-6 output power:
  - 23 dBm (Power Class 3)
  - 26 dbm (Power Class 2 on B38/ B41/B42/B43 and n25/n66/n71)
  - 29 dbm (Power Class 1.5 on n41/ n77/n78/n79)
- Supply voltage:
  - Nominal: 3.3 V dc

Data Throughput

FN990B40

- 5G NSA (DL: LTE 8-layer + NR 200 MHz): 4.9 Gbps DL, 0.55 Gbps UL
- 5G SA (NR 200 MHz): 4.1 Gbps DL, 0.90 Gbps UL
- 4G (DL: LTE 20-layer) 2 Gbps DL, 210 Mbps (UL, 2xCA) UL
- 3G (HSPA+) 42 Mbps DL, 11 Mbps UL

FN990B34

- 5G NSA (LTE 8-layer + NR 140 MHz): 3.6 Gbps DL, 0.55 Gbps UL
- 5G SA (NR 140 MHz): 2.8 Gbps DL, 0.90 Gbps UL
- 4G (DL: LTE 20-layer) 2 Gbps DL, 210 Mbps (UL, 2xCA) UL
- 3G (HSPA+) 42 Mbps DL, 11 Mbps UL

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