FN990A40/A28
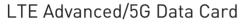
5G/LTE Data Card   M.2

52 mm

30 mm   2.3 mm

LTE Advanced/5G Data Card

The Telit FN990A40 and FN990A28 data cards enable the next generation of state-of-the-art 5Gdata cards. They feature sub-6-only technology with LTE, WCDMA and GNSS support. These data cards lay the foundation for businesses worldwide to future-proof IoT, enterprise applications and video. They leverage 5G and Gigabit LTE benefits immediately.

The industrial-grade M.2 form factor is suitable for many high-performance and bandwidth-intensive enterprise and industrial applications. Use cases include:

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

Designed for global usage, the FN990A40 and FN990A28 incorporate support for all scenarios prescribed by 3GPP Release (Rel) 16 5G deployments, including:
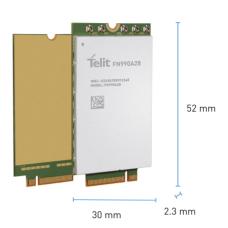
- Non-stand-alone (NSA) LTE-5G New Radio (NR) dual connectivity (EN-DC)
- Dynamic spectrum sharing between LTE and 5G
- Full 5G NR stand-alone (SA) mode

The FN9900A40 and FN990A28 leverage the fourth-generation Qualcomm Snapdragon X65 and Snapdragon X62 5G Modem-RF system's feature set.

- The FN990A40 data card is based on Snapdragon X65, targeting high-tier market needs.
- The FN990A28 data card is based on Snapdragon X62, targeting mid-tier market needs.

These data cards support the latest 5G deployments and all major sub-6 GHz frequency bands, providing maximum deployment flexibility.

Key Benefits

- Supports 5G sub-6 FDD and TDD for global deployment
- Supports SA and NSA operations and 5G core network Opt. 3a/3x and Opt. 2 for full network compatibility
- Latest generation 4G and 5G Rel 16
- 4G Cat 20 up to 7xCA for FN990A40
- 4G Cat 19 up to 5xCA for FN990A28
- Intraband and interband UL CA supported on 4G networks for improved throughput performance for uplink-centric applications (e.g., surveillance cameras and 4K/8K video streaming)
- 3G HSPA+ Rel 8 for fallback to legacy networks
- Standard M.2 (NGFF) data card form factor
- Support for PCIe Gen 3 and USB 3.1 Gen 2 for maximum application design flexibility
- Dedicated/shared (switchable) RF path/connector for GNSS L1 to allow total flexibility in the design phase and low losses whenever high sensitivity is required
- Internal GNSS L1 LNA allows the use of less expensive passive antennas, lowering the total cost of ownership

AVAILABLE FOR

NA

EMEA

APAC

**Complete,
Ready-to-Use Access**
to the Internet of Things

IoT Modules   Connectivity Plans   Software & Platforms

FN990A40/A28

Variants

	FN990A40	FN990A28
Market	North America, EMEA, APAC	
5G FR1 bands	n1, n2, n3, n5, n7, n8, n12, n13, n14, n18, n20, n25, n26, n28, n29, n30, n34, n38, n39, n40, n41, n48, n66, n71, n75, n76, n77, n78, n79	
5G FR1 bandwidth	200 MHz, 3CC CA DL	120 MHz, 2CC CA DL
5G FR2	N/A	
LTE	1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29 DL, 30, 32, 34, 38, 39, 40, 41, 42, 43, 46 (LAA), 48 (CBRS), 66, 71	
WCDMA	1, 2, 3, 4, 5, 6, 8, 9, 19	
Approvals	FCC, IC, RED, NCC, JATE/TELEC, KCC, RCM, PTCRB, GCF, various MNOs	

Future release

Product Features

- 5G sub-6 FDD and TDD, SA and NSA operations
- 5G core network Opt. 3a/3x and Opt. 2
- 4G (FN990A40): 7xCA up to 20 layers DL/ 2xCA UL, 256-QAM DL/UL
- 4G (FN990A28): 5xCA up to 19 layers DL/2xCA UL, 256-QAM DL/UL
- 3G: HSPA+ Rel 8 (42 DL/11 UL Mbps)
- GNSS: gpsOne™ Gen 9 Band L1 on dedicated RF connector
- 4 x 4 MIMO DL support on bands:
  - o   5G FR1: n1, n2, n3, n7, n25, n38, n40, n41, n48, n66, n77, n78, n79
  - o   4G: 1, 2, 3, 4, 7, 25, 30, 38, 39, 40, 41, 42, 43, 48, 66
- 2x2 MIMO UL support on bands:
  - o   5G FR1: n41, n77, n78, n79
- Antenna types: four LTE/sub-6 + one GNSS
- FOTA support
- Dimensions: 30 x 52 x 2.3 mm

Data Throughput

- 5G NSA up to:
  - o   FN990A40: 4.9 Gbps DL/0.55 GBPS UL
  - o   FN990A28: 3.4 Gbps DL/0.55 Gbps UL
- 5G SA up to:
  - o   FN990A40: 4.1 Gbps DL/0.66 Gbps UL
  - o   FN990A28: 2.5 Gbps DL/0.55 Gbps UL
- 4G up to:
  - o   FN990A40: 2.0 Gbps DL/211 Mbps UL
  - o   FN990A28: 1.6 Gbps DL/211 Mbps UL
- 3G up to 42 DL/11 UL Mbps

Environmental

- Operating temperature range:

  -40 °C to +85 °C

Interfaces

- 1.8/3 V SIM interface
- USB 3.1 Gen 2
- PCIe Gen 3/Gen 4: one lane
- Drivers support: Windows 10, Linux

Electrical & Sensitivity

- LTE/5G sub-6 output power:
  - o   23 dBm (Power Class 3)
  - o   26 dBm (Power Class 2 in bands 41 and n41)
- Supply voltage:
  - o   Nominal: 3.3 V dc