PRELIMINARY

FE990B34/40

5G/LTE-Advanced

Product Description

The Telit Cinterion FE990Bxx LGA module family enables next-generation, high-performance 5G LGA modules. They feature 5G sub-6 technology with Gigabit LTE and WCDMA support, plus a state-of-the-art multiconstellation GNSS receiver.

This LGA module is ideal for applications that require ruggedized modems that are feature- and interfac-erich with a compact footprint. It's suitable for high-performance enterprise and industrial applications, including :

- Indoor and outdoor fixed wireless access (FWA)
- Video streaming and surveillance devices
- Mobile and industrial routers and gateways

This module leverages Qualcomm® Snapdragon® X72 5G Modem-RF System and is compliant with 3GPP 5G Release (Rel) 17 5G deployments, including:

- Non-stand-alone (NSA) LTE/5G NR dual connectivity (EN-DC)
- Full 5G NR stand-alone (SA) mode
- Dynamic spectrum sharing (DSS) between LTE and 5G
- Network Slicing

The FE990B modems are available in two regional variants:

- **FE990B34-RW and FE990B40-RW:** Support key sub-6 frequency bands in Europe, the Middle East, South America and Oceania with LTE and WCDMA fallback technologies
- **FE990B34-NA and FE990B40-NA:** Support key sub-6 frequency bands in North America with LTE fallback technology

Key Benefits

- Available in two regional variants (EMEA and North America) with 5G sub-6 FDD and TDD bands
- Each regional SKU is available with 2xCA or 3xCA support
- Supports SA and NSA operations and 5G core network Opt. 3a/3x and Opt. 2 for full network compatibility
- Next-generation 5G Rel 17 networks.
- 4 x 4 MIMO DL support on all bands
- 4G Category (Cat) 20 up to 5xCA
- Intraband and interband UL CA supported on 4G networks for better throughput performance for uplink-centric applications (e.g., surveillance cameras and 4K/8K video streaming)
- 3G HSPA+ Rel 8 for fallback to legacy networks (FE990Bxx-RW only)
- Compact form factor (41 x 41 x 2.9 mm)
- Multiple PCIe interfaces: Gen 4 (one lane) or Gen 3 (two lanes) and USB 3.1 Gen 2 support for maximum application design flexibility
- GNSS L1 support (L5 available on request) with a dedicated antenna pad and internal GNSS LNA to allow less expensive passive antennas, which lowers the cost of ownership
- An array of interfaces exposed (over 300 pads): USB, PCIe Gen 3, UART, Wi-Fi coexistence etc.
- High-performance quad-core CPU and Linux OpenWRT OS, ideal for router development without an external CPU
- Telit Cinterion IoT AppZone development environment to allow customers to implement applications that run on the module CPU

AVAILABLE FOR

NA

EMEA

APAC

FE990B34/40

PRELIMINARY

Variants

	FE990B34-RW, FE990B40-RW	FE990B34-NA, FE990B40-NA
Market	EMEA, Oceania, South America	North America
5G FR1 Bands	n1, n3, n5, n7, n8, n20, n28, n40, n41 (n38), n75, n76, n77, n78, n79	n2, n5, n7, n12, n13, n14, n25, n26, n29, n30, n41 (n38), n48, n66, n70, n71, n77, n78
5G FR1 Bandwidths	FE990B34: 140 MHz, 2CC CA DL FE990B40: 200 MHz, 3CC CA DL	
5G FR1 4 x 4 MIMO DL Support	n1, n3, n7, n38, n40, n41, n77, n78, n79	n2, n7, n25, n28, n30, n41, n48, n66, n71, n77, n78
5G FR1 2 x 2 MIMO UL Support	n40, n41 (n38), n77, n78	n41 (n38), n77, n78
LTE Bands	B1, B3, B5 (B18, B19), B7, B8, B20, B28, B32, B40, B41 (B38), B42, B43	B2, B4, B5, B7, B12, B13, B14, B17, B25, B26, B29, B30, B40, B41 (B38), B42, B43, B48, B66, B71
LTE 4 x 4 MIMO DL Support	B1, B3, B7, B32 (DL), B38, B40, B41, B42, B43	B2, B4, B7, B25, B30, B41, B42, B43, B48, B66
WCDMA Bands	B1, B5 (B6, B19), B8	N/A
GNSS	L1 supported (L5 available on request)	
VoLTE, VoNR	Available on request	
Certifications	Anatel, CE/RED, GCF, Vodafone, Deutsche Telekom, VF*	FCC, IC, PTCRB, AT&T, T-Mobile U.S., Verizon*

**Planned*

Product Features

- 5G sub-6 FDD and TDD, SA and NSA operations
- 5G core network Opt. 3a/3x and Opt. 2
- 4G: 5xCA up to 20 layers DL, 2xCA UL; 256-QAM DL/UL
- 3G: HSPA+ Rel 8; 42 Mbps DL, 11 Mbps UL (-RW variants only)
- GNSS: gpsOne Gen 9 Band L1 with dedicated antenna pad, L5 support on request
- Antenna ports: four 5G sub-6/LTE and one GNSS
- Support of up to three Wi-Fi and two Ethernet transceivers
- Quad core ARM Cortex A55 @ 2.2 GHz
- Firmware over-the-air (FOTA) support

Hardware and Electrical Specifications

- 5G sub-6 FDD and TDD, SA and NSA operations
- Dimensions: 41 x 41 x 2.9 mm LGA
- Two 1.8 V SIM interfaces
- USB 3.1 Gen 2 and 2.0
- Up to three PCIe interfaces
- Two USXGMII interfaces
- Three UART ports"
- UART
- Wi-Fi coexistence
- Driver support: Windows 11, Linux
- Operating temperature range:

  -40° C to +85° C

Data Throughput

FE990B40

- 5G NSA: up to 4.9 Gbps DL, 0.55 Gbps UL (DL: LTE 8-layer + NR 200 MHz)
- 5G SA: up to 4.1Gbps DL, 0.90Gbps UL (NR 200 MHz)
- 4G: 2 Gbps DL, 210 Mbps UL

FE990B34

- 5G NSA: up to 3.6 Gbps DL, 0.55 Gbps UL (DL: LTE 8-layer + NR 140 MHz)
- 5G SA: up to 2.8 Gbps DL, 0.45Gbps UL (NR 140 MHz)
- 4G: 2 Gbps DL, 210 Mbps UL
- 3G (HSPA+): 42 Mbps DL, 11 Mbps UL

QUESTIONS? VISIT WWW.TELIT.COM/CONTACT-US

Like Us on Facebook | Follow Us on LinkedIn | Follow Us on X | Subscribe to Our Channel