

GX500G 5G IoT Modem

TRITOM

Tri Cascade Inc.
Taking Internet of Things Further



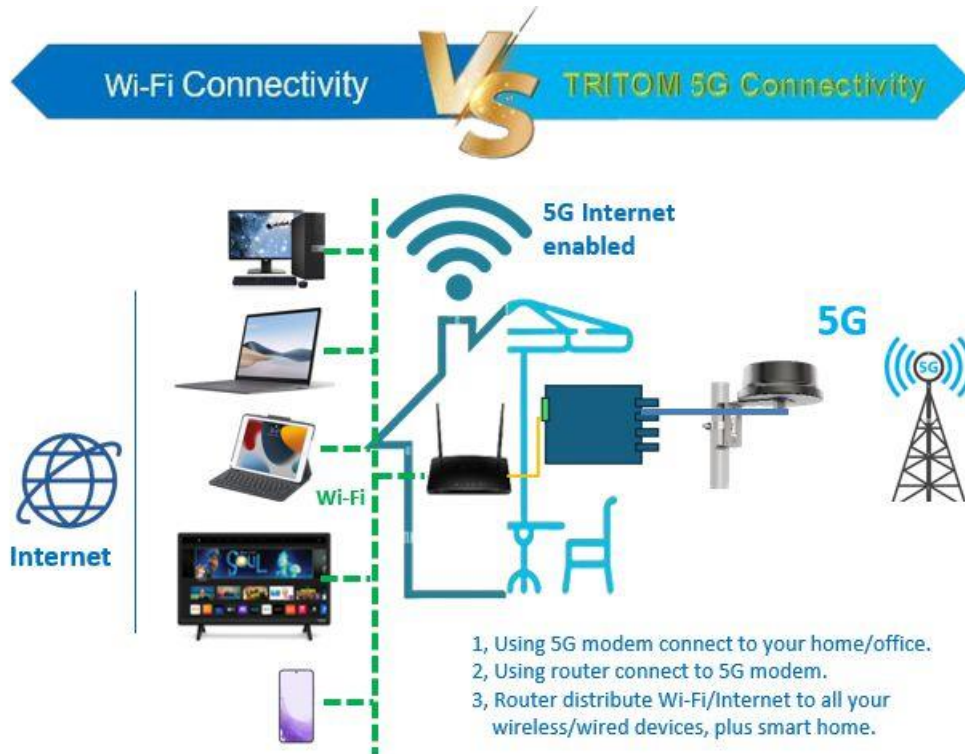
White Paper

Applications and Features of TRITOM GX500G 5G to Ethernet Gateway



Introduction

The TRITOM GX500G 5G to Ethernet gateway is a powerful and versatile device designed to integrate high-speed global 5G wireless networks with Gigabit Ethernet-based local area networks (LANs). With advanced network capabilities, robust protection features, and broad connectivity support, the TRITOM GX500G is ideal for various industrial, commercial, and mobile applications. This white paper delves into its technical specifications, key features, and practical applications.



Key Features of TRITOM GX500g

1. Rugged Design and Protection:

- Metal Shell, Protection Level IP30: Ensures durability in industrial environments.
- Built-in Lightning Protection: Protects the RJ45 Ethernet interface from electrical surges.
- Wide Voltage and Current Input: Supports DC 5-40V/1A with ultra-high voltage automatic power-off protection.
- Input voltage polarity opposite and Surge Protection: Includes anti-power reverse connection and anti-surge protection, as well as ESD anti-static protection.



2. Reliable Operation:

- Watchdog Design: Both software and hardware watchdog mechanisms prevent crashes, with automatic power-off and restart if the network disconnects, ensuring stable and reliable operation.
- Network Disconnection Detection: Automatically detects network disconnections, restarts if dial-up fails, and supports scheduled restarts for continuous connectivity.

3. Enhanced Connectivity:

- Serial Port (RS485/RS232) Transparent Transmission: Allows command control mode through the serial port, enabling control of the router and ancillary equipment.
- Dynamic DNS and Network Functions: Supports various DDNS services, port mapping, DMZ host functions, and more.
- Comprehensive VPN Support: Includes VPN server and client modes, supporting PPTP, L2TP, and OpenVPN for secure remote access.

4. Advanced Features:

- Socket Server and Client Modes: Supports both server and client modes for socket connections.
- Cloud Intranet Penetration: Allows remote access to devices behind the router via

cloud services.

- Base Station Positioning: Provides location-based services through base station positioning.

Technical Specifications

Network Processor

- MediaTek 7621A: Dual core 880MHz network processor.

Memory and Storage

- RAM: 128MB
- Flash: 16MB
- User Storage: 1MB internal, expandable to 32GB with an SD card socket (TRITOM GX500ex).

5G Processor

- Qualcomm SDX62

Support Bands (Frequency Bands & MIMO & GNSS Systems)

5G NR SA (Standalone)

- Frequency Bands:
n1/n2/n3/n5/n7/n8/n12/n13/n14/n18/n20/n25/n26/n28/n29/n30/n38/n40/n41/n48/n66/n70/n71/n75/n76/n77/n78/n79
- Downlink (DL): 4 × 4 MIMO:
n1/n2/n3/n7/n25/n30/n38/n40/n41/n48/n66/n70/n77/n78/n79
- Uplink (UL): 2 × 2 MIMO:
n38/n41/n48/n77/n78/n79

5G NR NSA (Non-Standalone)

- Frequency Bands:
n1/n2/n3/n5/n7/n8/n12/n13/n14/n18/n20/n25/n26/n28/n29/n30/n38/n40/n41/n48/n66/n70/n71/n75/n76/n77/n78/n79
- Downlink (DL): 4 × 4 MIMO:
n1/n2/n3/n7/n25/n30/n38/n40/n41/n48/n66/n70/n77/n78/n79

LTE

- FDD Bands:
B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71
- TDD Bands:
B34/B38/B39/B40/B41/B42/B43/B46 (LAA)/B48
- Downlink (DL): 4 × 4 MIMO:
B1/B2/B3/B4/B7/B25/B30/B38/B40/B41/B42/B43/B48/B66

WCDMA

- Frequency Bands: B1/B2/B4/B5/B8/B19

GNSS

- Systems Supported: GPS/GLONASS/BDS/Galileo/QZSS

Applications of TRITOM GX500G

1. Industrial IoT (IIoT)

The TRITOM GX500G's rugged design and extensive protection features make it ideal for industrial IoT applications. It can connect various sensors, machines, and control systems to a central network for real-time monitoring and automation.

- Use Case: In smart factories, the TRITOM GX500G can link production line equipment to central control systems, enabling real-time data exchange and automation.

2. Remote and Rural Connectivity

The TRITOM GX500G provides high-speed internet access in remote and rural areas where traditional broadband infrastructure is inadequate.

- Use Case: Rural healthcare facilities can utilize the TRITOM GX500G to connect with urban hospitals for telemedicine services, ensuring timely and quality medical care.

3. Enterprise Networking

The TRITOM GX500G ensures network redundancy and load balancing for businesses, maintaining connectivity during primary network failures.

- Use Case: Branch offices can use the TRITOM GX500G for continuous connection to corporate networks, enhancing business continuity and productivity.

4. Smart Cities

The TRITOM GX500G supports the infrastructure of smart cities by connecting various municipal services and systems.

- Use Case: The TRITOM GX500G can link traffic management systems and surveillance cameras, providing real-time data to city management systems for improved urban planning and security.

5. Mobile and Temporary Installations

Ideal for events, construction sites, and other temporary setups requiring quick deployment and reliable connectivity.

- Use Case: At live events, the TRITOM GX500G can provide high-speed internet for streaming services, ticketing systems, and other on-site applications.

Conclusion

The TRITOM GX500G 5G to Ethernet gateway is a versatile and reliable solution for integrating high-speed 5G networks with Ethernet infrastructures. Its robust features, extensive protection mechanisms, and wide range of applications make it an ideal choice for industries, enterprises, and smart city initiatives. By addressing key technical considerations and leveraging its advanced capabilities, the TRITOM GX500G can drive innovation and efficiency across various networked environments.