



5G INDUSTRIAL IOT ROUTER

NTC-500

PRODUCT SUMMARY

- › The **NTC-500 router** is a high-end high-speed industrial-grade 5G router. Designed with critical and complex applications in mind, it provides ultra-reliable, high bandwidth throughput even in extremely harsh environments.
- › The **NTC-500** supports the latest 3GPP Release 16 5G features including 5G Non-standalone (NSA), 5G Standalone (SA) and 5G Slicing which enables complex end-to-end, on-demand quality of service solutions in partnership with leading carrier networks.
- › Perfect for connected smart building systems, vending and ticketing machines, digital signs, surveillance systems, traffic light control and remote vehicle automation.
- › The **NTC-500** is an ideal and cost-effective solution for Private 5G Networks deployed in industrial, mining or construction settings.
- › IoT deployments in isolated locations can be managed remotely in real-time to reduce site visits and manual maintenance costs. Technicians can receive status alerts, extract, and analyze data, upgrade firmware over-the-air, and configure and update the **NTC-500** from anywhere using a wide range of management protocols including OMA LWM2M, TR-069, SNMP, HTTP/HTTPS, and SMS.



TECHNICAL SPECIFICATIONS

CELLULAR BANDS (CIT-501)

5G NR Bands

- › n2, n5, n7, n12, n13, n14, n25, n26, n29, n30, n38, n41, n48, n66, n70, n71, n77, n78

4G / LTE Bands

- › B2, B4, B5, B7, B12, B13, B14, B17, B25, B26, B29, B30, B38, B41, B42, B43, B46, B48, B66, B71

CELLULAR BANDS (CIT-502)

5G NR Bands

- › n1, n3, n5, n7, n8, n20, n28, n38, n40, n41, n75, n76, n77, n78

4G / LTE Bands

- › B1, B3, B5, B7, B8, B20, B28, B32, B38, B40, B41, B42, B43

DEVICE CATEGORY

4G / LTE

- › **Uplink:** 2CA Single TX, 256QAM

- › **Downlink:** 5CA MIMO 4x4, 256QAM

5G NR

- › **Uplink:** MIMO 2x2 Single Carrier up to 100MHz, 256QAM

- › **Downlink:** MIMO 4x4 Dual Carrier up to 120MHz, 256QAM

PEAK DATA SPEEDS*

5G SA Sub-6

- › 2.4 Gbps (DL) / 900 Mbps (UL)

5G NSA Sub-6

- › 2.5 Gbps (DL) / 550 Mbps (UL)

LTE

- › 1.6 Gbps (DL) / 200 Mbps (UL)

ANTENNA CONNECTORS

SMA connectors

- › 4 x Cellular ports for external cellular antennas

INTERFACES

- › 1 x 2.5 Gbps LAN/WAN port

- › 1 x USB-C port supporting Ethernet over USB

LED INDICATORS

- › 1 x Power
- › 1 x SIM
- › 1 x 4G
- › 1 x 5G
- › 3 x Signal strength
- › 2 x Custom indicators

SIM CARD READER

- › 1 x Mini USIM / SIM Format (2FF)
- › SIM card slot

CELLULAR

- › Profile managed packet data connections
- › Profile Routing
- › Data Profile IP Passthrough
- › SIM Management
- › SIM Security (PIN configuration, enable and disable)
- › Automatic and manual cellular band selection
- › Automatic and manual operator selection
- › 5G and LTE Cell Lock
- › Up to 6 APN configurations
- › Up to 8 Bearers and Traffic Classes

NETWORK AND ROUTING

- › Static Routing, Port Forwarding and DMZ
- › Dynamic DNS
- › VRRP for redundant router failover DHCP Server including address reservation by MAC address
- › Custom DNS server definitions
- › DHCP Relay
- › DHCP list display in Web-UI
- › Advanced DHCP Option configuration (Option 42 NTP, Option 66 TFTP)
- › VLAN Management
- › IPS Firewall to protect against DoS attacks
- › Network Service Assurance
- › 5G Dynamic Slicing

VPN

- › IPSec tunnel termination (for up to 5 tunnels)
- › GRE Tunnelling
- › OpenVPN (Client, Server and P2P)

ADMINISTRATION AND CONFIGURATION

- › Secure web-based user interface (HTTPS) for full device status and configuration
- › Password protected configuration file backup and restore for quick device configuration and device cloning
- › SSH Command Line Interface for status monitoring, configuration and control
- › SNMP v3 including cellular specific MIB, config and firmware download
- › TR-069 and LWM2M for remote device configuration, configuration backup and restore, and firmware upgrade
- › SMS Client (Send/Receive) including inbox, outbox
- › Ping monitor watchdog (Reset connection on repeated ping failure)
- › Diagnostic Log Viewer (remote and local)
- › System Status and Security Logs
- › NTP Server Support for network time sync of device's system clock

- › Advanced Diagnostics and Control via SMS
- › Query status information via SMS – such as Signal Strength, WAN IP, Uptime, and many more
- › Configure device remotely via SMS – such as APN, authentication settings, and many more
- › Execute commands via SMS – such as reboot, reset to defaults, go offline, and many more
- › Secure SMS management using sender whitelisting and password management
- › SMS acknowledgement replies for queries and commands
- › Site and location settings
- › Field test information for LTE and 5G

REMOTE MANAGEMENT

- › Firmware Upgrade locally via LAN or remotely Over-The-Air (HTTPS, SNMP, TR-069, LWM2M)
- › Triggered firmware upgrade via SMS (initiate download & install from HTTPS)
- › MQTT client for data reporting to Microsoft Azure and AWS cloud services**

TEMPERATURES

- › Operating Temperature Range: -30°C to +75°C
- › Storage Temperature Range: -30°C to +85°C
- › Operating Humidity Range: 0-95%

POWER SUPPLY

- › Power input via 2-way termination block receptacle
- › Field terminable power input via screw type terminal block included
- › DC Power (8 - 40V DC)
- › Recommended DC supply via terminal block (12V 1.5A)

DIMENSIONS, WEIGHT AND MOUNTING

- › Device dimensions (excluding external antennas): 143.5mm (D) x 110.5mm (W) x 30mm (H) / 445g
- › Wall mount support in multiple orientations via embedded mounting holes
- › DIN Rail mount support via plastic bracket included in the box

*Theoretical only - actual values depend on network conditions

**Feature under development

TECHNICAL SPECIFICATIONS

FEATURES AT A GLANCE

- › 5G Standalone (SA)
- › 5G Non-Standalone (NSA) with failover to 4G
- › 2.5GbE Ethernet Port
- › Robust ruggedized industrial-grade metal housing with multiple mounting options
- › Wide operating temperature range
- › Designed, assembled and tested for unmanned locations in extreme environments
- › Easy and clear LED status display for connection status and network type as well as two user-customizable LEDs.



MODEL VARIANTS

MODEL	NTC-501	NTC-502
REGION	<ul style="list-style-type: none">› North America	<ul style="list-style-type: none">› Europe› Africa› Asia› Oceania› South America
REGULATORY CERTIFICATIONS	<ul style="list-style-type: none">› FCC (USA)› IC (Canada)› PTCRB (USA and Canada) - In Progress› UL - Planned	<ul style="list-style-type: none">› CE (Europe)› RCM (Australia and New Zealand) - In progress› GCF (Europe) - Planned
CARRIER APPROVALS	<ul style="list-style-type: none">› AT&T - Planned› T-Mobile - Planned› USCellular - Planned› Verizon - Planned› Bell - Planned	<ul style="list-style-type: none">› Telstra - Planned› Optus - Planned› TPG Telecom - Planned› Orange - Planned› Vodafone - Planned› Telefonica - Planned› DT - Planned

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NTC-500 Data Sheet Rev1



NetComm



casa systems

NetComm Wireless Limited is now a part of Casa Systems, Inc.
Casa Systems, the future of NetComm

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