

**NEW!**

# NTC-550 Series

Industrial IoT Cellular Gateway



## 5G INDUSTRIAL IOT GATEWAY

The NTC-550 rugged Industrial IoT Gateway combines ultra-fast 5G, Wi-Fi 6, and robust serial interfaces to deliver high-speed, low-latency connectivity for modern industrial systems. Ideal for automation, smart factories, and remote monitoring, it integrates effortlessly into data platforms. Multiple antennas, gigabit interfaces, and advanced security ensure reliable, round-the-clock performance in harsh conditions.



### RELIABLE CONNECTIVITY

The NTC-550 Series supports the latest 3GPP Release 16 5G features including 5G Non-standalone (NSA), 5G Standalone (SA) and Dynamic 5G Slicing which enables complex end-to-end, on-demand quality of service solutions on public or private networks. Wi-Fi 6 further boosts capacity, ensuring a superior connectivity experience.



### RUGGEDIZED DESIGN

The NTC-550 Series features a rugged, industrial-grade metal enclosure engineered for durability and dependable performance in harsh environments, including extreme temperature ranges. Its versatile design also supports multiple mounting options for flexible installation.



### VEHICLE READY

The NTC-550 Series is a robust and cost-effective solution for vehicular applications, featuring FAKRA-connected cellular, Wi-Fi, and GNSS interfaces for secure and reliable connectivity. It also supports low power deep sleep mode – less than 5mA at 12V - for energy-efficient operation critical in vehicular applications.



### REMOTE MANAGEMENT

Cloud-ready with TR069, MQTT/s, TLS 1.3 support and integration with [PercepXion™](#) for centralized device management. IoT deployments in remote locations can be managed in real time, minimizing the need for site visits and reducing manual maintenance costs.



### Feature Highlights:

- 5G Standalone (SA) / Non-Standalone (NSA) with failover to 4G
- 5G NR 3GPP Release 16, eMBB & uRLLC
- Private Network Support
- Wi-Fi 6
- 2.5Gbps WAN & Multiple gigabit LAN Ethernet ports
- Built-in GNSS, multiple Serial ports, I/Os and Ignition sensing
- Advanced routing, firewall and security protocols
- Robust ruggedized industrial-grade metal housing
- Wide operating temperature range
- Ideal for use in emergency vehicles, trucks, and buses.

### Markets:



Manufacturing



Utilities & Energy



Warehousing & Logistics



Transportation

**LANTRONIX**

## Technical Specifications

### DEVICE CATEGORY

#### 4G LTE

- Uplink: Cat 18, 2CA Single TX, 256QAM
- Downlink: Cat 19, 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 NR SA Sub-6

- 2.4 Gbps (DL) / 900 Mbps (UL)

#### 5G NR NSA Sub-6

- 2.5 Gbps (DL) / 550 Mbps (UL)

#### 4G LTE

- 1.6 Gbps (DL) / 200 Mbps (UL)

### ANTENNA CONNECTORS

#### FAKRA connectors

- 4x Cellular (Claret Violet) connectors for external cellular antennas
- 1x GPS (Signal Blue) connector for active external antenna
- 2x Wi-Fi (Beige) connectors for external Wi-Fi antennas

### INTERFACES

- 1 x 2.5 Gbps LAN/WAN port
- 4 x 1 Gbps LAN ports
- 1 x USB-C port
- 1 x Ignition sensing port
- 3 x Configurable GPIOs
- 1 x Configurable serial port (RS232/RS422/RS485)
- 1 x microSD card slot

### LED INDICATORS

- 1 x Power
- 1 x SIM
- 1 x 4G
- 1 x 5G
- 3 x Signal strength
- 1 x Wi-Fi
- 1 x Bluetooth
- 1 x GNSS
- 2 x Custom indicators

### SIM CARD READER

- 1 x Mini USIM/SIM Format (2FF) SIM card slot
- Optional soldered-down SIM (ETSI MFF2 DFN-8 USIM)

### GNSS RECEIVER

- GPS, GLONASS, BDS, Galileo and QZSS

### CELLULAR

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

### WI-FI FUNCTIONS

- WLAN Protocol: IEEE 802.11a/b/g/n/ac/ax
- Wi-Fi Frequency: 2.4 GHz / 5 GHz
- Supported channel bandwidths:
  - 20/40 MHz at 2.4 GHz
  - 20/40/80 MHz at 5 GHz
- 2 x 2 Multi-User Multiple-Input Multiple-Output (MU-MIMO)
- Dual Band Simultaneous (DBS)
- Wi-Fi Modulation Mode: CCK/BPSK/QPSK/16QAM/64QAM/256QAM/1024QAM
- Encryption Mode: WPA3
- Wi-Fi Operating Mode: AP, STA, AP + STA

\* Theoretical only - actual values depend on network conditions

### NETWORK & ROUTING

- Static Routing, RIP (v2), Port Forwarding and DMZ
- Dynamic DNS
- VRPP for redundant router failover
- DHCP Server including address reservation by MAC address
- Custom DNS server definitions
- DHCP list display in Web-UI
- Advanced DHCP Option configuration (Option 42 NTP, Option 66 TFTP)
- WAN Failover (Cellular, Ethernet, Wi-Fi Client)
- Data Stream Manager providing ability to create mappings between input and output ports (e.g. Serial Port, Ethernet) and perform required translation or data processing by each virtual tunnel
- Modbus Server TCP/IP Gateway, Client TCP/IP Agent and Serial TCP/IP Gateway
- Modbus RTU/ASCII frames support
- VLAN Management
- IPS Firewall to protect against DoS attacks
- 5G Dynamic Slicing
- Network Service Assurance

### VPN

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

### ADMINISTRATION & 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
- Ping monitor watchdog (Reset connection on repeated ping failure)
- Diagnostic Log (remote and local)
- System Status and Security Logs
- NTP Server Support for network time sync of device's system clock

- Site and location settings
- Field test information for LTE and 5G
- Advanced Diagnostics and Control via SMS
  - SMS over SGS supported
  - SMS Client including inbox, outbox, send/receive
  - Query status - e.g. Signal, WAN IP, Uptime
  - Remotely configure - e.g. APN, Authentication
  - Execute commands - e.g. Reboot, Reset to Defaults
  - Sender Whitelisting and password management
  - SMS acknowledgement replies
- MQTT client for device data reporting to Microsoft Azure & AWS cloud services
- Cumulocity support
- PercepXion™ support for device life cycle management and analytics

### FIRMWARE 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)

### TEMPERATURES

- Operating Temperature Range: -30°C to +70°C
- Storage Temperature Range: -30°C to +85°C
- Operating Humidity Range: 0-95%

### DIMENSIONS, WEIGHT & MOUNTING

- Device dimensions (excluding external antennas): 193.3mm (D) x 175mm (W) x 51.7mm (H) / 1.050 kg
- Wall mount support in multiple orientations via embedded mounting holes
- DIN Rail mount support via DIN Rail clips included in the box

### ENCLOSURE

- IP41 rated

### POWER SUPPLY

- Field terminable power input via screw type terminal block included
- DC Power (8 - 40V DC)
- Recommended DC supply via terminal block (12V 2.5A)

### WARRANTY

- 2 year limited warranty

## Model Variants

MODEL	NTC-551-01-01	NTC-552-01-01
<b>Region</b>	› North America	› Global (excl Japan, China)
<b>Certifications / Approvals</b>	› FCC, ISED › PTCRB, AT&T, Verizon – in progress	› CE, RCM, e-Mark › Telstra
<b>5G NR Bands</b>	› n2, n5, n7, n12, n13, n14, n25, n26, n29, n30, n38, n41, n48, n66, n71, n77, n78	› n1, n3, n5, n7, n8, n20, n28, n38, n40, n41, n75, n76, n77, n78
<b>4G LTE Bands</b>	› B2, B4, B5, B7, B12, B13, B14, B17, B25, B26, B29, B30, B38, B41, B42, B43, B46, B48, B66, B71	› B1, B3, B5, B7, B8, B20, B28, B32, B38, B40, B41, B42, B43
<b>Optional Accessories</b>		
Part Number	Description	
<b>Power Supply: PSU-0250</b>	› Power Supply, Wall Cube, 12VDC 2.5A, 30W, 2M Cable with 2 Bare Wires, Universal AC Plug EU/UK/US/SAA, +/-2KV	
<b>LTE/5G Antenna Bundle: ANT-0101-B07</b>	› Antenna, Bundle, 4pcs 5G, 1pc GNSS, 2pcs Wi-Fi, FAKRA connectors, designed for NTC-550 evaluation	
<b>LTE/5G Combo Antenna: ANT-0102</b>	› Antenna, Combo, 7-in-1 5G/LTE MIMO, Wi-Fi MIMO, GNSS, SMA male, comes with a 3m extension cable.FAKRA to SMA female	