

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 interfaces for high-speed, low-latency connectivity. Ideal for Security & Surveillance and remote facilities, it also supports vehicle Wi-Fi and connectivity for in-vehicle systems. FAKRA antenna connectors provide secure, vibration-resistant connections and simple click-in installation, while gigabit interfaces and advanced security ensure reliable performance in harsh environments.



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 & CYBERSECURITY COMPLIANCE

Ready to go with [PercepXion™](#), delivering centralized device management, remote monitoring, and lifecycle management of CRA cybersecurity updates, keeping deployments secure and compliant. Cloud-ready with TR-069, MQTT/s, and TLS 1.3 support, minimizing site visits and reducing maintenance costs for distributed IoT assets.



Feature Highlights:

- 5G Standalone (SA) / Non-Standalone (NSA) with failover to 4G
- 5G NR 3GPP Rel.16, EMMB & uRLLC
- Private 5G Network Support, n48-CBRS, n77/8
- 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 security & surveillance, vehicles, retail, smart cities and remote site connectivity
- SDK for custom applications

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
- › VRRP 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)

SOFTWARE DEVELOPMENT KIT

- › Develop and install custom software applications

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
Region	› North America	› Global (excl Japan, China)
Certifications / Approvals	› FCC, ISED › PTCRB, AT&T, Verizon – in progress	› CE, RCM, UKCA, e-Mark › Telstra
5G NR Bands	› 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
4G LTE Bands	› 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
Optional Accessories		
Part Number	Description	
Power Supply: PSU-0250	› Power Supply, Wall Cube, 12VDC 2.5A, 30W, 2M Cable with 2 Bare Wires, Universal AC Plug EU/UK/US/SAA, +/-2KV	
LTE/5G Antenna Bundle: ANT-0101-B07	› Antenna, Bundle, 4pcs 5G, 1pc GNSS, 2pcs Wi-Fi, FAKRA connectors, designed for NTC-550 evaluation	
LTE/5G Combo Antenna: ANT-0102	› Antenna, Combo, 7-in-1 5G/LTE MIMO, Wi-Fi MIMO, GNSS, SMA male, comes with a 3m extension cable FAKRA to SMA female	