![Dataplex logo]

# Secure Network Access
# *DPX-529-01*



## Industrial 4/5G, Fibre Remote Access Router

The **Dataplex DPX-529-01** is a compact low cost, reliable , high-quality, high-speed LAN/WAN router for industrial applications. Optional Dual modem SIM for 4G LTE or 5G modem capability allows connectivity redundancy. Multiple networks can operate simultaneously.

Redundancy can be supported via timeout and switchover or dual-homed IP paths. SFP slot facilitate connection to FTTP link

- DPX-529-01 delivers high-speed wireless 4G LTE / 5G with Wi-Fi and Bluetooth sensing optional.
- Fast connectivity provides low latency and high reliability.

## Industries include:

⇨ **Manufacturing & Automation** – Smart factories, robotics, equipment monitoring

⇨ **Energy & Utilities** – Oil & gas operations, smart grids, Water management, pipeline monitoring

⇨ **Logistics & Warehousing** – Fleet tracking, inventory systems, remote security

⇨ **Agriculture & Smart Farming** – Precision farming, equipment telematics, livestock monitoring

⇨ **Transportation & Infrastructure** – Public transport, traffic control, remote asset tracking

⇨ **Construction & Heavy Equipment** – On-site connectivity, crane automation, worker safety

⇨ **Aerospace & Defense** – Secure communications, drone operations, satellite systems

## CONNECTIVITY

4G/5G Mobile Broadband
(2 x SMA antennas)

**Options:**

⇨ SFP Fiber connectivity

⇨ Bluetooth for AddInsight ® Operation

⇨ WiFi

⇨ AI module for Ped & vehicle counting/classifying  applications

## INTERFACES

2 x Ethernet WAN and LAN
2 x SIM (Dual modem capable)
1 x USB-A 3.0 , USB-C consol
1 x SFP Fiber (optional)

## MANAGEMENT

Web UI
Device provisioning software

## LED ACTIVITY

⇨ Mobile Broadband signal strength

⇨ 5/4G connection

⇨ SIM 1 and/or 2

## INDUSTRIAL TEMP

⇨ Operating: -40°C to +75°C

⇨ Relative Humidity  < 90%

## OPERATING SYSTEM

Linux-based — OpenWRT

## STORAGE

Memory up — to 2GB
8GB eMMC (or MicroSD)

## POWER

12VDC (9-32VDC)

## Features

⇨ Industrial Temperature ( 40°C to +85°C )

⇨ 4G/5G dual (modem) SIM capable operation with optional dual SIM cards.

⇨ 1 x SFP 2.5GbE (optional) for Fibre modules e.g., FTTP (Fibre) GPON interface or OT Fibre network

⇨ 1 x SD card for configuration and storage.

⇨ 2 x Gigabit Ethernet LAN/WAN ports

⇨ 1 x 3.0 USB-A (compatible with serial converters) and 1x USB-C (console)

⇨ 4G/5G wireless can provide backup to FTTP or OT Fibre network communications.

⇨ Indication LEDs: Mobile Broadband signal strength and SIM status (4/5G).

⇨ CLI console interface via OpenWRT

⇨ Intelligent network monitoring allows DPX-529-01 to re-connect automatically or failover to an alternative path. SNMP v3 supported.

⇨ Device provisioning software , Web UI configuration management, and application deployment functionality (in development).

# Cellular Frequencies

**Quectel RM520N** 3GPP Release 16 Multi-constellation GNSS receiver (optional) 5G/4G/3G multi-mode, Both NSA and SA modes supported Frequency Bands
**5G NR**

The RM520N is a series of 5G IoT modules specially optimized for IoT/eMBB applications, designed in an M.2 form factor in accordance with the 3GPP Release 16 specification, which supports both 5G NSA and SA modes. The RM520N is compatible with Quectel's 5G module series RM50xQ, LTE-A Cat 6 module EM06, Cat 12 module series EM12/EM12xR/EM120K, and Cat 16 module EM160R-GL, facilitating migration from LTE-A to 5G.

The RM520N is an industrial-grade module for industrial and commercial applications only. It covers nearly all the mainstream carriers worldwide and supports Qualcomm® IZat location technology Gen9C Lite (GPS, GLONASS, BDS and Galileo). The integrated GNSS receiver greatly simplifies the product design and provides quicker, more accurate and dependable positioning capability.

**NSA**

n1/ 2/ 3/ 5/ 7/ 8/ 12/ 13/ 14/ 18/ 20/ 25/ 26/ 28/ 29/ 30/ 38/ 40/ 41/48/ 66/ 70/ 71/ 75/ 76/ 77/ 78/ 79

n1/ 3/ 5/ 7/ 8/ 20/ 28/ 38/ 40/ 41/ 71/ 75/ 76/ 77/ 78

**SA**

n1/ 2/ 3/ 5/ 7/ 8/ 12/ 13/ 14/ 18/ 20/ 25/ 26/ 28/ 29/ 30/ 38/ 40/ 41/48/ 66/ 70/ 71/ 75/ 76/ 77/ 78/ 79

n1/ 3/ 5/ 7/ 8/ 20/ 28/ 38/ 40/ 41/ 71/ 75/ 76/ 77/ 78

LTE

**LTE-FDD**

B1/ 2/ 3/ 4/ 5/ 7/ 8/ 12/ 13/ 14/ 17/ 18/ 19/ 20/ 25/ 26/ 28/ 29/ 30/ 32/66/ 71

B1/ 3/ 5/ 7/ 8/ 20/ 28/ 32/ 71

LTE-TDD B34/ 38/ 39/ 40/ 41/ 42/ 43/ 48 B38/ 40/ 41/ 42/ 43

**LAA B46 -** UMTS WCDMA B1/ 2/ 4/ 5/ 8/ 19 B1/ 5/ 8 GNSS GPS/ GLONASS/ BDS/ Galileo/ QZSS GPS/ GLONASS/ BDS/ Galileo/ QZSS

## Certifications (Regulatory)

GCF/ PTCRB/ CE/ Anatel*/ CCC/ RCM/ IC/ FCC/ JATE*/ TELEC*/ KC*/ NCC* CE*/RCM*
**Carrier**

T-Mobile/ Verizon*/ AT&T*/ NTT DOCOMO*/ Deutsche Telekom*/Telstra* Data Rate (Max.) ②

⇒ 5G SA Sub-6 DL 2.4 Gbps; UL 900 Mbps DL 2.4 Gbps; UL 900 Mbps

⇒ 5G NSA Sub-6 DL 3.4 Gbps; UL 550 Mbps DL 3.4 Gbps; UL 550 Mbps

⇒ LTE DL 1.6 Gbps; UL 200 Mbps DL 1.6 Gbps; UL 200 Mbps

⇒ WCDMA DL 42 Mbps; UL 5.76 Mbps DL 42 Mbps; UL 5.76 Mbps

⇒ Antenna: up to 4 x (Sub-6/GNSS) 1 x GNSS (optional)

## Quectel RG255G (OPTION) (commercial release estimated Q2 2025) 3GPP Release 17 **RedCap** (reduced capacity)

Quectel RG255C is a series of 5G Redcap Sub-6 GHz LGA module. Adopting the 3GPP Rel-17 RedCap technology, with features of 5G LAN/ URLLC/ Slicing, the module supports a theoretical peak data rate of 223 Mbps in the downlink and 123 Mbps in the uplink. The module supports LTE Cat 4 and 5G Sub-6 SA mode, and is backward compatible with Rel-15 and Rel-16 networks. The module is partially compatible with Quectel 4G module EG2x series modules with smaller sizes, which can meet customers' different application demands for medium speed, large capacity, low latency, high reliability, etc., and is convenient for customers to design.

RG255C series module is an industrial-grade module for industrial and commercial applications only.

RG255C series module contains three variants: RG255C-GL, RG255C-NA and RG255C-EU. It supports Qualcomm® IZat™ location technology Gen 9VT (GPS, GLONASS, NavIC, BDS and Galileo). The integrated GNSS receiver greatly simplifies product design and provides quicker, more accurate and more dependable positioning capability.

## Features

⇒ 5G RedCap module

⇒ LGA form factor

⇒ Max. data rates of 223Mbps DL / 123Mbps UL

⇒ LGA form factor, small size

⇒ Worldwide 5G/ 4G coverage

⇒ 5G SA mode, with 5G LAN/ URLLC/ Slicing features

⇒ Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment (optional)

⇒ Feature refinements: DFOTA and VoNR/ VoLTE (optional)

⇒ PCIe 2.0 interface for Wi-Fi/ Bluetooth

**5G SA:** n1/2/3/5/7/8/12/13/14/18/20/25/26/28/30/38/40/41/48/66/70/71/77/78/79; LTE-FDD: B1/2/3/4/5/7/8/12/13/14/17/18/19/20/25/26/28/30/66/71;

**LTE-TDD:** B34/38/39/40/41/42/43/48

**Antenna:** 2 x Cellular, 2 x GNSS (optional)

## INTERFACES (PORTS, LEDS, ANTENNAS, BUTTONS, SIM)

| | |
|---|---|
| **ETHERNET** | 1 x Gigabit RJ45  WAN port (can be configured as LAN) 10/100/1000 Mbps, compliance with IEEE 802.3, IEEE 802.3u, 802.3az standards, supports auto MDI/MDIX crossover. |
| | 1 x Gigabit RJ45 LAN port, 10/100/1000 Mbps, supports auto MDI/MDIX crossover |
| **USB** | 1 x USB-A 3.0 & 1x USB-micro (console) |
| **SFP** | 1 x SFP 2.5GbE (optional) for Fibre modules e.g., NBN* FTTP (Fibre) GPON interface or OT Fibre network |
| **SIM** | 2 x SIM (micro SIM card size) supports 2 x Mobile broadband modems or 2 x SIM to 1 Mobile broadband modem |
| **SD** | 1 x SD card for configuration and storage |
| **LEDs** | Mobile Broadband signal strength, 5/4G connection & SIM 1 and/or 2 |

## NETWORK

| | |
|---|---|
| **Network protocols** | TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, SMTP, SSL, TLS, PPP, PPPoE, SSH, DHCP, SNMP, |
| **Routing** | Static routing, Dynamic routing (BGP, OSPF v2, RIP v1/v2, EIGRP) |
| **Connectivity** | DHCP, Ping Reboot, Wget Reboot, Periodic Reboot, LCP and ICMP, |
| **Firewall** | Port forwards, traffic rules, custom rules, |

## SECURITY

| | |
|---|---|
| **Authentication** | Pre-shared key & digital certificates |
| **Firewall** | Pre-configured firewall rules can be enabled via the WebUI, unlimited firewall configuration via CLI; NAT |
| **VLAN** | Port and tag-based VLAN separation |
| **WEB filter** | Blacklist for blocking out unwanted websites, Whitelist for specifying allowed sites only |
| **Access control** | Flexible access control of TCP, UDP, ICMP packets, MAC address filter |

## VPN

| | |
|---|---|
| **OpenVPN** | |
| **Encryption** | Multiple clients and a server can run simultaneously |
| **WireGuard** | WireGuard VPN client and server support |
| **IPSec** | wide range of encryption protocols |

## MONITORING & MANAGEMENT

| | |
|---|---|
| **WEB UI** | HTTP/HTTPS, status, configuration, FW update, CLI, troubleshooting, event log, system log, kernel log |
| **FOTA** | Firmware update from server, automatic notification, backup of configuration |
| **SSH** | SSH (v1, v2) |
| **SNMP** | SNMP (v1, v2, v3), SNMP trap |
| **JSON-RPC** | Management API over HTTP/HTTPS |
| **LOG** | SYSLOG local or remote |

## POWER

| | |
|---|---|
| **Power supply** | 9V DC to 32 V DC Standard 12 V DC/1.0A AC adapter |
| **Power consumption** | Idle: 600 mA @ +12 V DC, Operation: 800 mA* +12 V DC *(*depending on Quectel module installed)* |

## PHYSICAL

| | |
|---|---|
| **Dimensions** | 170mm x 85mm x 50mm (aluminum enclosure) |
| **Weight** | 500 g (not including accessories) |

## OTHER

| | |
|---|---|
| **LEDs** | Signal strength, Power connection , 4 and 5G connection, SIM 1 & SIM 2 connection |
| **Operating** | -40°C to +75°C , Relative Humidity  < 90% (non-condensing) |
| **Warranty** | 1 Year warranty |
| **Certifications** | RCM *, CE , RoHS *(*RCM certification is pending)* |
| **Package Contents** | 1 x DPX-529-01 router,  2 x 5G/4G antennas, 1 x power supply adapter (Australia only) |