MachineLink 4G Lite Your feature rich IoT router

vodafone business

The Vodafone MachineLink 4G Lite is a powerful and feature rich 4G IoT Router ideal for global IoT applications requiring fast internet speeds.

What it does

The Vodafone MachineLink 4G Lite is an intelligent, yet user friendly 4G IoT device ideal for highly complex IoT and Industrial IoT applications. Featuring a Fast Ethernet port, a USB port, built-in GPS and extensive support for various communications protocols, the MachineLink 4G Lite is the all-in-one wireless IoT solution. Globally compatible with Vodafone networks and integrated with Vodafone IoT Management Engine, the device features a powerful edge processor running a Linux based OS and offers excellent development opportunities for custom applications using the Software Development Kit (SDK).
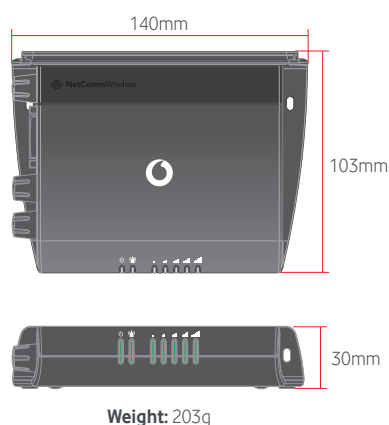
Package contents

In the box:

- 1 x Vodafone MachineLink 4G Lite
- 2 x 4G antennas
- 1 x 1.5m yellow Ethernet cable 8P8C
- 1 x DIN rail mounting bracket
- 1 x Six-way terminal block
- 1 x Quick start guide and safety manual

Available accessories:

- Standard PSU (6 interchangeable plugs)
- GPS Patch Antenna with 3m RF cable

Weight and dimensions

140mm

103mm

30mm

Weight: 203g

Mounting options

The Vodafone MachineLink 4G Lite can be installed quickly and easily in a variety of locations.

Description	
Option 1 Mount flat against the wall	
Option 2 Mount perpendicular to the wall	
Option 3 Mounted via DIN rail bracket	
C Section DIN rail mount Slide onto a rail	
Top hat DIN rail mount Mount on a bracket and slide onto a rail	
Desk mount Stand on a desk	

MODEL	NWL-221	NWL-222	NWL-224
Region	Australia / New Zealand / Japan	Europe / Middle East / Africa	USA / Canada
Carrier	All	All	AT&T, T-Mobile
Frequency Bands	LTE FDD Bands: • Band 1 (2100 MHz) • Band 2 (1900 MHz) • Band 3 (1800 MHz) • Band 4 (1700 MHz) • Band 5 (850 MHz) • Band 7 (2600 MHz) • Band 8 (900 MHz) • Band 28 (700 MHz) LTE TDD Bands: • Band 40 (2300 MHz) WCDMA Bands: • Band 1 (2100 MHz) • Band 2 (1900 MHz) • Band 5 (850 MHz) • Band 8 (900 MHz) GSM Bands: • Band 2 (1900 MHz) • Band 3 (1800 MHz) • Band 5 (850 MHz) • Band 8 (900 MHz)	LTE FDD Bands: • Band 1 (2100 MHz) • Band 3 (1800 MHz) • Band 5 (850 MHz) • Band 7 (2600 MHz) • Band 8 (900 MHz) • Band 20 (800 MHz) WCDMA Bands: • Band 1 (2100 MHz) • Band 5 (850 MHz) • Band 8 (900 MHz) GSM Bands: • Band 3 (1800 MHz) • Band 8 (900 MHz)	LTE FDD Bands: • Band 2 (1900 MHz) • Band 4 (1700 MHz) • Band 12 (700 MHz) WCDMA Bands: • Band 2 (1900 MHz) • Band 4 (1700 MHz) • Band 5 (850 MHz)
Regulatory Certifications	• RCM (Australia & New Zealand) • JPA (Japan)	• CE (Europe) • GCF (Europe) • OFCA (Hong Kong) • CITRA (Kuwait) • NTC (Philippines) • NBTC (Thailand) • MIC (Vietnam)	• FCC (USA) • IC (Canada) • PTCRB (USA) • NOM (Mexico)

Peak data speed
- LTE FDD: Max 10 Mbps (DL) / Max 5 Mbps (UL)
- LTE TDD: Max 8.96 Mbps (DL) / Max 3.1 Mbps (UL)
- DC-HSPA+: Max 42 Mbps (DL) / Max 5.76 Mbps (UL)
- UMTS: Max 384Kbps (DL) / Max 384Kbps (UL)
- EDGE: Max 236.8 Kbps (DL) / Max 236.8 Kbps (UL)
- GPRS: Max 85.6 Kbps (DL) / Max 85.6 Kbps (UL)

Antenna connectors
- 2 x SMA connectors for 4G/3G/2G (1 x Main and 1 x RX Diversity)
- 1 x SMA connector for GPS

Interfaces
- 1 x 100Base-T Ethernet RJ45 port
- 1 x RS232 Serial Port DE-9 female DCE supporting either 9 wire RS232 or RS485/RS422 (software selectable)
- Software controlled termination resistors for RS485
- 1 x Micro USB 2.0 OTG interface with 0.5A supply capability
- I/O terminal block providing:
  – 3 x Multipurpose I/O pins
  – NAMUR (EN 60947-5-6 / IEC 60947-5-6) compatible sensor input
  – Analogue 0V to 30V input
  – Digital input (through measurement of voltage above/below threshold)
  – Open collector output
- 1 x Recessed multifunctional reset button
  – Reboot
  – Reboot into recovery mode
  – Reset to factory default settings

LEDs
- 8 x tri-colour LEDs
- Power, Network, and 5x Signal Strength indicators
- Easy and clear LED status display for connection status, connected network type, and connection errors

GPS
- GPS
- GLONASS
- BeiDou
- Galileo
- QZSS

SIM card reader
- 1 x SIM card slot
  – Supports Mini USIM/SIM Format (2FF)
- 1 x Soldered-down SIM (ETSI MFF2 DFN-8 USIM)

Processor and storage
- 1 GHz ARM Cortex A8 processor with 256 MB RAM
- 512 MB flash memory storage

Cellular
- Profile managed packet data connections
- NAT Disable for framed route configuration
- Transparent bridge mode using PPPoE to allow the router to transparently forward Public WAN IP address to a downstream device
- SIM Security Management (PIN configuration, enable and disable)
- Automatic and manual cellular band selection
- Automatic and manual operator selection
- Odometer reading available via Web-UI, CLI and SDK nel.
- Modbus Server TCP/IP Gateway and Client TCP/IP Agent with up to 247 slaves connected to the Serial TCP/IP Gateway.
- Modbus RTU/ASCII frames support.

VPN
- PPTP Client for VPN connectivity to remote PPTP VPN Server
- 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 v1/v2/v3 including cellular specific MIB, config and firmware download
- TR-069 Client 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
- Device User Guide stored on the device and accessible via the secure web-based user interface (HTTPS)
- Advanced Diagnostics and Control via SMS
- Query status information – 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

Firmware management
- Firmware Upgrade locally via LAN or remotely Over-The-Air (HTTPS, SNMP, TR-069, LWM2M)
- Multiple firmware image storage on device and dynamic install
- Triggered firmware upgrade via SMS (initiate download & install from HTTPS)

Software development
- Develop and install custom software applications
- Open Linux standard development environment
- Develop applications/scripting in standard ANSI C/Shell script and LUA
- Package manager built into Web-UI for Application installation/removal
- API (C, LUA and Shell libraries) to the unit's internal Runtime Database to allow full status monitoring configuration and control of the device from custom applications

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

Power supply
- Power input via 6-way termination block receptacle
- Field terminable power input via screw type terminal block included
- DC Power (8 - 40V DC)
- 1 x Dedicated ignition input and 3 x I/O ports on 6-way connector
- Power consumption 6W, recommended DC supply via terminal block (12V 1.5A)
- Vehicle compatible protection on DC Input Jack. (ISO7637 standard)

Dimensions, weight and mounting
- Device dimensions (excluding external antenna): 140mm (L) x 103mm (W) x 30mm (D) / approx. 210g

Only Vodafone can offer you a complete IoT solution on a global scale.

For more information about our IoT solutions, please contact your Vodafone account manager, email: **iot.sales@vodafone.com.au** or visit **www.vodafone.com.au/iot**