

# 4G LTE M2M VPN SOLUTIONS

Unlock business capabilities. Anytime. Anywhere



# 4G LTE M2M Solutions

**4G LTE M2M Solutions include the following two (2) components**

- **High-speed Mobile VPN Industrial Routers and**
- **Device Management platform, D-ECS (D-Link Edge Cloud Solution)**

D-Link M2M VPN industrial routers use the high-speed mobile 4G mobile networks to establish bi-direction secure and redundant data transmission paths between the business control centres and the remote IoT (Industrial of Things) devices. D-Link D-ECS is an easy-to-use tool for the administrators to effectively manage remote D-Link M2M routers.

Designed for remote machine-to-machine and secure VPN deployments, D-Link 4G LTE M2M VPN routers unlock the business capabilities anytime, anywhere with high-performance 4G/3G connectivity easily.

With the adoption of both Artificial intelligence (AI) and machine learning (ML), businesses are able to make good decisions with vast amount of data including video, sound, measurements, etc collected from a network of industrial sensors.



# Key Benefits 4G LTE M2M VPN Routers

## Multi-SIM Design



Zero downtime with multi-SIM failover design

## Secure VPN Connection



Integrated VPN Client and Server support for secure connectivity

## Industrial Grade Design



Zinc-plated steel casing for extra protection

## Remote Management



Network management platform for massive IoT implementation

## GPS Tracking\*



Central location tracking management

## WiFi Connectivity\*



WiFi connection for multiple wireless clients

## Outdoor WAN Connectivity



Providing Internet connection for outdoor deployment

## High Reliability of Network



Stable WAN access with WAN backup using M2M mobile routers

\*model dependent

# M2M Solves Your Internet Connectivity Problems

## Unstable Internet Connections



Cloud-based applications require businesses to maintain reliable WAN connections. Install D-Link M2M dual-SIM routers together with firewall, businesses can use cost-effective mobile network as (a) WAN Backup to increase the redundancy for mission critical applications and (b) load balance to enhance of data transmission efficiency over multiple WAN connections.

## No Access To Fixed-Line Broadband



Without accessing to fibre/Cable/ADSL WAN at remote locations and in the public transportation, high-speed mobile network with well-coverage is the best WAN infrastructure. D-Link M2M dual-SIM routers, supporting multiple frequency bands of 4G (Cat 4/6) /3G, are able to work with any mobile operators.

## Costly Fixed-Line Broadband Charges



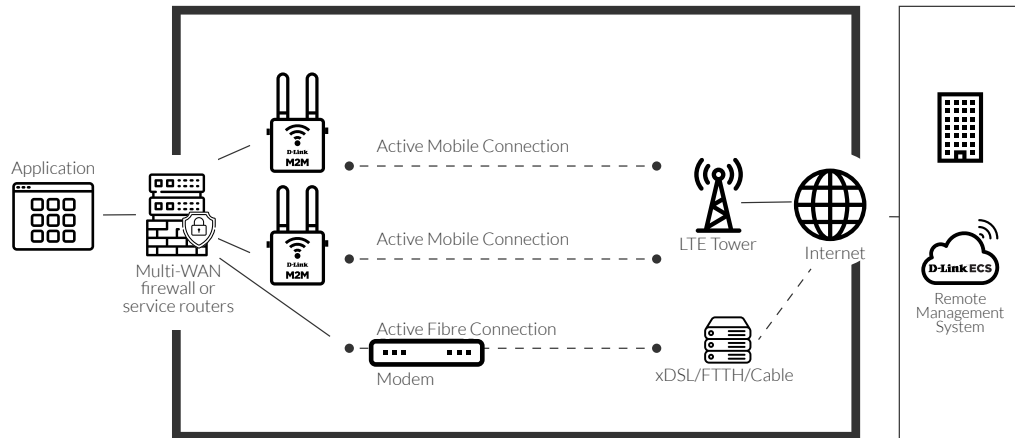
Remote IoT devices consume low-medium WAN bandwidth. Installation and monthly flat-rate subscription of fixed broadband for a network of IoT devices is expensive. D-Link M2M VPN routers connect IoT devices with low-cost, usage-based and INSTANT-ON mobile network. Built-in VPN client and server establish secure WAN transmission paths for data protection.

# Applications of M2M VPN Routers for Businesses

## Scenario 1

### WAN Backup & Load Balance over Fibre and Mobile Connectivity

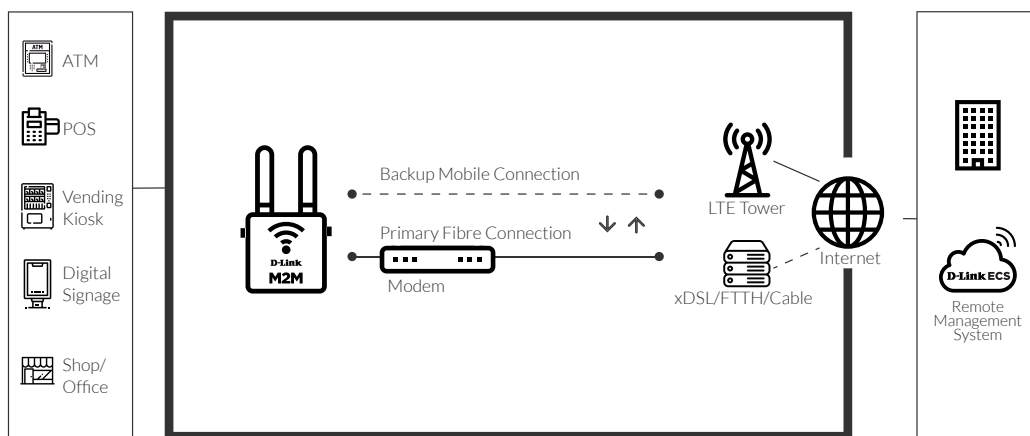
To provide uninterruptible WAN connectivity, connect firewall/service router to D-Link M2M VPN routers and establish load-balance multi-WAN broadband infrastructure with auto-failover redundancy. Comparing with using 2nd fibre as WAN Backup link, D-Link M2M routers with mobile network can cut down the monthly broadband cost drastically when setting up WAN redundancy for general office networks.



## Scenario 2

### Automatic Fibre-to-Mobile Failover

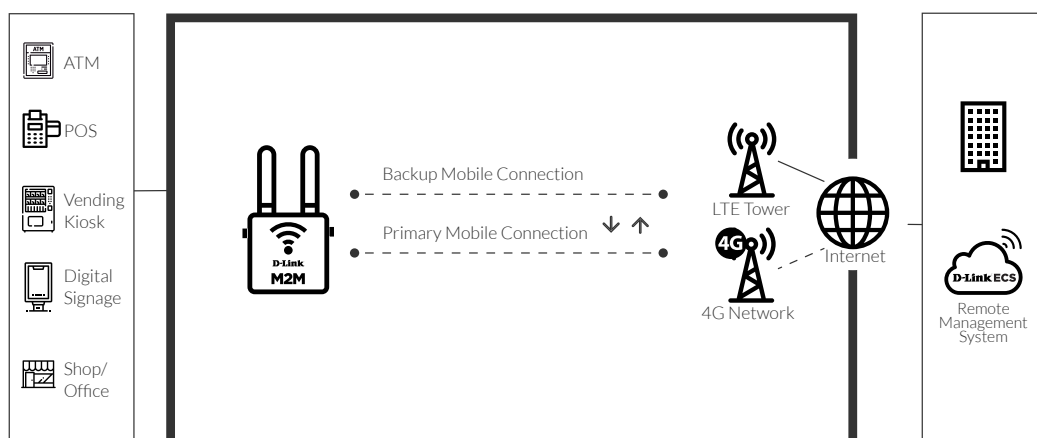
With D-Link M2M VPN router, failure of primary fibre broadband connection will automatically trigger the failover to backup mobile broadband network. For the mission critical businesses such as banking ATM, D-Link M2M VPN router adds extra redundancy with built-in dual SIM support.



## Scenario 3

### Automatic Mobile-to-Mobile Failover

With D-Link M2M VPN router, failure of primary mobile broadband (SIM 01) will automatically trigger the failover to secondary backup mobile broadband network (SIM 02). This is the most cost effective, reliable and secure WAN connection to bring back the valuable and sensitive data from the remote IoT devices.





# Case Studies : Real-Time Analytics in Trains

## 4G M2M allows operator to monitor and control passenger occupancy in trains and stations



### Project Size

**60 units**

**DWM-312**

(4G LTE M2M VPN Router)

### Transport Operator

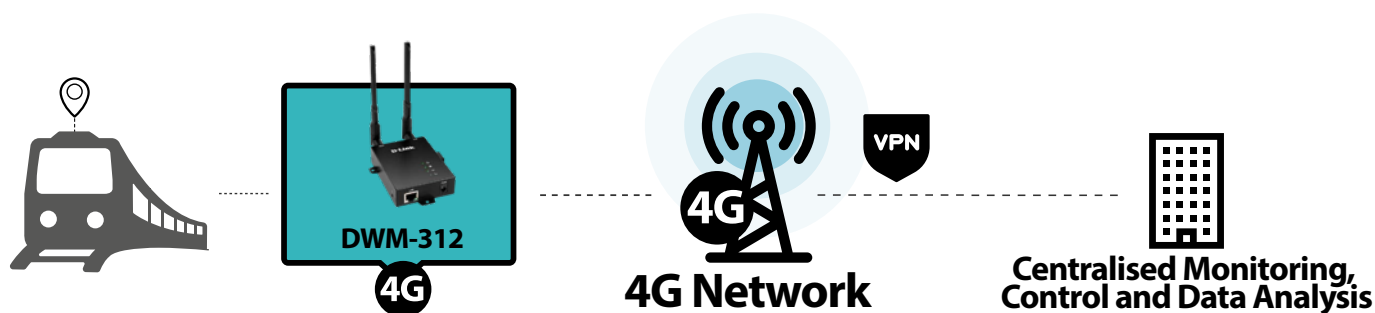
Regional rail operator in Spain

### Challenges

The trend to make the companies and public administrations more data-driven means even moving objects such as trains must transmit the information in real-time from the onboard sensors and IoT devices. This became even more prevalent during the COVID-19 pandemic as occupancy sensors on the trains allows passengers to be directed to different carriages to maintain social distancing. For railway environments, security is obviously of the utmost importance as well as the device's ability to operate in adverse temperature, humidity and vibrations conditions.

### Solutions

DWM-312 4G LTE M2M VPN Routers were installed in the trains to guarantee connectivity in tunnels and places with low coverage. The DWM-312's galvanised steel housing and industrial-grade components, together with a wide operating temperature range of -20°C to 60°C, made it suitable in the challenging environment. Two high-power external antennas with SMA connectors ensured 4G coverage, while dual SIM slots with fallback function guaranteed redundancy. TR-069 support and robust security with different encryption and VPN tunnelling protocols made the DWR-312 ideal for M2M (Machine to Machine) applications.



# Case Studies : WAN Backup

## Provider of SD-WAN services with fixed broadband and mobile WAN Backup for Corporates

### Service Provider

Top Managed Service Provider in Thailand

SD-WAN with fibre broadband provides high-speed and flexible internet connectivity to the corporate users. To provide high service quality with minimum downtime, 2nd backup WAN link is required.

### Challenges

Fibre broadband has drastically improved the speed of WAN connectivity. With quick adoption of cloud-centric office productivities and communication applications, any interruption of internet connection will seriously affect the company operations. Having 2nd fibre as backup link is an expensive option for general offices due to the costly fixed flat monthly subscription charges.

### Solutions

High-speed 4G LTE mobile network with well signal coverage is a popular choice for internet access. DWM-312 (4G LTE M2M VPN router) brings mobile broadband as WAN Backup link. Connect DWM-312 to 2nd WAN port of SD-WAN router and activate the failover feature. Any failure of primary fibre link will switch the internet connection to mobile network via DWM-312. With built-in dual SIM slots, DWM-312 enhances the WAN redundancy with auto-failover between two (2) mobile networks. Data transmitted over public internet is also well-protected with VPN function integrated in DWM-312. D-Link M2M router brings affordable WAN Backup to every office.

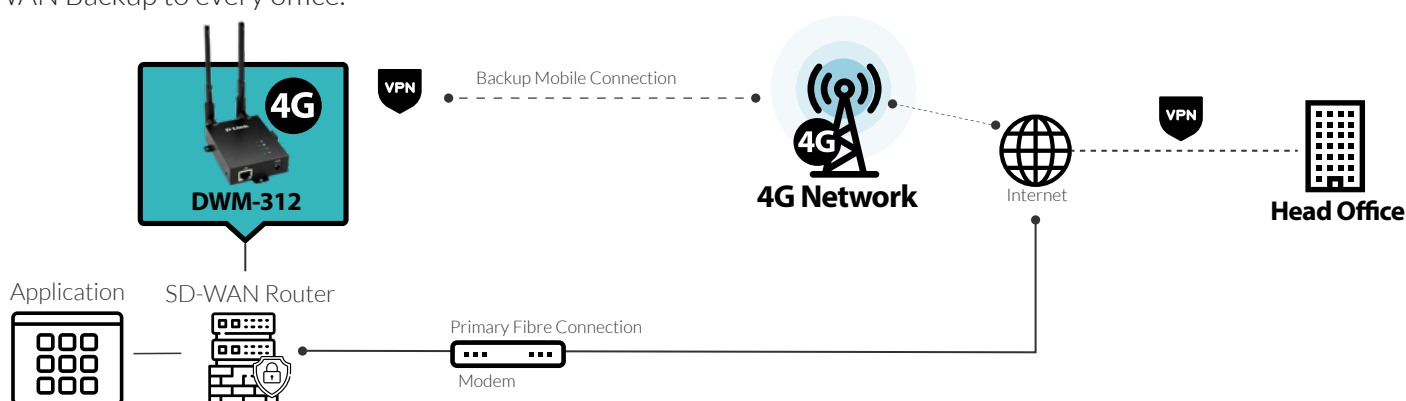


### Project Size

**300 – 400 units**

**DWM-312**

(4G LTE M2M VPN Router)



# Case Studies : Internet of Things (IoT)

## Managing a Nationwide Network of Vending Machines

### Service Provider

Top-tier mobile operator in North America

### Challenges

Vending machines provide consumers an easy and quick way of accessing popular food, beverages and consumables at the convenient locations. To manage and maintain a network vending machine efficiently, remote sensors are installed. Cost-effective WAN infrastructure is required to connect the vending machines to the central management center.

### Solutions

D-Link DWM-311 was chosen to provide secure VPN WAN connection over 4G/LTE to each vending machine. High-speed, good signal coverage, instant-on and paid-per-use 4G LTE network is the most suitable WAN infrastructure. With optional high-gain 4G antennas and built-in USB powered connector, DWM-311 makes installation and maintenance easy.

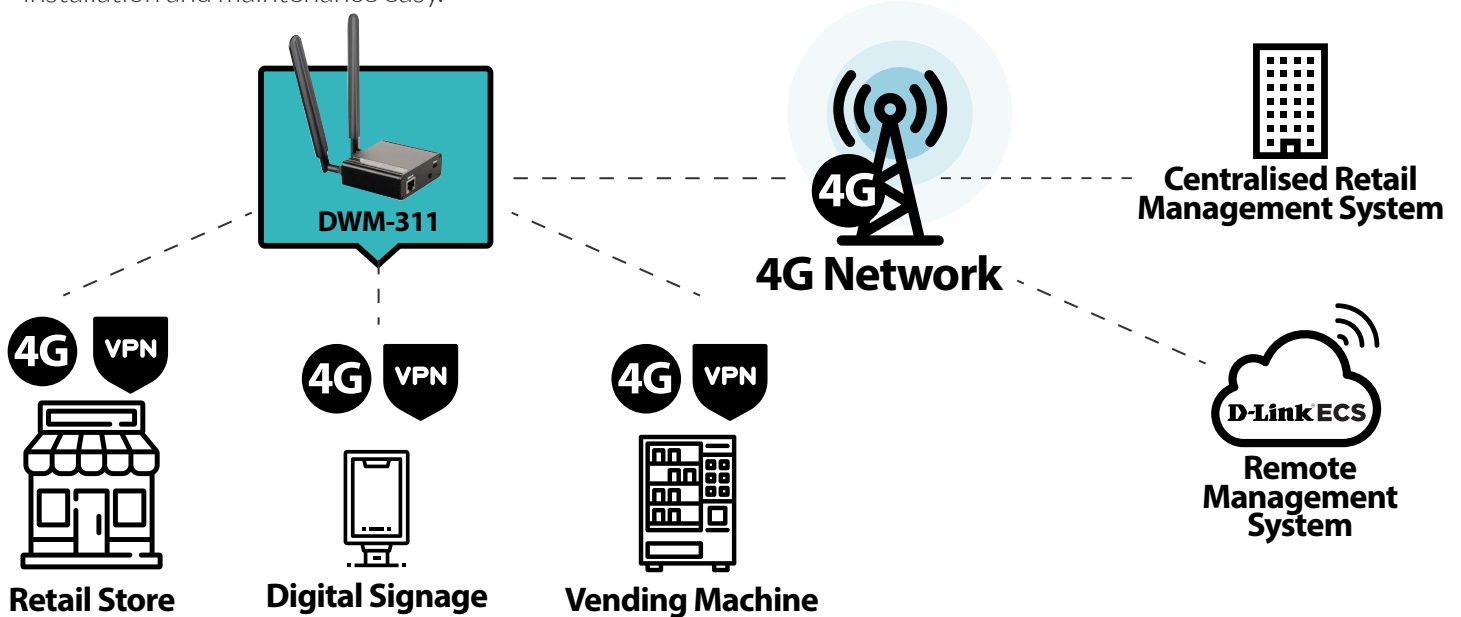


### Project Size

**3,000 - 4,000 units**

DWM-311

(4G LTE M2M VPN Router)





# Case Studies : In-Vechical Wi-Fi Hots

## Provider of Infotainment for Public Transportation and Remote Retail Outlets

### Service Provider

Top-tier mobile operator in Russia

### Challenges

Lacking in accessing to the fixed broadband infrastructure, remote areas and public transportation rely on mobile network to connect to the public internet. To cater for IT needs of different businesses and moving vehicles, a powerful 4G LTE M2M router with versatile hardware and software features is required to handle the unexpected challenges.

### Solutions

D-Link DWM-321 (4G LTE In-Vehicle Hotspot) was selected to deliver high-speed downlink/uplink up to 150Mbps/50Mbps. With optional design of dual LTE modems, DWM-321 can double the mobile WAN bandwidth to reach 300Mbps with advanced load-balance. Accommodating up to 4 SIM cards with different mobile operators, auto failover feature of DWM-321 offers zero downtime WAN connectivity. Built-in AC1200 provides easy Wi-Fi access to the passengers to enjoy rich multimedia infotainment contents. Special industrial design, DWM-321 is able to handle the variation of DC power supply and high operation temperature in the moving vehicles.

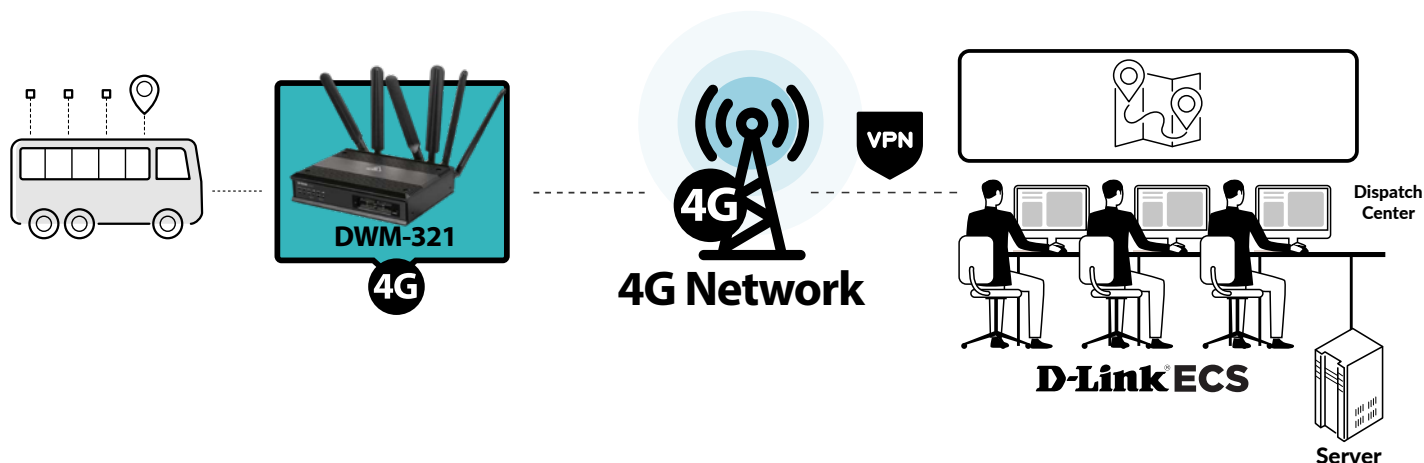


### Project Size

**3,000 – 4,000 units**

DWM-321

(4G LTE In-Vehicle Wi-Fi Hotspot)





# Get Started with M2M Today



DWM-311\*  
4G LTE M2M  
VPN Modem



DWM-312  
4G LTE M2M  
VPN Router



DWM-312W  
4G LTE M2M VPN  
Wi-Fi Router



DWM-313\*  
4G LTE M2M VPN  
WiFi Router



DWM-315\*  
4G LTE Cat 6  
M2M VP Router



DWM-321\*  
4G LTE In-Vehicle  
Wi-Fi Hotspot



DWR-926\*  
4G LTE Cat. 6  
M2M VPN WiFi Router

SIM Slots	One	Two	Two	Two	Two	Four with Two (2) LTE built-in modems (HW: D1)   Two (HW: A1)	Two
Connectivity	1 x Gigabit Ethernet LAN port	1 x 10/100Mbps Ethernet LAN port	1 x 10/100Mbps Ethernet LAN port	1 x 10/100Mbps Ethernet LAN port	1 x Gigabit Ethernet LAN port	2 x Gigabit Ethernet LAN port	3 x Gigabit LAN ports
			1 x 10/100Mbps Ethernet WAN/LAN port (Configurable)	1 x 10/100Mbps Ethernet WAN/LAN port (Configurable)	1 x Gigabit Ethernet WAN/LAN port (Configurable)	1 x Gigabit Ethernet WAN/LAN ports (Configurable)	1 x Gigabit Ethernet WAN/LAN port (Configurable)
4G LTE Speed	LTE Cat.4 Downlink 150Mbps	LTE Cat.4 Downlink 150Mbps	LTE Cat.4 Downlink 150Mbps	LTE Cat.4 Downlink 150Mbps	LTE Cat. 6 Downlink 300 Mbps	LTE Cat. 4 Downlink 150 Mbps	LTE Cat. 6 Downlink 300 Mbps
Antennas	2 x detachable 3G/4G antennas	2 x detachable 3G/4G antennas	2 x detachable 3G/4G antennas;	2 x detachable 3G/4G antennas;	2 x detachable 3G/4G antennas	4 x 3G/4G detachable antennas (HW: D1)	2 x detachable 3G/4G antennas
			1 x detachable Wi-Fi antenna	1 x detachable Wi-Fi antenna	1 x GPS SMA (antenna connector)	2 x 3G/4G detachable antennas (HW: A1)	2 x detachable WiFi antennas
GPS (Global Navigation Satellite System GNSS)	N.A.	N.A.	N.A.	N.A.	Yes	Yes	Yes
VPN Features	OpenVPN	L2TP/PPTP/IPSEC/GRE VPN	L2TP/OpenVPN/PPTP/IPSEC/GRE VPN	L2TP/OpenVPN/PPTP/IPSEC/GRE VPN	L2TP/OpenVPN/PPTP/IPSEC/GRE VPN	L2TP/OpenVPN/PPTP/IPSEC/GRE VPN	L2TP/OpenVPN/PPTP/IPSEC/GRE VPN

# 4G LTE Routers



DWR-920  
4G LTE Wi-Fi Router



DWR-921  
4G LTE Wi-Fi Router



DWR-953  
4G LTE Wi-Fi Router



DWR-961\*  
4G LTE CAT 6 Wi-Fi Router

SIM Slots	One	One	One	One
Connectivity	1 x Gigabit Ethernet LAN port	4 x 10/100Mbps Ethernet LAN port	4 x Gigabit Ethernet LAN port	3 x Gigabit Ethernet LAN port
	1 x Gigabit Ethernet WAN/LAN port (Configurable)	1 x 10/100Mbps Ethernet WAN port	1 x Gigabit Ethernet WAN port	1 x Gigabit Ethernet WAN/LAN port (Configurable)
4G LTE Speed	LTE Cat 4 / Downlink 150Mbps	LTE Cat 4 / Downlink 150Mbps	LTE Cat 4 / Downlink 150Mbps	LTE Cat 6 / Downlink 300Mbps
Antennas	2 x detachable 3G/4G antennas	2 x detachable 3G/4G antennas	2 x detachable 3G/4G antennas	2 x detachable 3G/4G antennas
GPS (Global Navigation Satellite System GNSS)	N.A.	N.A.	N.A.	N.A.
VPN Features	N.A.	N.A.	N.A.	N.A.

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Find out more about M2M solution for your business,  
visit [eu.dlink.com](http://eu.dlink.com)