D-Link®

DVG-N5402G/ACF

Wireless AC1200 Dual Band Gigabit Router with Fiber WAN Port, 3G/LTE Support, 2 FXS Ports, 1 PSTN (lifeline) Port, and USB Port

BEFORE YOU BEGIN

Delivery Package

- Router DVG-N5402G/ACF

- Power adapter DC 12V/2A

- Ethernet cable (CAT 5E)

- Two RJ-11 telephone cables

- "*Quick Installation Guide*" (brochure).

If any of the items are missing, please contact your reseller.

The "*User Manual*" and "*Quick Installation Guide*" documents are available on D-Link website (see www.dlink.ru).

> **!**   **Using a power supply with a different voltage rating than the one included will cause damage and void the warranty for this product.**

Default Settings

Domain name of device		`dlinkrouter.local.`
IP address of device		`192.168.8.254`
Username (login)		`admin`
Password		`admin`
Name of wireless network (SSID)	**2.4GHz**	`DVG-N5402G`
	5GHz	`DVG-N5402G-5G`
Network key (PSK password)		see WPS PIN on the barcode label on the bottom panel of the device

! Router DVG-N5402G/ACF with default settings cannot connect to the Internet. To get started, please set your own password for access to the web-based interface and change the WLAN name (SSID); then, if needed, configure other settings recommended by your ISP.

System Requirements and Equipment

- A computer with any operating system that supports a web browser.

- A web browser to access the web-based interface of the router:

    ○ Apple Safari 8 and later

    ○ Google Chrome 48 and later

    ○ Microsoft Internet Explorer 10 and later

    ○ Microsoft Edge 20.10240 and later

    ○ Mozilla Firefox 44 and later

    ○ Opera 35 and later.

- A NIC (Ethernet or Wi-Fi adapter) to connect to the router.

- An 802.11a, b, g, n, or ac Wi-Fi adapter to create a wireless network.

- SFP transceiver to connect to a fiber optic line.

- Analog phone.

- A USB modem (when it is necessary to connect to the Internet via mobile operators' networks)[1].

  ! Your USB modem should be equipped with an active SIM card of your operator.

  Some operators require subscribers to activate their USB modems prior to using them. Please, refer to connection guidelines provided by your operator when concluding the agreement or placed on its website.

  For some models of USB modems, it is required to disable the PIN code check on the SIM card prior to connecting the USB modem to the router.

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1   Contact your operator to get information on the service coverage and fees.

CONNECTING TO PC

PC with Ethernet Adapter

1. Connect an Ethernet cable between any of LAN ports located on the back panel of the router and the Ethernet port of your PC.

2. ***To connect via USB modem***: connect your USB modem to the USB port[2] located on the back panel of the router.

! In some cases you will need to reboot the router after connection of the USB modem.

3. ***To connect the device to a fiber optic line***: connect your SFP transceiver to the SFP port, then connect the fiber optic cable to the SFP transceiver.

4. ***To connect the device to an Ethernet line***: in the web-based interface of the router, select the router's LAN port that will be used as the WAN port and create an Ethernet WAN connection. Then connect an Ethernet cable between an available Ethernet port of the router and the Ethernet line.

! Please connect the router to the ISP's Ethernet line only after setting the WAN port and creating the Internet connection.

5. Connect the power cord to the power connector port on the back panel of the router, then plug the power adapter into an electrical outlet or power strip.

6. Turn on the router by pressing the **ON/OFF** button on its back panel.

Then make sure that your PC is configured to obtain an IP address automatically (as DHCP client).

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2 It is recommended to use a USB extension cable to connect a USB modem to the router.

Obtaining IP Address Automatically (OS Windows 7)

1. Click the **Start** button and proceed to the **Control Panel** window.

2. Select the **Network and Sharing Center** section. (If the Control Panel has the category view (the **Category** value is selected from the **View by** drop-down list in the top right corner of the window), choose the **View network status and tasks** line under the **Network and Internet** section.)

3. In the menu located on the left part of the window, select the **Change adapter settings** line.

4. In the opened window, right-click the relevant **Local Area Connection** icon and select the **Properties** line in the menu displayed.
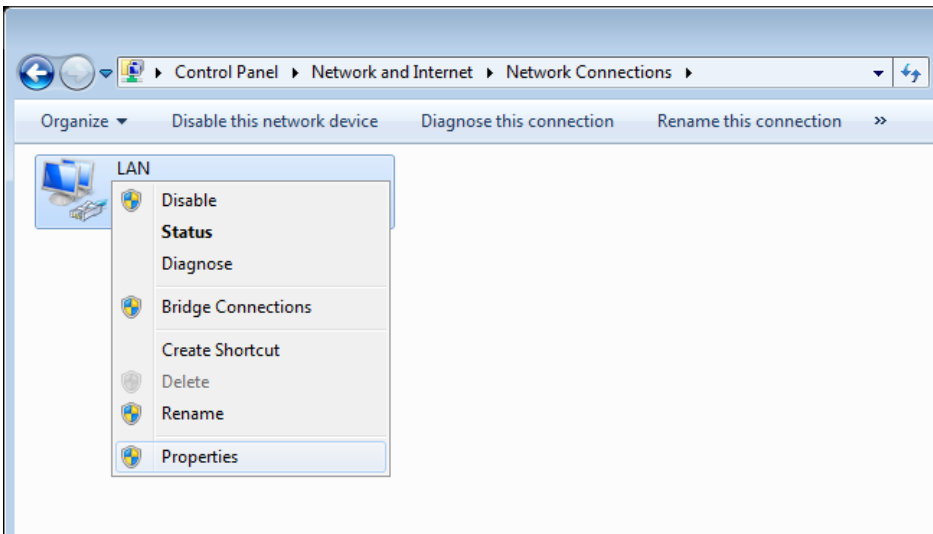
5. In the **Local Area Connection Properties** window, on the **Networking** tab, select the **Internet Protocol Version 4 (TCP/IPv4)** line. Click the **Properties** button.

6. Make sure that the **Obtain an IP address automatically** and **Obtain DNS server address automatically** choices of the radio buttons are selected. Click the **OK** button.
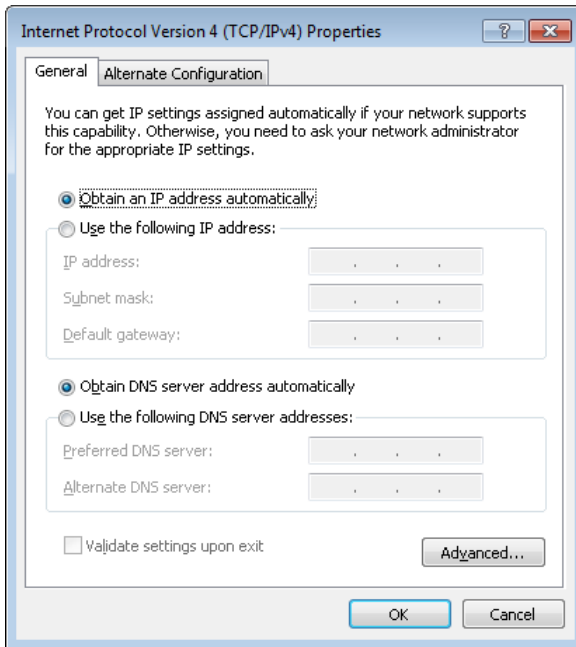
7. Click the **OK** button in the connection properties window.

PC with Wi-Fi Adapter

1. *To connect via USB modem*: connect your USB modem to the USB port[3] located on the back panel of the router.

   ! In some cases you will need to reboot the router after connection of the USB modem.

2. *To connect the device to a fiber optic line*: connect your SFP transceiver to the SFP port, then connect the fiber optic cable to the SFP transceiver.

3. *To connect the device to an Ethernet line*: in the web-based interface of the router, select the router's LAN port that will be used as the WAN port and create an Ethernet WAN connection. Then connect an Ethernet cable between an available Ethernet port of the router and the Ethernet line.

   ! Please connect the router to the ISP's Ethernet line only after setting the WAN port and creating the Internet connection.

4. Connect the power cord to the power connector port on the back panel of the router, then plug the power adapter into an electrical outlet or power strip.

5. Turn on the router by pressing the **ON/OFF** button on its back panel.

6. Make sure that the Wi-Fi adapter of your PC is on. As a rule, modern notebooks with built-in wireless NICs are equipped with a button or switch that turns on/off the wireless adapter (refer to your PC documents). If your PC is equipped with a pluggable wireless NIC, install the software provided with your Wi-Fi adapter.

Then make sure that your Wi-Fi adapter is configured to obtain an IP address automatically (as DHCP client).

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3 It is recommended to use a USB extension cable to connect a USB modem to the router.

Obtaining IP Address Automatically and Connecting to Wireless Network (OS Windows 7)

1. Click the **Start** button and proceed to the **Control Panel** window.

2. Select the **Network and Sharing Center** section. (If the Control Panel has the category view (the **Category** value is selected from the **View by** drop-down list in the top right corner of the window), choose the **View network status and tasks** line under the **Network and Internet** section.)

3. In the menu located on the left part of the window, select the **Change adapter settings** line.

4. In the opened window, right-click the relevant **Wireless Network Connection** icon. Make sure that your Wi-Fi adapter is on, then select the **Properties** line in the menu displayed.

5. In the **Wireless Network Connection Properties** window, on the **Networking** tab, select the **Internet Protocol Version 4 (TCP/IPv4)** line. Click the **Properties** button.

6. Make sure that the **Obtain an IP address automatically** and **Obtain DNS server address automatically** choices of the radio buttons are selected. Click the **OK** button.
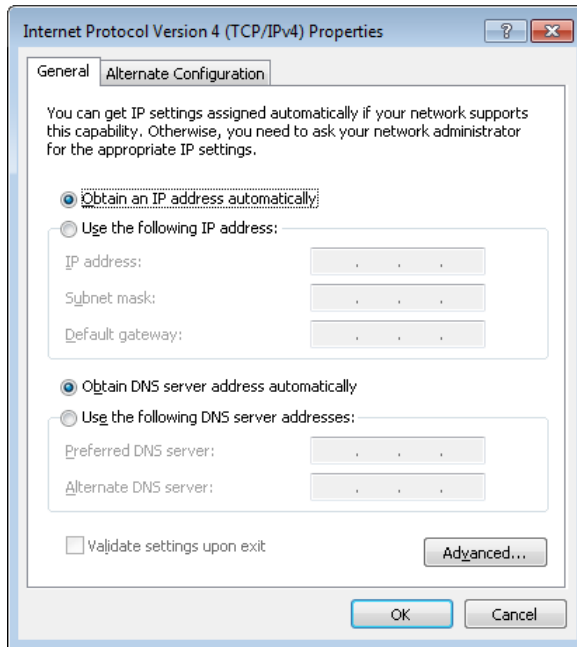
7. Click the **OK** button in the connection properties window.

8. To open the list of available wireless networks, select the icon of the wireless network connection and click the **Connect To** button or left-click the network icon in the notification area located on the right side of the taskbar.
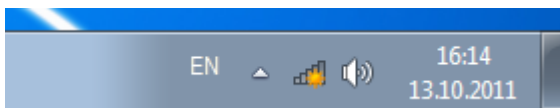
9. In the opened window, in the list of available wireless networks, select the wireless network **DVG-N5402G** (for operating in the 2.4GHz band) or **DVG-N5402G-5G** (for operating in the 5GHz band) and click the **Connect** button.
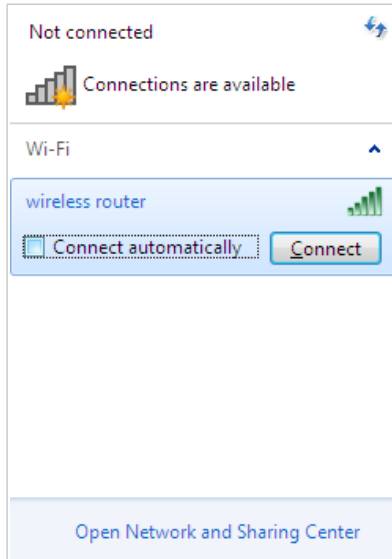
10. In the opened window, enter the network key (see WPS PIN on the barcode label on the bottom panel of the device) in the **Security key** field and click the **OK** button.

11. Wait for about 20-30 seconds. After the connection is established, the network icon will be displayed as the signal level scale.

> **!** If you perform initial configuration of the router via Wi-Fi connection, note that immediately after changing the wireless default settings of the router you will need to reconfigure the wireless connection using the newly specified settings.

CONFIGURING ROUTER

Connecting to Web-based Interface

Start a web browser. In the address bar of the web browser, enter the domain name of the router (by default, `dlinkrouter.local`) with a dot at the end and press the **Enter** key. Also you can enter the IP address of the device (by default, `192.168.8.254`).

File   Edit   View   Bookmarks   Tools   Help

192.168.8.254
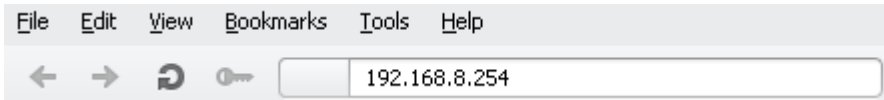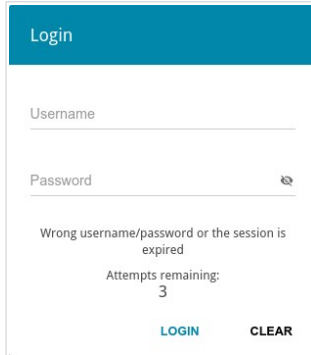
!   If the error "*The page cannot be displayed*" (or "*Unable to display the page*"/"*Could not connect to remote server*") occurs upon connecting to the web-based interface of the router, make sure that you have properly connected the router to your computer.

If the device has not been configured previously or the default settings have been restored, after access to the web-based interface the Initial Configuration Wizard opens (see the ***Initial Configuration Wizard*** section, page 16).

Dear Customer! It's the first time the device is turned on. Please configure the device in order to use the Internet access services.
To run the Wizard, click the "Start" button.

START
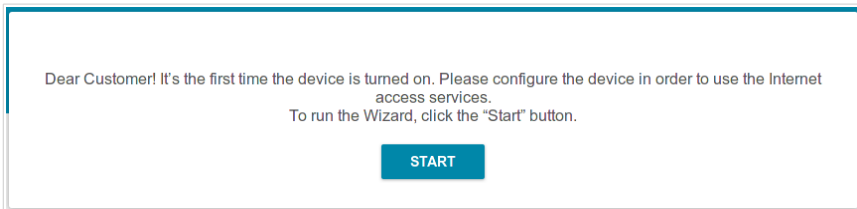
If you configured the device previously, after access to the web-based interface the login page opens. Enter the username (`admin`) in the **Username** field and the password you specified in the **Password** field, then click the **LOGIN** button.

If you enter a wrong password several times, the web-based interface will be blocked for a while. Please wait for one minute and reenter the password you specified.

The **Summary** page displays general information on the router and its software.

The **Home** page displays links to the most frequently used pages with device's settings.

The web-based interface of the router is bilingual (English/Russian). You can select the needed language upon the initial configuration of the web-based interface of the router or in the **System / Configuration** section of the menu.

Other settings of the router are available in the menu in the left part of the page. Go to the relevant section and select the needed page or run the wizard in the **Initial Configuration** section.

Initial Configuration Wizard

In order to start the Initial Configuration Wizard manually, go to the **Initial Configuration** section.

> In order to run the initial setup wizard, the device should be reset to factory defaults.
>
> CANCEL   OK
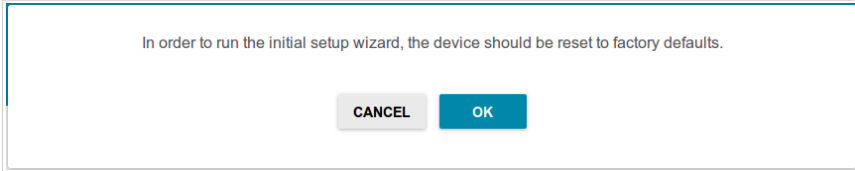
Click the **OK** button and wait until the factory default settings are restored.

> Factory defaults are restored
> If you are connected via Wi-Fi, please make sure that you have not switched automatically to another wireless network.
> See your wireless network name and password on the barcode label on the device.
>
> NEXT >
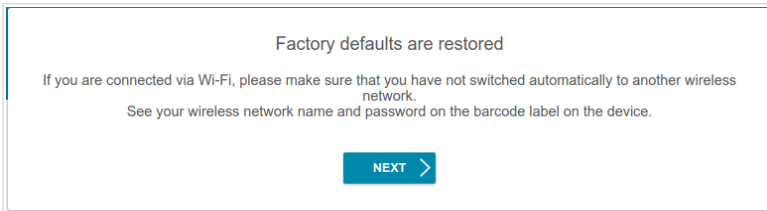
If you perform initial configuration of the router via Wi-Fi connection, please make sure that you are connected to the wireless network of DVG-N5402G/ACF (see the WLAN name (SSID) in the *Default Settings* section, page 3) and click the **NEXT** button. Then click the **START** button.

If the device has not been configured previously or the default settings have been restored, the Initial Configuration Wizard starts automatically upon access to the web-based interface or upon opening a web site on the Internet.

> Dear Customer! It's the first time the device is turned on. Please configure the device in order to use the Internet access services.
> To run the Wizard, click the "Start" button.
>
> START
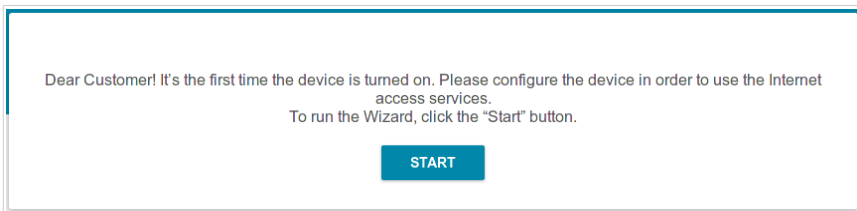
1. Click **YES** in order to leave the current language of the web-based interface or click **NO** to select the other language.
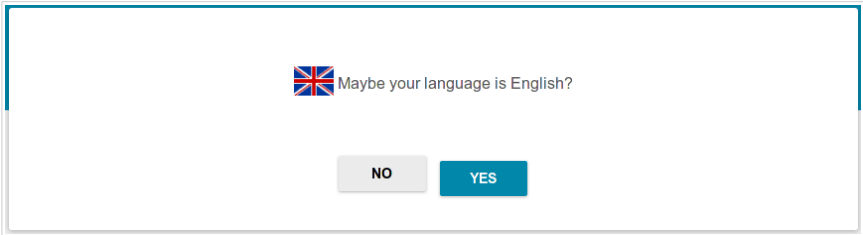
2. On the next page, click the **CONTINUE** button.

Selecting Operation Mode

In order to connect your device to a wired ISP, on the **Device mode** page, from the **Connection method** list, select the **Wired connection** value. Then from the **Work mode** list select the **Router** value. In this mode you can configure a WAN connection, set your own settings for the wireless network in the 2.4GHz and 5GHz bands, configure LAN ports to connect an STB or VoIP phone, and set your own password for access to the web-based interface of the device.
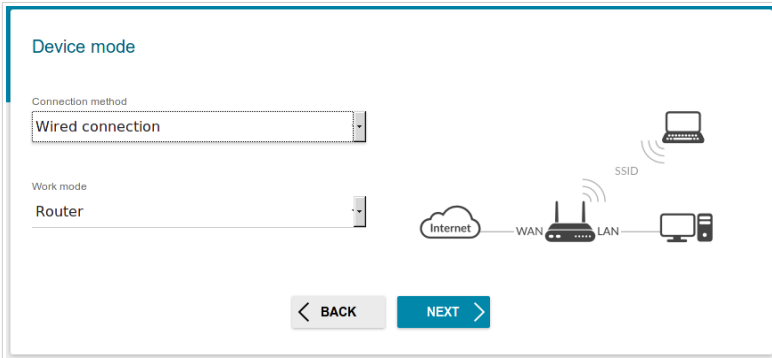
In order to connect your device to the network of a 3G or LTE operator, on the **Device mode** page, from the **Connection method** list, select the **3G/LTE modem** value. In this mode you can configure a 3G/LTE WAN connection, set your own settings for the wireless network in the 2.4GHz and 5GHz bands, and set your own password for access to the web-based interface of the device.
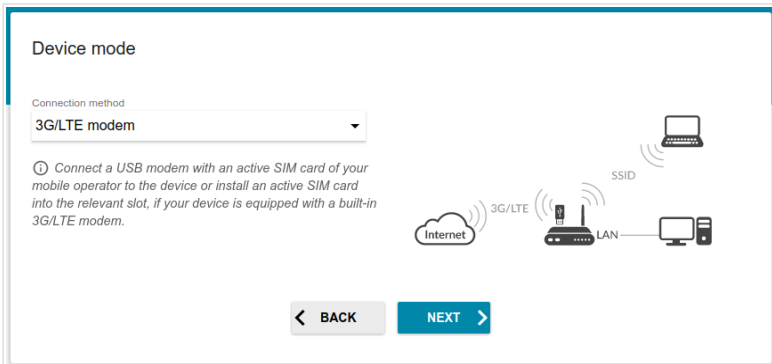
In order to connect your device to a wireless ISP (WISP), on the **Device mode** page, from the **Connection method** list, select the **Wi-Fi** value. Then from the **Work mode** list select the **WISP Repeater** value. In this mode you can connect your device to another access point, configure a WAN connection, set your own settings for the wireless network in the 2.4GHz and 5GHz bands, configure LAN ports to connect an STB or VoIP phone, and set your own password for access to the web-based interface of the device.

In order to connect your device to a wired router for adding a wireless network to the existing local network, on the **Device mode** page, from the **Connection method** list, select the **Wired connection** value. Then from the **Work mode** list select the **Access point** value. In this mode you can change the LAN IP address, set your own settings for the wireless network in the 2.4GHz and 5GHz bands, and set your own password for access to the web-based interface of the device.

In order to connect your device to a wireless router for extending the range of the existing wireless network, on the **Device mode** page, from the **Connection method** list, select the **Wi-Fi** value. Then from the **Work mode** list select the **Repeater** value. In this mode you can change the LAN IP address, connect your device to another access point, set your own settings for the wireless network in the 2.4GHz and 5GHz bands, and set your own password for access to the web-based interface of the device.
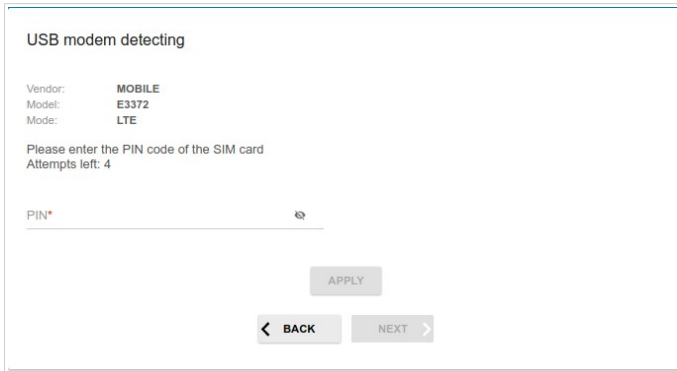
In order to let wired PCs connected to your device access the network of a wireless router, on the **Device mode** page, from the **Connection method** list, select the **Wi-Fi** value. Then from the **Work mode** list select the **Client** value. In this mode you can change the LAN IP address, connect your device to another access point, and set your own password for access to the web-based interface of the device.

When the operation mode is selected, click the **NEXT** button.

Creating 3G/LTE WAN Connection

This configuration step is available for the **3G/LTE modem** mode.

1. If the PIN code check is enabled for the SIM card inserted into your USB modem, enter the PIN code in the **PIN** field and click the **APPLY** button.
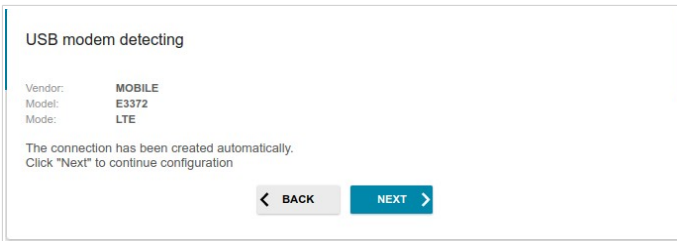
2. Please wait while the router automatically creates a WAN connection for your mobile operator.

3. Click the **NEXT** button.

If the router failed to create a WAN connection automatically, click the **CONFIGURE MANUALLY** button. On the **Internet connection type** page, configure all needed settings and click the **NEXT** button.
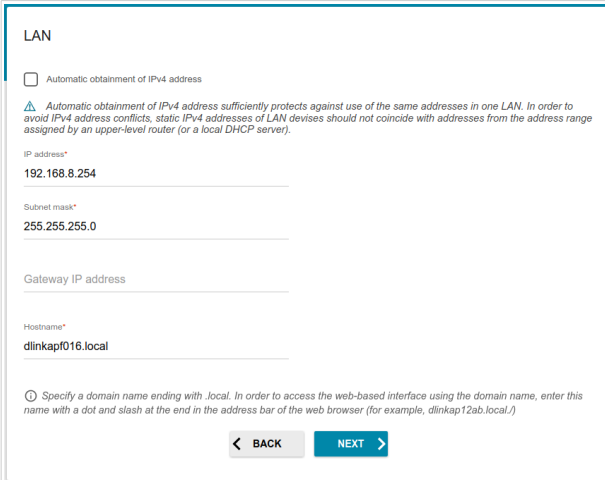
Changing LAN IPv4 Address

This configuration step is available for the **Access point**, **Repeater**, and **Client** modes.

1. Select the **Automatic obtainment of IPv4 address** to let DVG-N5402G/ACF automatically obtain the LAN IPv4 address.

2. In the **Hostname** field, you should specify a domain name of the router using which you can access the web-based interface after finishing the Wizard. Enter a new domain name of the router ending with `.local` or leave the value suggested by the router.

! In order to access the web-based interface using the domain name, in the address bar of the web browser, enter the name of the router with a dot at the end.

If you want to manually assign the LAN IPv4 address for DVG-N5402G/ACF, do not select the **Automatic obtainment of IPv4 address** checkbox and fill in the **IP address**, **Subnet mask**, **Hostname** fields and, if needed, the **Gateway IP address** field. Make sure that the assigned address does not coincide with the LAN IPv4 address of the router to which your device connects.

3. Click the **NEXT** button.
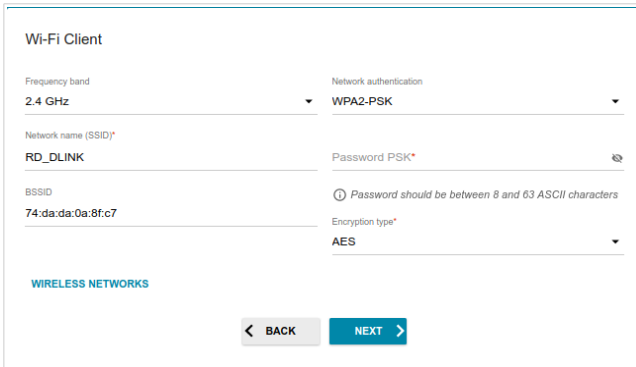
Wi-Fi Client

This configuration step is available for the **WISP Repeater**, **Repeater**, and **Client** modes.

1. On the **Wi-Fi Client** page, click the **WIRELESS NETWORKS** button and select the network to which you want to connect in the opened window. When you select a network, the **Network name (SSID)** and **BSSID** fields are filled in automatically.

If you cannot find the needed network in the list, click the **UPDATE LIST** icon (   ).

2. If a password is needed to connect to the selected network, fill in the relevant field. Click the **Show** icon (👁) to display the entered password.

If you connect to a hidden network, select the band where the hidden network operates from the **Frequency band** list and enter the network name in the **Network name (SSID)** field. Then select a needed value from the **Network authentication** list and then, if needed, enter the password in the relevant field.

3. Click the **NEXT** button.

Configuring Wired WAN Connection

This configuration step is available for the **Router** and **WISP Repeater** modes.

> **!** You should configure your WAN connection in accordance with data provided by your Internet service provider (ISP). Make sure that you have obtained all necessary information prior to configuring your connection. Otherwise contact your ISP.

1. On the **Internet connection type** page, from the **Connection type** list, select the connection type used by your ISP and fill in the fields displayed on the page.

Static IPv4: Fill in the following fields: **IP address**, **Subnet mask**, **Gateway IP address**, and **DNS IP address**.

IP address*

Subnet mask*

Gateway IP address*

DNS IP address*

Static IPv6: Fill in the following fields: **IP address**, **Prefix**, **Gateway IP address**, and **DNS IP address**.

IP address*

Prefix*

Gateway IP address*

DNS IP address*

PPPoE, IPv6 PPPoE, PPPoE Dual Stack, PPPoE + Dynamic IP (PPPoE Dual Access): Enter authorization data provided by your ISP (the username (login) in the **Username** field and the password in the **Password** field). Click the **Show** icon ( ) to display the entered password. If authorization is not required, select the **Without authorization** checkbox.

☐ Without authorization
Username*
Password*   ⌀

PPPoE + Static IP (PPPoE Dual Access): Enter authorization data provided by your ISP (the username (login) in the **Username** field and the password in the **Password** field). Click the **Show** icon ( ) to display the entered password. If authorization is not required, select the **Without authorization** checkbox. Also fill in the following fields: **IP address**, **Subnet mask**, **Gateway IP address**, and **DNS IP address**.

☐ Without authorization
Username*
Password*   ⌀

IP address*
Subnet mask*
Gateway IP address*
DNS IP address*
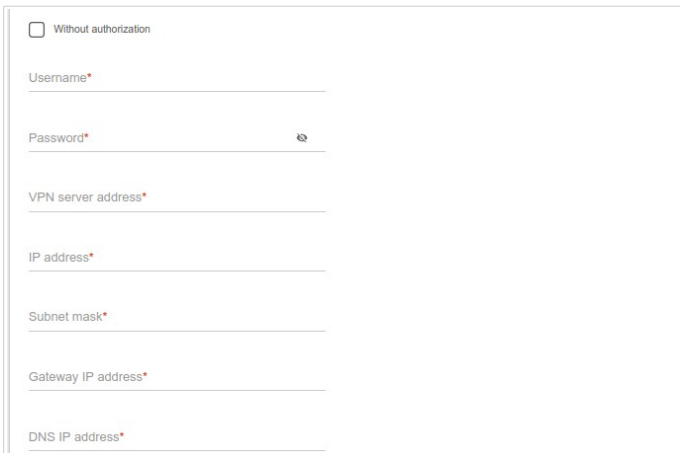
PPTP + Dynamic IP or L2TP + Dynamic IP: Enter authorization data provided by your ISP (the username (login) in the **Username** field and the password in the **Password** field). Click the **Show** icon ( ) to display the entered password. If authorization is not required, select the **Without authorization** checkbox. In the **VPN server address** field, enter the IP or URL address of the PPTP or L2TP authentication server.

PPTP + Static IP or L2TP + Static IP: Enter authorization data provided by your ISP (the username (login) in the **Username** field and the password in the **Password** field). Click the **Show** icon ( ) to display the entered password. If authorization is not required, select the **Without authorization** checkbox. In the **VPN server address** field, enter the IP or URL address of the PPTP or L2TP authentication server. Also fill in the following fields: **IP address**, **Subnet mask**, **Gateway IP address**, and **DNS IP address**.

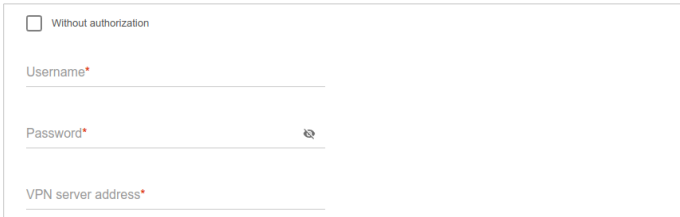2. If your ISP uses MAC address binding, select the **Clone MAC address of your device** checkbox.

3. If the Internet access is provided via a VLAN channel, select the **Use VLAN** checkbox and fill in the **VLAN ID** field.

4. Click the **NEXT** button.

Configuring Wireless Network

This configuration step is available for the **3G/LTE modem**, **Router**, **Access point**, **WISP Repeater**, and **Repeater** modes.

1. On the **Wireless Network 2.4 GHz** page, in the **Network name** field, specify your own name for the wireless network in the 2.4GHz band or leave the value suggested by the router.

2. In the **Password** field, specify your own password for access to the wireless network or leave the value suggested by the router (WPS PIN of the device, see the barcode label).

3. If the router is used as a Wi-Fi client, you can specify the same parameters of the wireless network as specified for the network to which you are connecting. To do this, click the **USE** button (available for the **WISP Repeater** and **Repeater** modes only).

4. You can restore the parameters of the wireless network specified before resetting to factory defaults. To do this, click the **RESTORE** button.
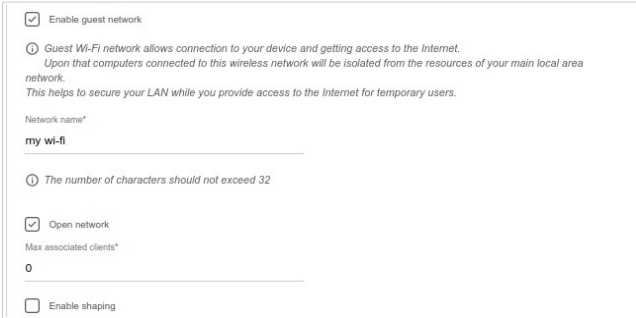
5. If you want to create an additional wireless network isolated from your LAN in the 2.4GHz band, select the **Enable guest network** checkbox (available for the **3G/LTE modem**, **Router**, and **WISP Repeater** modes only).

6. In the **Network name** field, specify your own name for the guest wireless network or leave the value suggested by the router.

7. If you want to create a password for access to the guest wireless network, deselect the **Open network** checkbox and fill in the **Password** field.

8. If you want to limit the bandwidth of the guest wireless network, select the **Enable shaping** checkbox and fill in the **Shaping** field.

9. Click the **NEXT** button.

10. On the **Wireless Network 5 GHz** page, specify needed settings for the wireless network in the 5GHz band and click the **NEXT** button.

Configuring LAN Ports for IPTV/VoIP

This configuration step is available for the **Router** and **WISP Repeater** modes.

1. On the **IPTV** page, select the **Is an STB connected to the device** checkbox.

2. Select a free LAN port for connecting your set-top box.

3. If the IPTV service is provided via a VLAN channel, select the **Use VLAN ID** checkbox and fill in the **VLAN ID** field.

4. Click the **NEXT** button.

5. On the **VoIP** page, select the **Is an IP phone connected to the device** checkbox.

6. Select a free LAN port for connecting your IP phone.

7. If the VoIP service is provided via a VLAN channel, select the **Use VLAN ID** checkbox and fill in the **VLAN ID** field.

8. Click the **NEXT** button.

Changing Web-based Interface Password

On this page you should change the default administrator password. To do this, enter a new password in the **Admin password** and **Password confirmation** fields. You may set any password except `admin`. Use digits, Latin letters (uppercase and/or lowercase), and other characters available in the US keyboard layout.[4]

Changing web-based interface password

For security reasons, please change the password used to access the device's settings.

Admin password*

ⓘ *Password should be between 1 and 31 ASCII characters*

Password confirmation

‹ BACK   NEXT ›

> **!** Remember or write down the new password for the administrator account. In case of losing the new password, you can access the settings of the router only after restoring the factory default settings via the hardware **RESET** button. This procedure wipes out all settings that you have configured for your router.

Click the **NEXT** button.

On the next page, check all the settings you have just specified.

Also you can save a text file with parameters set by the Wizard to your PC. To do this, click the **SAVE CONFIGURATION FILE** button and follow the dialog box appeared.

To finish the Wizard, click the **APPLY** button. The router will apply settings, reboot, if needed, and check the Internet connection if the Wizard has configured a WAN connection.

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4   0-9, A-Z, a-z, space, !"#$%&'()*+,-./:;<=>?@[\]^_`{|}~.

Configuring Local Area Network

1. Go to the **Connections Setup / LAN** page.

2. If needed, change the IPv4 address of the router's LAN interface and the mask of the local subnet. To do this, click the **IPv4** tab and specify needed values in the **IP address** and **Mask** fields in the **Local IP Address** section.

3. If needed, specify your own IPv6 address of the router's LAN interface. To do this, click the **IPv6** tab and select the **Static** value from the **Mode of local IPv6 address assignment** drop-down list in the **Local IPv6 Address** section. Then specify the needed value in the **IPv6 address** field.

4. **IPv4 address assignment**. By default, the built-in DHCP server of
   the router assigns IPv4 addresses to the devices of the LAN. If you want
   to manually assign IPv4 addresses, disable the DHCP server (click the
   IPv4 tab and select the **Disable** value from the **Mode of dynamic IP
   address assignment** drop-down list in the **Dynamic IP Addresses**
   section).
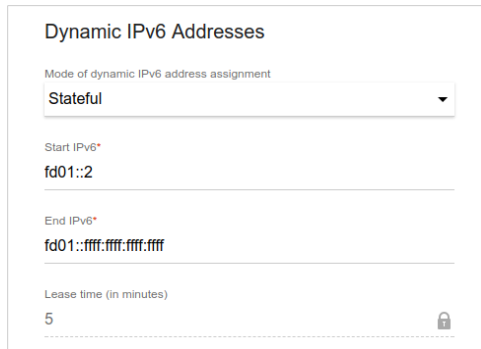
5. **IPv6 address assignment**. By default, the devices of the LAN automatically assign IPv6 addresses to themselves (the **Stateless** value is selected from the **Mode of dynamic IPv6 address assignment** drop-down list in the **Dynamic IPv6 Addresses** section on the **IPv6** tab). If the devices of the LAN do not support IPv6 address autoconfiguration, enable the built-in DHCPv6 server of the router (select the **Stateful** value from the **Mode of dynamic IPv6 address assignment** drop-down list). If you want to manually assign IPv6 addresses to devices of the LAN, select the **Disable** value from the **Mode of dynamic IPv6 address assignment** drop-down list.

Dynamic IPv6 Addresses

Mode of dynamic IPv6 address assignment
Stateful

Start IPv6*
fd01::2

End IPv6*
fd01::ffff:ffff:ffff:ffff

Lease time (in minutes)
5

6. After specifying the needed parameters on the **Connections Setup / LAN** page, click the **APPLY** button.

Configuring Network Printer

1. Make sure that a driver for your printer which will be used as a network printer is installed on your PC.[5]

2. To connect the printer to the router, power off both devices. Connect the printer to the USB port of the router, power on the printer, then power on the router.

3. Then access the web-based interface, go to the **Print Server** page and click the **ENABLE** button.
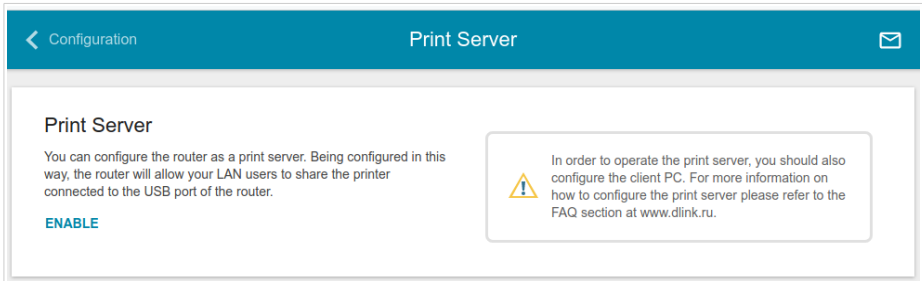
4. Click the **Start** button and go to the **Control Panel** window.

5. Select the **Hardware and Sound** section. (If the Control Panel has the category view (the **Category** value is selected from the **View by** drop-down list in the top right corner of the window), choose the **View devices and printers** line.)

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5 Some home printers can work incorrectly as network printers. Contact the technical support of your printer's manufacturer to clarify if your printer supports this function.

6. In the opened window, click the **Add a printer** button.
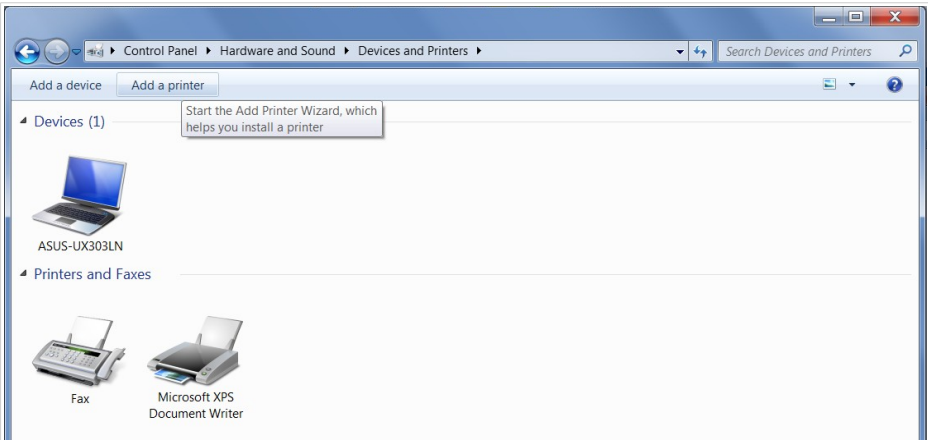
7. Select the **Add a local printer** value and click the **Next** button.
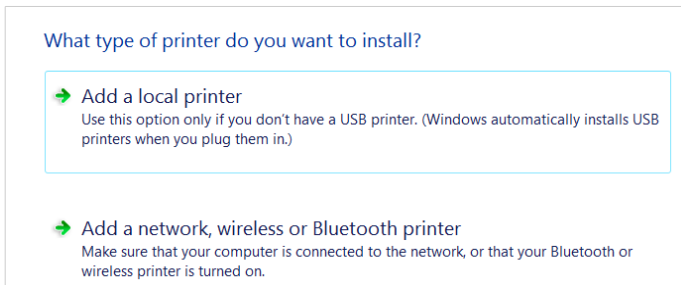
8. Select the **Create a new port** choice of the radio button and then select the **Standard TCP/IP Port** value from the **Type of port** drop-down list. Click the **Next** button.
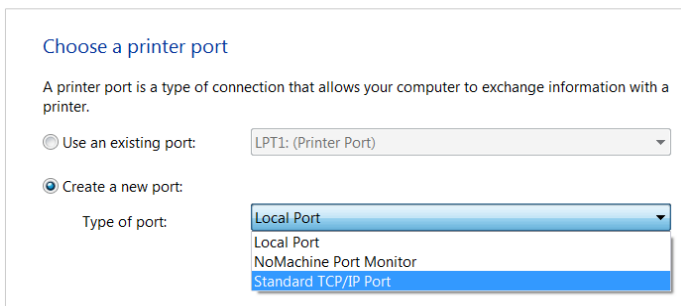
9. Enter the IP address of the router in the **Hostname or IP address** field (by default, `192.168.8.254`). Deselect the **Query the printer and automatically select the driver to use** checkbox and, if needed, change the name of the port in the **Port name** field. Click the **Next** button.

10. Wait for about 20-30 seconds. In the opened **Additional port information required** window, select the **Custom** choice of the radio button, click the **Settings** button, and make sure that the **RAW** choice of the radio button is selected in the **Protocol** section and the **9100** value is specified in the **Raw Settings** section. Click the **OK** button.

11. Then in the **Additional port information required** window, select the **Standard** choice of the radio button and click the **Next** button.

12. Select your printer and click the **Next** button.

    Install the printer driver

    Choose your printer from the list. Click Windows Update to see more models.

    To install the driver from an installation CD, click Have Disk.

Manufacturer	Printers
Brother	Brother DCP-116C
Canon	Brother DCP-117C
Epson	Brother DCP-128C
Fuji Xerox	Brother DCP-129C
Generic	Brother DCP-130C

    This driver is digitally signed.   [Windows Update]   [Have Disk...]

    Tell me why driver signing is important

13. Select the **Use the driver that is currently installed** choice of the radio button and click the **Next** button.

    Which version of the driver do you want to use?

    Windows detected that a driver is already installed for this printer.

    ◉ Use the driver that is currently installed (recommended)
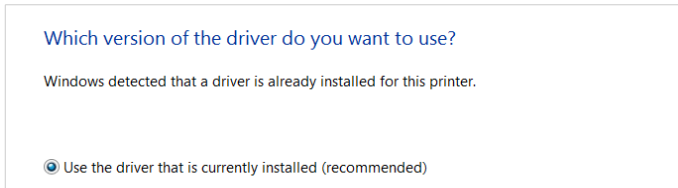
14. Enter a name of the printer (you can specify any name) in the **Printer name** field and click the **Next** button.

    Type a printer name

    Printer name: My Printer
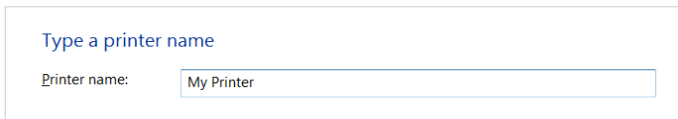
15. In the **Printer Sharing** window, select the **Do not share this printer** choice of the radio button and click the **Next** button.
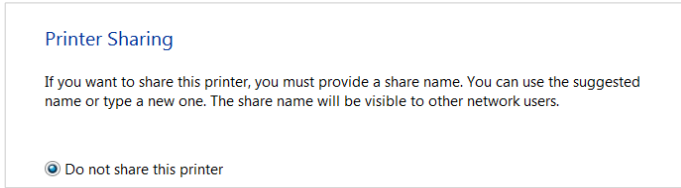
16. If you need to print a test page, click the **Print a test page** button. To finish the printer installation, click the **Finish** button.

SPECIFICATIONS*

Hardware		
Processor	·	RTL9607P (600MHz)
RAM	·	128MB, DDR3 SDRAM
Flash	·	16MB, SPI
Interfaces	· · · · ·	1000BASE-X SFP WAN port 4 10/100/1000BASE-T LAN ports 2 RJ-11 FXS ports 1 RJ-11 PSTN (lifeline) port USB 2.0 port
LEDs	· · · · · · · · ·	POWER 2.4GHz 5GHz SFP 4 LAN LEDs USB LINE 2 PHONE LEDs WPS
Buttons	· · ·	ON/OFF button to power on/power off RESET button to restore factory default settings WPS button to set up wireless connection and enable/disable wireless network
Antenna	·	Two external non-detachable antennas (5dBi gain for 2.4GHz and 5GHz)
MIMO	·	2 x 2
Power connector	·	Power input connector (DC)

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*   The device features are subject to change without notice. For the latest versions of the firmware and relevant documentation, visit www.dlink.ru.

Software	
WAN connection types	· LTE · 3G · PPPoE · IPv6 PPPoE · PPPoE Dual Stack · Static IPv4 / Dynamic IPv4 · Static IPv6 / Dynamic IPv6 · PPPoE + Static IP / Dynamic IP · PPTP/L2TP · PPTP/L2TP + Static IP · PPTP/L2TP + Dynamic IP
Network functions	· Support of IEEE 802.1X for Internet connection · DHCP server/relay · Advanced configuration of built-in DHCP server · Stateful/Stateless mode for IPv6 address assignment, IPv6 prefix delegation · Automatic obtainment of LAN IP address (for access point/repeater/client modes) · DNS relay · Dynamic DNS · Static IP routing · Static IPv6 routing · IGMP Proxy · RIP · Support of UPnP IGD · Support of VLAN · WAN ping respond · Support of SIP ALG · Support of RTSP · WAN reservation · Autonegotiation of speed, duplex mode, and flow control/Manual speed and duplex mode setup for each Ethernet port

Software	
Firewall functions	· Network Address Translation (NAT) · Stateful Packet Inspection (SPI) · IPv4 filter · IPv6 filter · MAC filter · URL filter · DMZ · Prevention of ARP and DDoS attacks · Virtual servers · Built-in Yandex.DNS web content filtering service
VPN	· IPSec/PPTP/L2TP/PPPoE pass-through · IPSec tunnels

USB interface functions	· USB modem
	      Auto connection to available type of supported network (4G/3G/2G)
	      Auto configuration of connection upon plugging in USB modem
	      Enabling/disabling PIN code check, changing PIN code[6]
	· USB storage
	      File browser
	      Print server
	      Access to storage via accounts
	      Built-in Samba server
	      Built-in FTP server
	      Built-in DLNA server
	      Built-in Transmission torrent client;
	      uploading/downloading files from/to USB storage

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6   For some models of USB modems.

Software	
Management	· Local and remote access to settings through TELNET/WEB (HTTP/HTTPS) · Bilingual web-based interface for configuration and management (Russian/English) · Support of D-Link Assistant application for Android and iPhone smartphones · Notification on connection problems and auto redirect to settings · Firmware update via web-based interface · Automatic notification on new firmware version · Saving/restoring configuration to/from file · Support of logging to remote host/connected USB storage · Automatic synchronization of system time with NTP server and manual time/date setup · Ping utility · Traceroute utility · TR-069 client · SNMP agent

Wireless Module Parameters	
Standards	· IEEE 802.11a/n/ac · IEEE 802.11b/g/n
Frequency range	· 2400 ~ 2483.5MHz · 5150 ~ 5350MHz · 5650 ~ 5850MHz
Wireless connection security	· WEP · WPA/WPA2 (Personal/Enterprise) · MAC filter · WPS (PBC/PIN)
Advanced functions	· Support of client mode · WMM (Wi-Fi QoS) · Information on connected Wi-Fi clients · Advanced settings · Smart adjustment of Wi-Fi clients · Guest Wi-Fi / support of MBSSID · Limitation of wireless network rate · Periodic scan of channels, automatic switch to least loaded channel · Autonegotiation of channel bandwidth in accordance with environment conditions (20/40 Coexistence)
Wireless connection rate	· IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, and 54Mbps · IEEE 802.11b: 1, 2, 5.5, and 11Mbps · IEEE 802.11g: 6, 9, 12, 18, 24, 36, 48, and 54Mbps · IEEE 802.11n (2.4GHz/5GHz): from 6.5 to 300Mbps (from MCS0 to MCS15) · IEEE 802.11ac (5GHz): from 6.5 to 867Mbps (from MCS0 to MSC9)

Wireless Module Parameters	
Transmitter output power *The maximum value of the transmitter output power depends upon the radio frequency regulations applied in your country*	· 802.11a (typical at room temperature 25 °C) 15dBm at 6, 54Mbps · 802.11b (typical at room temperature 25 °C) 14dBm at 1, 2, 5.5, 11Mbps · 802.11g (typical at room temperature 25 °C) 14dBm at 6, 9, 12, 18, 24, 36, 48, 54Mbps · 802.11n (typical at room temperature 25 °C) 2.4GHz, HT20 13dBm at MCS0~15 2.4GHz, HT40 12dBm at MCS0~15 5GHz, HT20/HT40 15dBm at MCS0 15dBm at MCS7 · 802.11ac (typical at room temperature 25 °C) VHT20/VHT40/VHT80 15dBm at MCS0 15dBm at MCS9
Receiver sensitivity	· 802.11a (typical at PER < 10% at room temperature 25 °C) -87dBm at 6Mbps -86dBm at 9Mbps -84dBm at 12Mbps -82dBm at 18Mbps -79dBm at 24Mbps -76dBm at 36Mbps -71dBm at 48Mbps -70dBm at 54Mbps · 802.11b (typical at PER = 10% at room temperature 25 °C) -84dBm at 1, 2Mbps -82dBm at 5.5Mbps -79dBm at 11Mbps · 802.11g (typical at PER = 10% at room temperature 25 °C) -82dBm at 6Mbps -81dBm at 9Mbps -79dBm at 12Mbps -77dBm at 18Mbps -74dBm at 24Mbps -70dBm at 36Mbps -66dBm at 48Mbps -65dBm at 54Mbps

Wireless Module Parameters	
	· 802.11n (typical at PER < 10% at room temperature 25 °C) 2.4GHz, HT20 -82dBm at MCS0/8 -79dBm at MCS1/9 -77dBm at MCS2/10 -74dBm at MCS3/11 -70dBm at MCS4/12 -66dBm at MCS5/13 -65dBm at MCS6/14 -64dBm at MCS7/15 2.4GHz, HT40 -79dBm at MCS0/8 -76dBm at MCS1/9 -74dBm at MCS2/10 -71dBm at MCS3/11 -67dBm at MCS4/12 -63dBm at MCS5/13 -62dBm at MCS6/14 -61dBm at MCS7/15 5GHz, HT20 -86dBm at MCS0/8 -83dBm at MCS1/9 -81dBm at MCS2/10 -77dBm at MCS3/11 -75dBm at MCS4/12 -70dBm at MCS5/13 -69dBm at MCS6/14 -68dBm at MCS7/15 5GHz, HT40 -83dBm at MCS0/8 -80dBm at MCS1/9 -78dBm at MCS2/10 -75dBm at MCS3/11 -72dBm at MCS4/12 -67dBm at MCS5/13 -66dBm at MCS6/14 -65dBm at MCS7/15

Wireless Module Parameters	
	· 802.11ac (typical at PER < 10% at room temperature 25 °C) HT20 -61dBm at MCS8 -59dBm at MCS9 HT40 -58dBm at MCS8 -56dBm at MCS9 HT80 -80dBm at MCS0 -77dBm at MCS1 -75dBm at MCS2 -71dBm at MCS3 -69dBm at MCS4 -64dBm at MCS5 -62dBm at MCS6 -61dBm at MCS7 -56dBm at MCS8 -53dBm at MCS9
Modulation schemes	· 802.11a: BPSK, QPSK, 16QAM, 64QAM with OFDM · 802.11b: DQPSK, DBPSK, CCK · 802.11g: BPSK, QPSK, 16QAM, 64QAM with OFDM · 802.11n: BPSK, QPSK, 16QAM, 64QAM with OFDM · 802.11ac: BPSK, QPSK, 16QAM, 64QAM, up to 256QAM with OFDM

Phone	
General SIP Features	· Individual account per port · Invite with Challenge · Register by IP address or domain name of SIP server · Backup proxy support · Support of DHCP option 120 · RFC3986 SIP URI format support · Outbound proxy support · STUN client · NAT public IP address · NAT keep-alive · Session timer (re-invite/update) · Call types: voice/modem/fax · User programmable Dial Plan · Manual peer table (for P2P calls) · Handling numbers in E.164 format

Phone	
Call Features	· Direct IP-to-IP call without SIP proxy (P2P) · Lifeline (PSTN-backup) · PSTN call by prefix · Call hold/retrieve · Call awaiting · Forwarding (unconditional, busy, no answer) · Do Not Disturb · Anonymous call blocking · Speed/abbreviated dialing · PIN code before dialing · Hotline · Vertical service codes · CLIR · Intercom (internal calls without SIP server) · Filtering SIP packets by IP address/domain name (white/black list) · Logging and recording calls · Sending text messages to VoIP gateways/IP phones
Voice Features	· Codecs: G.711 a/μ-law, G.729A, G.726, G.722, G.723.1, GSMFR, ILBC, SPEEX · DTMF detection and generation · In-band DTMF, out-of-band DTMF (RFC2833, SIP-INFO) · Comfort Noise Generation (CNG) · Voice Activity Detection (VAD) · Dynamic Jitter Buffer · Echo Cancellation (LEC/NLP) · Call progress tone generation (FXS) · DTMF/PULSE dial support · Caller ID detection and generation · T.30 FAX bypass to G.711, T.38 Real Time FAX Relay, V.152 · Adjustable Flash Time · Advanced call transfer · Volume control (speaker/microphone)

Physical Parameters	
Dimensions (L x W x H)	· 227 x 159 x 38 mm (8.93 x 6.26 x 1.5 in)
Weight	· 160 g (0.35 lb)

Operating Environment	
Power	· Output: 12V DC, 2A
Temperature	· Operating: from 0 to 40 °C · Storage: from -20 to 65 °C
Humidity	· Operating: from 10% to 90% (non-condensing) · Storage: from 5% to 95% (non-condensing)

Supported USB modems[7]	
GSM	· Alcatel X500 · D-Link DWM-152C1 · D-Link DWM-156A6 · D-Link DWM-156A7 · D-Link DWM 156A8 · D-Link DWM-156C1 · D-Link DWM-157B1 · D-Link DWM-157B1 (Velcom) · D-Link DWM-158D1 · D-Link DWR-710 · Huawei E150 · Huawei E1550 · Huawei E156G · Huawei E160G · Huawei E169G · Huawei E171 · Huawei E173 (Megafon) · Huawei E220 · Huawei E3131 (MTS 420S) · Huawei E352 (Megafon) · Prolink PHS600 · Prolink PHS901 · ZTE MF112 · ZTE MF192 · ZTE MF626 · ZTE MF627 · ZTE MF652 · ZTE MF667 · ZTE MF668 · ZTE MF752

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7 The manufacturer does not guarantee proper operation of the router with every modification of the firmware of USB modems.

Supported USB modems	
LTE	· Alcatel IK40V · D-Link DWM-222 · Huawei E3131 · Huawei E3272 · Huawei E3351 · Huawei E3372 · Huawei E367 · Huawei E392 · Megafon M100-1 · Megafon M100-2 · Megafon M100-3 · Megafon M100-4 · Megafon M150-1 · Megafon M150-2 · Quanta 1K6E (Beeline 1K6E) · MTS 824F · MTS 827F · Yota LU-150 · Yota WLTUBA-107 · ZTE MF823 · ZTE MF827
Smartphones in USB tethering mode	· Some models of Android smartphones

SAFETY RULES AND CONDITIONS

Please carefully read this section before installation and connection of the device. Make sure that the power adapter and cables are not damaged. The device should be used only as intended in accordance with the documents.

The device is intended for use in dry, clean, dust-free, and well ventilated areas with normal humidity away from strong heat sources. Do not use the device outdoors or in the areas with high humidity. Do not place foreign objects on the device. Do not obstruct the ventilation openings of the device. The environmental temperature near the device and the temperature inside the device's cover should be within the range from 0 °C to +40 °C.

Only use the power adapter supplied with the device. Do not plug in the adapter, if its case or cable are damaged. Plug the adapter only into working electrical outlets with parameters indicated on the adapter.

Do not open the cover of the device! Unplug the device before dusting and cleaning. Use a damp cloth to clean the device. Do not use liquid/aerosol cleaners or magnetic/static cleaning devices. Prevent moisture getting into the device or the power adapter.

The service life of the device is 2 years.

TECHNICAL SUPPORT

You can find software updates and user documentation on our website.

D-Link provides its customers with free support within the product's warranty period.

Customers can contact the technical support group by phone or by e-mail/Internet.

FOR TELEPHONE NUMBERS AND ADDRESSES OF D-LINK OFFICES WORLDWIDE VISIT

http://www.dlink.com/corporate/worldwideoffices/