Tilgin Wi-Fi mesh extender
IHD103

Quick Guide

Table of Contents

1. Introduction

The Wi-Fi mesh extender(s) you have received connects to your home network and improves the Wi-Fi coverage by offering additional Wi-Fi connection points in the home network.

This Quick Start Guide contains start-up instructions for installing the Tilgin Wi-Fi mesh extender IHD103.

When following the instructions to connect and start-up the Wi-Fi mesh extender, it will automatically connect to your operator's network. If there are specific instructions from your operator on how to connect the IHD103 to your home network, please follow these instructions.

The most up to date version of this quick guide is available on:

https://tilgin.com/company/support/

2. Delivered with the IHD103

Confirm that you have received the following:

Content in packages for the IHD103 model

All models:	Specific	Qty
IHD103 series Wi-Fi extender		1
AC/DC adapter: Output 12V / 2.0 A		1
Ethernet cable yellow or white (optional)		1
Quick Guide (this document)		1
EULA, End User License Terms and Conditions		1
Software pre-installed		1

Your operator might include additional or alternative cables or instructions in the package.

3. Wi-Fi extender Overview

3.1. IHD103 network cable attachments

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Note that network cable attachments are optional and used in some connection scenarios. In many cases the built in Wi-Fi of the product is used to connect to the home network and home devices and network cables are not necessary.

LAN connection for home devices such as a home computer or a TV box (STB)

WAN connection for connection to home network, typically the router in the home

3.2. IHD103 Interfaces

1 - WPS button

2 - Wi-Fi on/off button

3 - LAN connection

4 - WAN connection

5 - Power connector
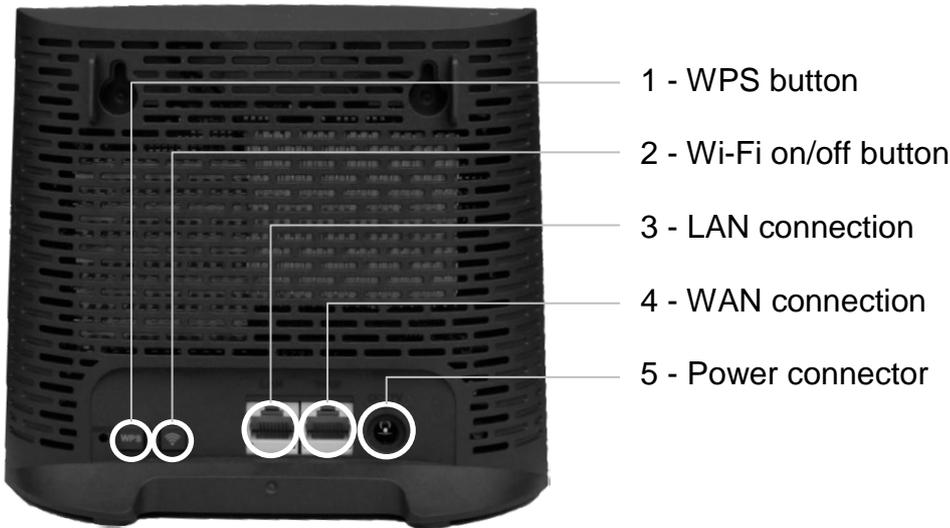
Pos	Interface	Function
1	WPS button	Wireless Protected Setup button. Pressing the button for 5 seconds activates the WPS function
2	Wi-Fi on/off button	Button for turning Wi-Fi on and off. Pressing the button for 1 second turns Wi-Fi on or off
1,2	Factory reset	Restores the device to its factory configuration. Press the WPS and the Wi-Fi on/off button for 5 seconds (until both LEDS start flashing RED rapidly) to activate the factory reset procedure
3	LAN connection	Optionally connects an Ethernet cable (RJ-45) to home computers, TV boxes (STB) and other type of devices that has no Wi-Fi built in
4	WAN connection	Optionally connects an Ethernet cable to the home network, typically the router in the home
5	Power Connector	Connects the power supply that comes with the device to the device

3.3.   IHD103 LED Front

The two front LEDs indicates the status of the IHD103

Network connection status LED
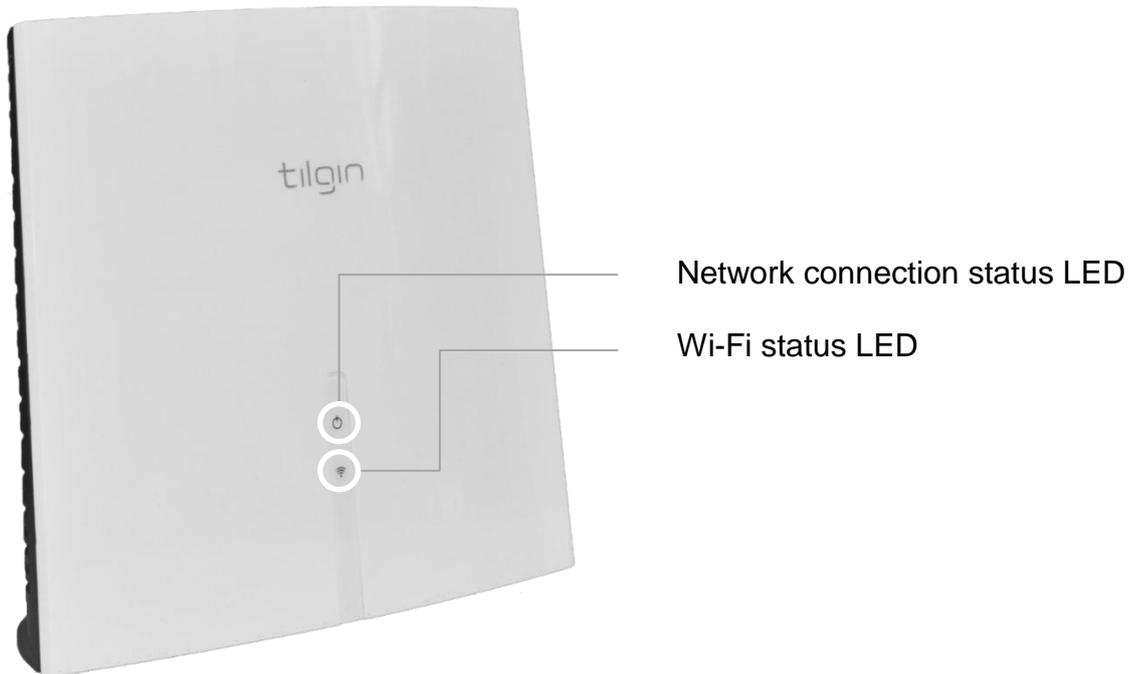
Wi-Fi status LED

Network connection status LED	
Signalling	**Indication**
OFF	IHD103 has no power
RED, Stable	Power on, device is starting up
RED, Slow flash	No management IP address received (yet)
RED, Rapid flash	Indicate that factory reset procedure is acknowledged and initiated (if the same indication is also on the Wi-Fi status LED)
ORANGE, Slow flash	Device is connected and has management IP address, but no connection to service operator or latest communication with service operator failed.
GREEN, Rapid flash	Connected to service operator, normal operation, but communicating with service operator.
GREEN, Stable	Connected to service operator, normal operation. Latest attempt to connect to the service operator was successful.

Wi-Fi status LED	
Signalling	**Indication**
OFF	All Wi-Fi is turned off via button, or the device has no power, or the device is powering up but all Wi-Fi radios are not yet ready. When using DFS Wi-Fi channels, this can take up to 10 minutes.
RED, Rapid flash	Indicate that factory reset procedure is acknowledged and initiated (if the same indication is also on the network connection status LED)
RED, slow flash	No connection to network. Device is to far away from Wi-Fi network, or connection procedure has not been performed (yet).
RED, Stable	Connected to home network, poor Wi-Fi signal
ORANGE, Stable	Connected to home network, fair Wi-Fi signal
GREEN, Stable	Connected to home network, good Wi-Fi signal, or connected via Ethernet WAN cable
GREEN, Rapid flash	Device is in WPS pairing mode for pairing with a device

4. General information and considerations

When the Wi-Fi extender is connected, it will automatically be provisioned by your operator. However, the level of configuration can vary from a completely automatic configuration to full manual configuration, depending on what your operator offers.

Follow the specific configuration instructions you have received from your operator or follow these instructions if you have not received any specific instructions.

Before you start, take notice of the following important recommendations.

- Wi-Fi extenders and power supplies are electrical devices that can overheat without ventilation.
- Place the device standing, or wall mounted, on a firm and flat surface and do not cover or crowd them with objects or clothing that prevents good ventilation. The Wi-Fi extender must always be installed away from heat sources and direct sunlight.
- For best Wi-Fi performance place the unit standing, in a high and free position, preferably in a central location of the home, 1 meter or more above the floor.

Connect the power cord to the AC/DC adapter

1. Connect the AC/DC adapter power cord to the power connector (#5) on the backside of the unit.
2. Plug the power cord into a power outlet.
3. Check that the connection LED on the front side is lit (RED).

5. Automatic Provisioning

When the Wi-Fi extender is properly connected, and by following the procedures in this guide, an automatic configuration will begin.

The Wi-Fi extender is pre-loaded with software, but it will often download newer software and settings from your operator after the device network connection procedure has taken place.

Just wait until the network connection LED turn stable GREEN, which normally takes a few minutes, but can take up to 15 minutes. If the LEDs have still not turned stable GREEN after 30 minutes, then reboot the device by unplugging the power cord. If problem persists, contact your operator.

For more information about the LED status, see **LEDs Front**.

6. Installing the Wi-Fi extender in the home network

The device can operate in full mesh mode or in Wi-Fi legacy extender mode. Normally the operator that has provided the device to you has preconfigured the device to one of these settings and you do not need to take any actions.

The currently configured mode is visible in the local GUI of the device. For more information, see the GUI section of this description.

Full mesh mode means that an intelligent Wi-Fi home network is formed by connecting multiple extenders, and optionally the router, together to form a single Wi-Fi network. Intelligent means that the mesh network steer the home devices to connect to the most suitable extender in the mesh network using smart algorithms. They continuously measure the performance in the network and make adjustments accordingly by moving home devices to the most suitable extender based on its current location in the home but also by considering home devices capabilities.

Legacy extender mode means that the Wi-Fi home network is formed by the router Wi-Fi and one or several extenders. Each extender forms its own Wi-Fi network. The decision to which extender to connect to for a home device is decided by the home device, not by the network. The quality of the connectivity relies solely on the home devices ability to choose the best device to connect to in each situation.

In each mode respectively there are a few options outlined in the flowing chapters.

6.1 Connecting devices to create a Seliro full mesh network

6.1.1 Your router support Seliro full mesh

Connect a first IHD103 to the router using the Wi-Fi WPS connection procedure. The same procedure is then used for additional IHD103 that should be a part of the mesh network. For each new IHD103 that should be connected, the pairing procedure is done between the router and the new IHD103 to connect. When later placing all IHD103 in their final position in the home, they will organize and connect to each other in the most suitable way.

6.1.2 Your router does not support Seliro full mesh

Connect a first IHD103 to the router using the Ethernet cable connection procedure.
Additional IHD103 are connected using the Wi-Fi WPS connection procedure.
Note that the Wi-Fi WPS connection procedure for a new IHD103 should always be used between the first IHD103 (connected via Ethernet cable to the router) and the new IHD103. When later placing all IHD103 in their final position in the home, they will organize and connect to each other in the most suitable way.

6.2 Connecting devices to create an extender network

The Wi-Fi extender can only connect wirelessly to a 5 GHz Wi-Fi radio on the router. Support for 5 GHz radio on the router is normally indicated by statements such as, concurrent dual band Wi-Fi, 802.11a, 802.11ac or 802.11ax.

6.2.1 Your router supports 5 GHz Wi-Fi

Use the WPS pairing procedure to establish a Wi-Fi connection between the router and the IHD103. The Ethernet cable connection procedure is available as well.

6.2.2 Your router does not support 5GHz Wi-Fi

Use the Ethernet cable connection procedure to establish a wired connection between the router and your extender.

6.3 Connect using the Ethernet cable procedure

1) Connect the Ethernet cable to one of the LAN Ethernet interfaces of your router.
   To identify the Ethernet LAN interface of your router, consult the installation guide that comes with the router. A router typically has four Ethernet LAN outlets, all marked with the same color marking.
2) Connect the other end of the Ethernet cable to the WAN interface (#4) of the IHD103
   It is the connector closest to the power connector.
3) Plug in the AC/DC power adapter that comes with the device to the power connector (#5) of the device.
4) Plug in the other end of the power adaptor to a wall outlet.
5) The network connection status LED will be lit (RED) after a short while.
6) Once the device has connected properly both LED's will turn stable GREEN

6.4 Connect using the Wi-Fi WPS procedure

1) Plug in the power adapter that comes with the IHD103 to the power connector (#5) of the device.
2) Plug in the other end of the power adaptor to a wall outlet.
3) The network connection status LED will be lit (RED) after a short while.
4) Both LEDs will turn RED and flash slowly when the device is ready, this will take up to 2 minutes.
5) Locate the WPS button on your router and press it.
6) Locate the WPS button on your new IHD103 and press it. The Wi-Fi status LED will start flashing rapid green.
7) The two devices will establish a connection over Wi-Fi.
8) Connection is established once the Wi-Fi extender Wi-Fi LED turns stable GREEN.

6.5 Connect using the local GUI procedure

Configure the IHD103 from the local GUI is suitable if you want to make more major changes of the device, such as switching between the extender and the Seliro full mesh mode. It can also be used for the connection procedure, but the most suitable way is to use the Ethernet or WPS procedure. In some cases, it is necessary for Wi-Fi extender configuration.

1) Plug in the AC/DC power adapter that comes with the device to the power connector (#5) of the device.
2) Plug in the other end of the power adaptor to a wall outlet.
3) The network connection status LED will be lit (RED) after a short while.
4) Both LEDs will turn RED and flash slowly when the device is ready, this will take up to 2 minutes.
5) Connect the device to the router using either the WPS or the Ethernet cable procedure.
6) Access the local GUI of the device following the procedure described
7) Perform the wanted connection configuration.

6.6 Placing the IHD103 in your home

The single most important factor for getting good Wi-Fi connectivity in the home is the placement of the device in the home.

Once the procedure to connect the extenders is done, the next step is to place the Wi-Fi extenders in a suitable place in your home if this was not already done during the initial connection procedure. It is also possible to adjust the placement of the devices at any later stage to optimize the Wi-Fi coverage in the home.
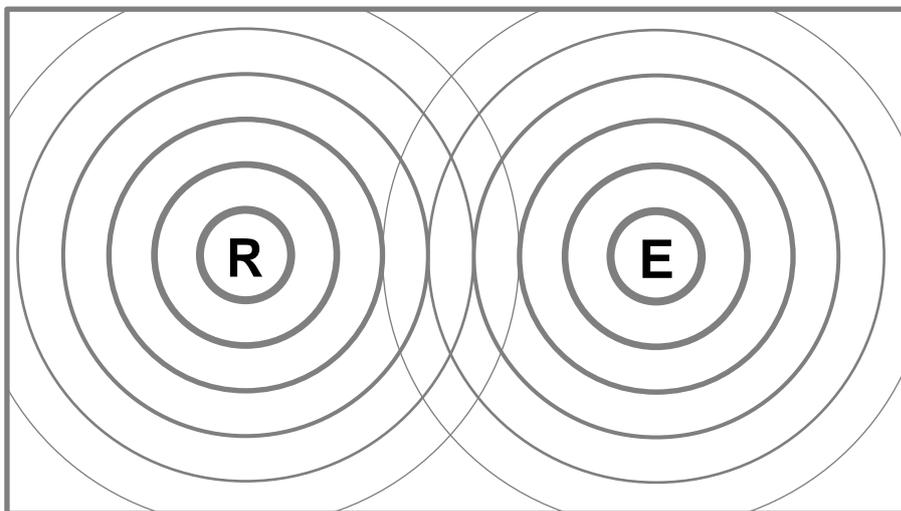
This is done by
- Unplugging the Ethernet cable (if used) and the AC/DC power adapter from the wall outlet
- Move the device and the AC/DC power adapter to a place where you ideally would like to have the Wi-Fi extender
- Reconnect the Ethernet cable to an ethernet outlet (if used) and the power adapter to a wall outlet and let the Wi-Fi extender startup again

6.6.1 Placement when connecting to home network using cable

If the Wi-Fi extender is connected to the home network with an Ethernet cable, then the Ethernet cable must be unplugged and plugged in again at the new location. This is done either using another Ethernet outlet (connected to the router) or using a suitable Ethernet cable long enough to connect to the router in its new location.

An ideal position for the Wi-Fi extender is a central place in the area where there is poor (or no) Wi-Fi connection, visible from all parts of your home where there is poor Wi-Fi.
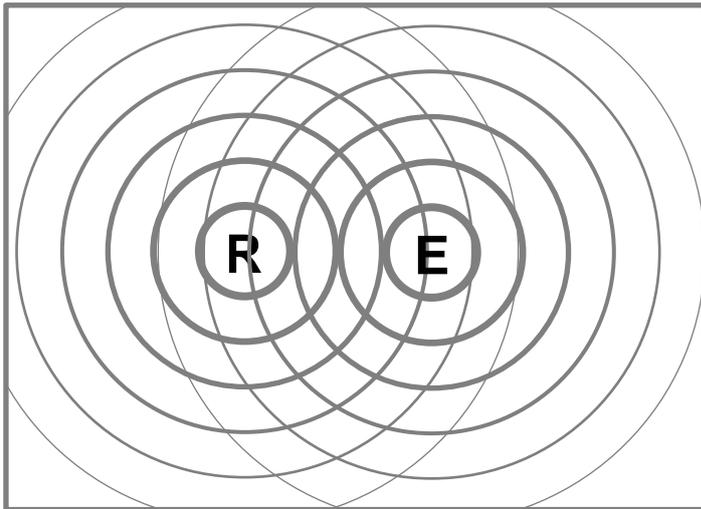

The picture above illustrates that the **R**outer and the **E**xtender can be place in such a way that it maximizes coverage without consideration of Wi-Fi connection between the **R**outer and **E**xtender as this is done via Ethernet cable. The picture illustrates that the **E**xtender and the **R**outer are outside each other's Wi-Fi reach.

6.6.2 Placement when connected to home network using Wi-Fi

If the IHD103 is connected to the router using Wi-Fi, it must be considered to not place the Wi-Fi extender too far away from the router, since this will then give a poor Wi-Fi connection between the router and the Wi-Fi extender. Ideally it is a place where there is still good Wi-Fi connection, but if going further away from the router Wi-Fi becomes poor.

The reason for this is that even if the connection between the home device, such as a smart phone, laptop etc and the Wi-Fi extender is good, the internet connection will still be poor if the Wi-Fi extender has a poor connection to the router.

The picture above illustrates that the **R**outer and the **E**xtender are close enough in range to give proper Wi-Fi connection between the Router and the Wi-Fi Extender. The picture illustrates that the Extender and the Router are within each other's Wi-Fi reach

The Wi-Fi LED on the Wi-Fi extender will give you guidance on where to place the Wi-Fi extender.

RED flashing - indicates that there is no connection to the router
Action - Move the Wi-Fi extender closer to the router and try again.
If this does not help, redo the Wi-Fi connection procedure in chapter 7.2 once again to see if it helps.

RED stable - indicates that there is a connection to the router, but it is poor
Action - Move the Wi-Fi extender closer to the router

ORANGE stable - indicates that the connection to the router is fair
Action - This could be a suitable location for the Wi-Fi extender, but you can also try to relocate the Wi-Fi extender to get a better Wi-Fi connection. Please see the chapter describing how to connect a device and check Wi-Fi coverage.

GREEN stable - indicates that the connection to the router is very good
Action - This could be a suitable location for the Wi-Fi extender, but you can also try to relocate the Wi-Fi extender and place it a little bit further away, depending on whether the Wi-Fi extender gives good Wi-Fi signal for your devices in the home or not. Please see the chapter describing how to connect a device and check Wi-Fi coverage.

7. Using the local GUI of the Wi-Fi extender

The IHD103 is equipped with a local GUI for configuration and for presentation of information about the home network. Once the IDH103 is connected to the home network, the local GUI can be reached using the following address from any browser of a home device connected to the home network, http://IHD103-<Four last digits of the serial number of the device>.
If the serial number printed on the label of the IHD103 is 123456789012-1234567890 as for the examples label in this guide, then the address to use is http://IHD103-7890.
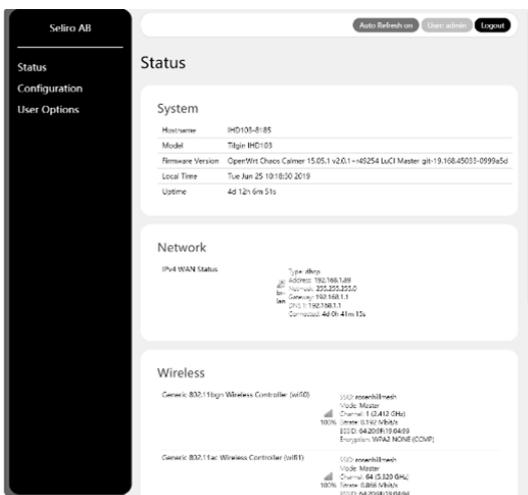
The welcome page of the local GUI

The welcome page of the local GUI, requesting you to login will look like to the left.
Enter the username "admin" and the password "admin" to login. It is recommended that the password is later changed from the local GUI to something unique and not known to everyone.

7.1 The main page of the local GUI

The main page of the local GUI allows you to choose between checking status of the device, configure the device, and changing the password of the device (user options).

7.2 The Configuration page of the local GUI

The configuration page of the local GUI allow you to configure language, which means Wi-Fi according to the regulations in your country. If it is set to auto, which is the normal case, then this is already configured by your operator Time zone and NTP, which is normally also configured by your operator.

Operating mode, here mesh, choose between full mesh and legacy extender mode as described in this guide.

Client side SSID and password, which is the network name and password the IHD103 will use in your home for home devices to connect to.

When choosing the legacy extender mode from the menu of the GUI, there is an option to choose which Wi-Fi network to let the IHD103 connect to and extend. This is the main network SSID and password option to the left. This is an alternative to the WPS procedure. This option is not available in mesh mode.

There is also an option to select a different SSID and password for the network that the IHD103 extends. Either to use the same as the device connects to and extends, or to use a different SSID network name and password.

8. Creating a Wi-Fi network with the IHD103

The IHD103 that you have received from your operator is equipped with three different Wi-Fi radios, all operating on different radio frequencies. One radio operates on the 2.4 GHz frequency band, one operates on the 5GHz frequency band (lower channels) and one operates on the 5GHz frequency band (higher channels).
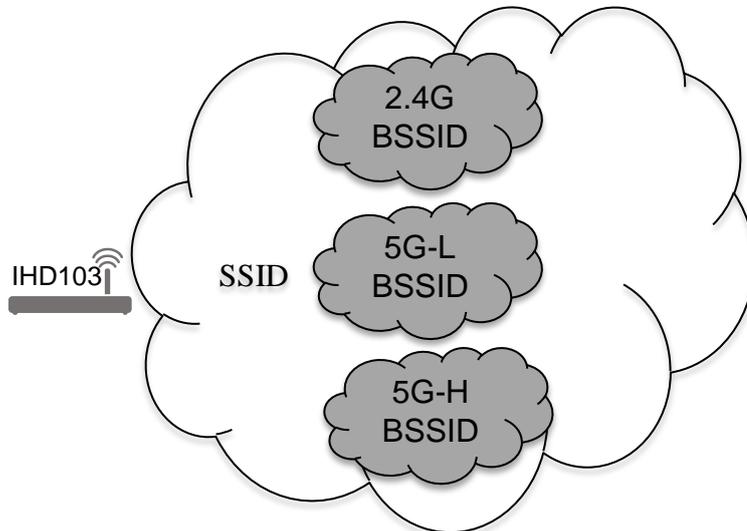
Each IHD103 can thus create up to three different BSSID depending on configuration. A BSSID is a technical term describing a physical radio for home devices to connect to.

These BSSID can all share the same SSID name or use different SSID names. An SSID is the Wi-Fi network name that is visible for devices to connect to.

In addition, the router that you have in the home might already have a Wi-Fi network name (SSID) defined. The IHD103 can use the same Wi-Fi network name (SSID) as the router to make things easier in the sense that there is only one network name to care about when connecting a new device. When devices move around in the home, it will connect to any of the BSSID with the same logical network name (SSID), on your router or on the Wi-Fi extender.

During the IHD103 connection procedure using WPS in legacy extender mode, the Wi-Fi network name and password from the router is automatically cloned to the IHD103 if the router support this.

If cloning is not supported and no changes are done from the local GUI, the IHD103 will use the Wi-Fi network names (SSID) and Wi-Fi network password printed on the label of the device, see the picture below.

It is always possible to log in to the local GUI of the device to change the Wi-Fi network names (SSID) and password of the IHD103 at any stage.

9. Connecting a home device to your Wi-Fi extender

Home devices can be connected to the IHD103 in one of two ways. Either using an Ethernet cable or using Wi-Fi. Do not use both methods as this might cause connection problems for your home device.

9.1 Connecting a computer by Ethernet cable

The LAN port of the IHD103 can be used to connect a home device to the home network. This is typically be used for stationary computers and Set Top boxes that has no Wi-Fi.

Connect the Ethernet port on your home device with an Ethernet cable to the LAN port marked LAN on one of the IHD103.

9.2 Connecting a computer by using WLAN (Wireless LAN)

Normally, if the Wi-Fi extender(s) are connected to the home network over Wi-Fi and use the cloning procedure described earlier, the Wi-Fi extender will offer Internet service to all home devices without any specific additional configuration of the home devices as they are already configured to connect to the router Wi-Fi SSID. Since the Wi-Fi extender use the same SSID and password, the devices will connect to the Wi-Fi device that is in closest range.

If the cloning procedure was not used, or could not be used, then there are two options available to connect a home device to the Wi-Fi extender.

- Use the WPS procedure. This procedure is easy to use, but it is not supported by all home devices types.

- Connect to the Wi-Fi SSID presented by the IHD103 and enter the WPA key when requested to do so. If the standard Wi-Fi network names are used, then they are printed on the label of the Wi-Fi extender.

Default WLAN port settings
Check that the parameters for WLAN are set according to SSID and WPA key found on the casing label on bottom of the IHD103.
SSID = Tilgin -<12 random characters>
Example: Tilgin-1wa23sbg9skm
Channel = Auto

Note: Your operator may instruct you to use a WPA key that they provide to you, or use the WPA key printed on the label on the IHD103.

Make sure your WLAN profile is saved, and make sure your computer network settings are configured properly.

9.3 Configuring your computer/device

Your computer must be configured properly to be able to connect to the Internet and the computers network card and network properties must be configured to obtain an IP address from the home gateway's built-in DHCP server.

This means that you must check that your computer network settings are set to TCP/IP protocol and that the IP address will be obtained automatically.

For detailed instructions how to set up your home network check instructions/Help for your operating system on your computer.

10. Mount the Wi-Fi extender to the wall

1. Screw two suitable screws to the wall. The screws should be in a horizontal position and with a distance of 84mm. The distance between the screw head and the wall should be approximately 6mm. This could be adjusted depending on the wall structure. Fig 1.
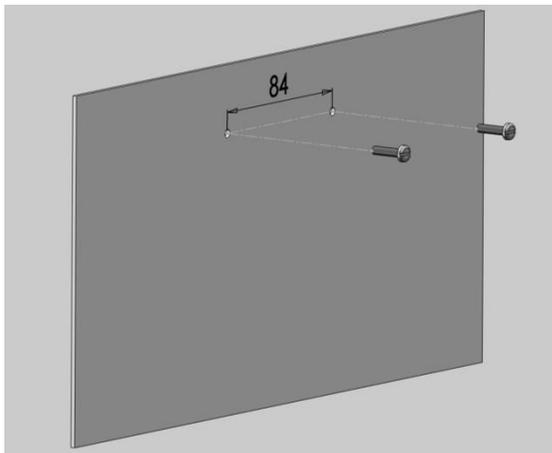
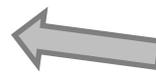2. Attach the gateway to the screws. Fig 2.

Fig1   Fig 2

11. Troubleshooting Tips

If the Wi-Fi extender is not working as expected, please try out the following troubleshooting tips.

- Check that cables are connected properly.

- Check if the connection status LED is lit. If not try to power cycle the device

- If the connection LED has not turned stable green within 30 minutes reboot (plug out and plug in the power adaptor). If the connection status LED still has not turned stable GREEN after reboot, contact your service operator.

- Verify that the LEDs lights according to the information in the guide.

- When there is slow, or no connection over WLAN, try to restart the device. It will re-optimize the configuration for your Wi-Fi environment.

- **If these actions still do not solve the problem, contact your operator or the vendor that supplied your Wi-Fi extender.**

12. Safety Information

Tilgin AB products are designed and tested to meet the international Safety of Information Technology Equipment standard. This standard provides general safety design requirements that reduce the risk of both personal injury and product injury, protecting against the following hazards:

- Electric shock (hazardous voltage levels)
- Fire (overload, temperature, material flammability)
- Energy (high energy circuits or potential burn hazards)
- Heat (accessible parts of the product at high temperatures)
- Radiation (noise, etc.)

13. Safety Recommendations

When using the product and to ensure general safety, you are instructed to follow these guidelines:

- Use only the power supply adapter that comes with the package. Replacement power supply adapters can be obtained from an authorized Tilgin distributor.
- Do not open or disassemble this product.
- Place on a firm and flat surface.
- Gateways and power supplies are electrical devices that can overheat without ventilation. Do not cover or crowd them with objects or clothing that prevents good ventilation.
- Do not expose the product to liquid or moisture.
- Do not expose the product to lit candles, cigarettes, open flames, etc.
- Do not drop, throw or try to bend the product.
- Do not allow children to play with the product, as it contains small parts that could be detached and create a choking hazard.
- Use only original Tilgin components and replacements parts. Failure to do so may result in performance loss, damage to the product, fire, electric shock or injury. It will also invalidate the warranty.
- Avoid using the unit during an electrical storm. There may be a remote risk of electric shock from lightning.
- Treat the product with care, keep it in a clean and dust free place. Use only a soft, damp cloth to clean the product.

All use of the product is subject to the Safety Recommendations above.
Tilgin waives all and any liability for damages caused to i) the product or any other property or ii) yourself or any other individual as a consequence of using the product in ways that deviate from the safety recommendations set out above.

14. Power Supply

Do not use any other power supply than the one delivered by Tilgin. Using the wrong power supply could be hazardous to you or the product.

The power supply shall be installed near the gateway and shall be easily accessible.

The power supply is approved by one or more of the following safety organizations:
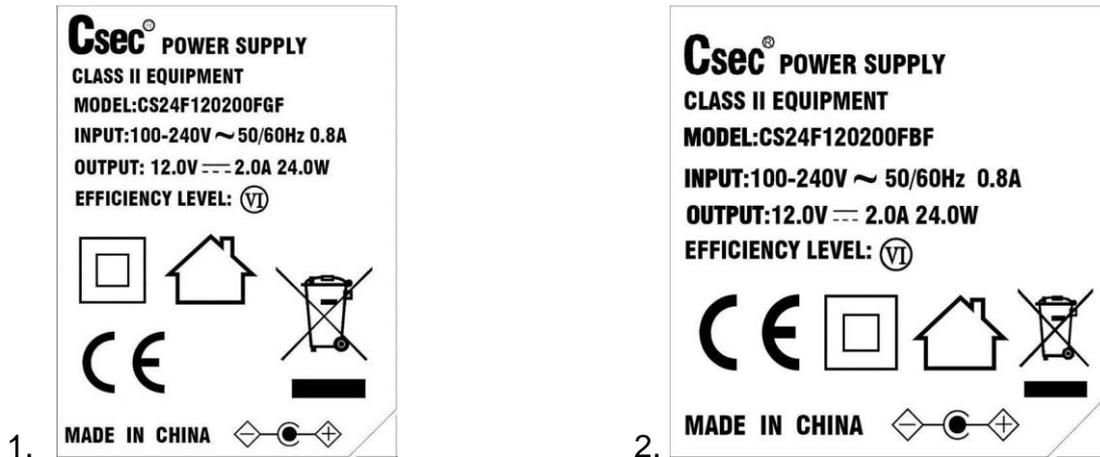
Power supplies defined for these products.

1. For EU
   CSEC: CS24F120200FGF, Input: 100-240V 50/60Hz 0.8A;
   Output: 12V 2.0A 24.0W, supplied by Chou Sen Electronics (Shenzhen) Co., Ltd.
   Average active efficiency: 86.2% (Min.)
   Efficiency at low load (10%): 81.0% (Min.)
   No load power consumption: 0.10W (Max.)

2. For UK
   CSEC: CS24F120200FBF, Input: 100-240V 50/60Hz 0.8A;
   Output: 12V 2.0A 24.0W, supplied by Chou Sen Electronics (Shenzhen) Co., Ltd.
   Average active efficiency: 86.2% (Min.)
   Efficiency at low load (10%): 81.0% (Min.)
   No load power consumption: 0.10W (Max.)

15. Technical Specifications

Max dimension, CPE	W x H x D = 158x143x60mm
Max dimension, Giftbox	W x H x D = 170x152x100mm
Weight, Giftbox	0.52kg
Operating voltage	See the supplied power adapter
Operating frequency	See the supplied power adapter

Temperature	Operating	0°C to 40°C
		32°F to 104°F
	Non-operating:	-20°C to 60°C
		-4°F to 140°F
Humidity (relative, non-condensing)	Operating	10% to 90%,
	Non-operating	5% to 95%

Frequency Band According to Directive 2014/53/EU	Maximum Radio-Frequency Power (EIRP) According to Directive 2014/53/EU
WiFi 2412 – 2472MHz	WiFi 100mW
WiFi 5150 – 5250MHz WiFi 5250 – 5350MHz WiFi 5470 – 5725MHz	WiFi 200mW WiFi 100mW WiFi 200mW

This device is restricted to indoor use when operating in the 5150 MHz - 5350 MHz frequency range in following countries.

BE	EL	LT	PT	BG	ES	LU	RO
CZ	FR	HU	SI	DK	HR	MT	SK
DE	IT	NL	FI	EE	CY	AT	SE
IE	LV	PL	UK				

16. Environmental Information

The equipment you purchased has required the extraction and use of natural resources for its production. It may contain substances that are hazardous to your health and to the environment. To avoid putting such substances into our environment and to reduce pressure on our natural resources, we ask that you reuse or recycle your end-life equipment by using an accredited electronics take-back system.

The symbols below indicate that this product should be reused or recycled and not simply discarded. Please locate and use an appropriate reuse and recycling site. If you need more information on collection, reuse and recycling systems, contact your local or regional waste administration. You may also contact your operator for more information on the environmental performances of these products.

17. Warranty

No warranty, express or implied, with respect to the product is extended directly to you from or on behalf of Tilgin AB. Limited warranties may be granted to you by the equipment provider in its capacity as reseller of the product. Please contact your equipment provider for information regarding warranties for the product.

18. Notice of Copyright and Patent Protection

This product incorporates technology, which is copyrighted, patented, or otherwise protected under intellectual property laws and treaties and proprietary to **Tilgin AB** or Tilgin's §third party licensors. All use of the products is subject to the applicable End User License Terms and Conditions provided in conjunction with the product.

19. Acronyms

DECT	Digital Enhanced Cordless Telecommunications
DHCP	Dynamic Host Configuration Protocol
GUI	Graphical User Interface
LAN	Local Area Network
LED	Light Emitting Diode
PBC Method	Push Button Connect method
SSID	Service Set Identifier
VoIP	Voice over IP
WAN	Wide Area Network
Wi-Fi	Trademark for Wi-Fi Alliance
WLAN	Wireless Local Area Network
WPA	Wi-Fi Protected Access
WPS	Wi-Fi Protected Setup

20. Declaration of Conformity

Declaration of Conformity

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Declaring Organization:

Tilgin AB
Box 1240
164 28 Kista
Sweden

Product Name:	WiFi Extender
Product Model Name:	IHD103 series

We, Tilgin AB, declare under the sole responsibility that the above named product conforms to the essential requirements of the European Union Directives below.

2014/53/EU	The RED Directive
2011/65/EU	RoHS Directive

The following harmonized standards are those to which the product's conformance has been verified.

EMC - WAN, LAN	EN 55032:2015
	EN 55035:2017
	EN 61000-3-2:2014
	EN 61000-3-3:2013
EMC – 2.4GHz & 5GHz WiFi	Draft EN 301489-17 V3.2.0
	Draft EN 301489-1 V2.2.0
RF, Health Portion – 2,4GHz WLAN	EN 300328 V2.1.1
RF, Health Portion – 5GHz WLAN	EN 301893 V2.1.1
Health – Safety	EN 62368-1:2014+A11:2017
Health – SAR	EN 62311:2008

Transmitter frequency:	WiFi 2412-2472 MHz	Max EIRP 100mW
Transmitter frequency:	WiFi 5150-5250 MHz	Max EIRP 200mW
Transmitter frequency:	WiFi 5250-5350 MHz	Max EIRP 100mW
Transmitter frequency:	WiFi 5470-5725 MHz	Max EIRP 200mW

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