

## How to configure an Open BAT as Access Point

- 2018-02-21 - BAT, WLC (HiLCOS)

This lesson describes how to configure a BAT as Access Point and define basic radio settings and logical settings.

The lesson describes only the "basic" of such configuration. It doesn't details all the possible options.

LANconfig is used as configuration tool.

To follow this lesson you need this tool. You can find it either on the CD delivered with each product either on the Hirschmann Website.

We'll see in this lesson how to:

- Enable a radio module
- Select the indoor/outdoor mode
- Select the country
- Define the Radio band
- Define the channels
- Configure an SSID
- Define the security for this SSID

In this example we'll do the following configuration:

An AP in Germany outdoor.

2 Radio modules, the first one in the 2.4 Ghz band, the second one in the 5 Ghz band

Limitations of channels in 2.4Ghz: 1,6 and 11

Limitations of channels in 5Ghz: 100,108 and 116

SSID : RESEAU\_TOTO

Security: WPA-PSK

### **Preliminary steps**

Give the BAT an IP address

You can refer to the lesson "How to give an Open BAT or a WLC an IP address"

Add the BAT in LANconfig

You can refer to the lesson "How to discover a BAT or a WLC in LANconfig"

### **Select the BAT and open a configuration dialog**





AP\_141 Configuration

QuickFinder

**Configuration**

- Management
  - General
  - Admin
  - Authentication
  - Costs
  - Advanced
- Wireless LAN
- Interfaces
- Date & Time
- Log & Trace
- Communication
- IPv4
- IPv6
- IP Router
- Firewall/QoS
- VPN
- Certificates
- COM Ports
- NetBIOS
- RADIUS Server
- Least-Cost-Router

Device name: AP\_141

Location:

Administrator: www.hirschmann.com

Comments

Information

Device type: BAT-R

Hardware release: 0

Firmware version: 9.00.5085 / 17.10.2014

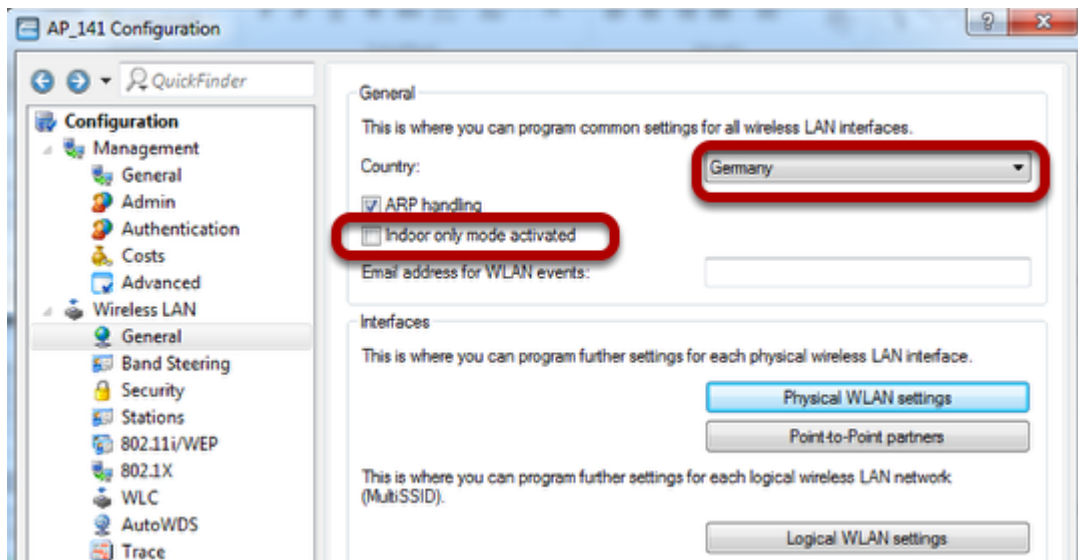
Serial number: 942070999030502421

Product code: BAT-REUWW9AKC19B0799SA999H08.80.0204

OK Cancel

You can open the configuration dialog selecting the device > right clic > configure

**Select the country and the outdoor mode**

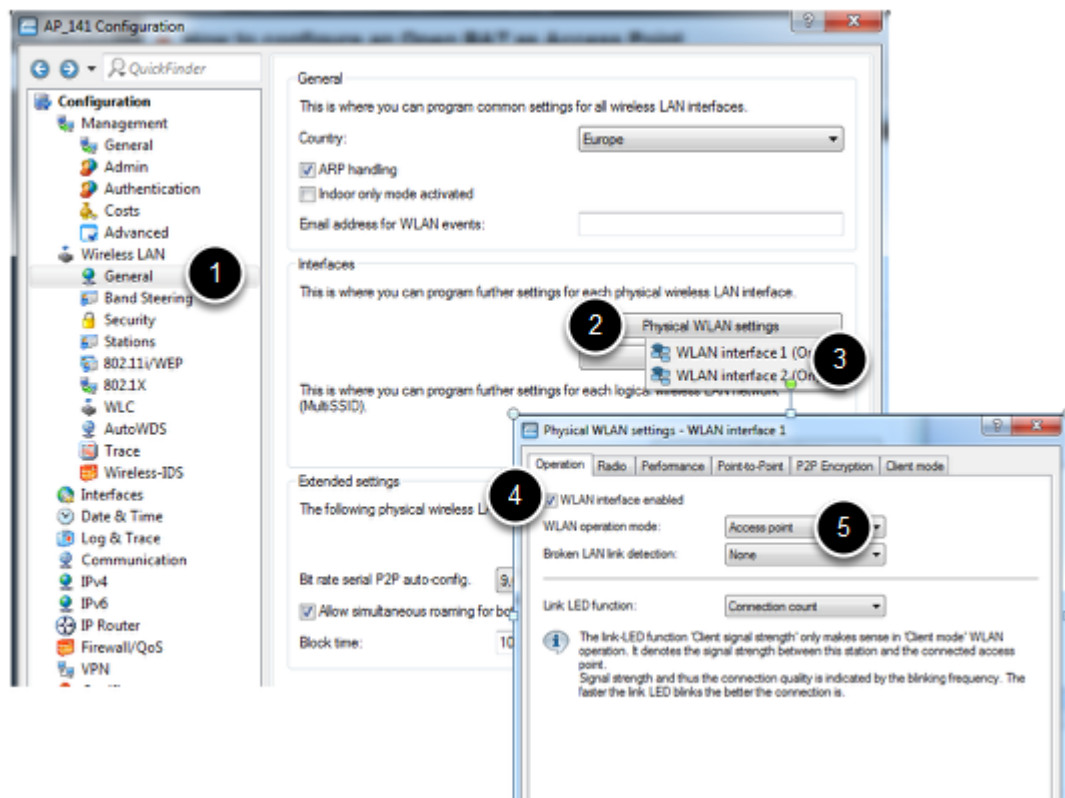


Configuration > Wireless LAN > General >

Select the country Germany

untick ""Indoor only mode activated""

**Enable the radio modules and configure them as Access Points**



Configuration > Wireless LAN > General > Physical WLAN settings > WLAN interface 1 > tick ""WLAN interface enabled""

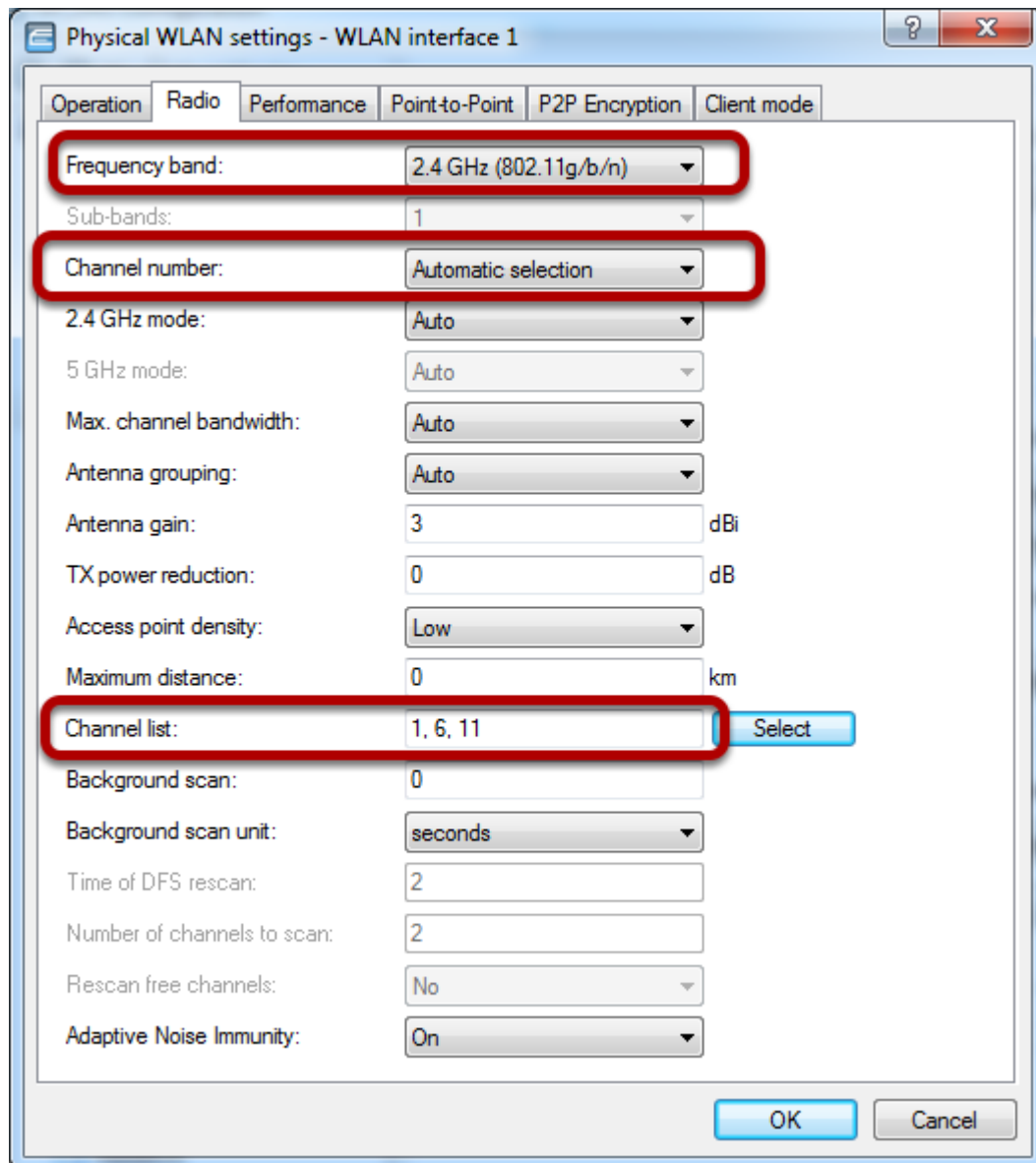
Select WLAN operation mode ""Access point""

Repeat this step for WLAN interface 2

**Define the radio band and limit the channel list (optional)**







Configuration > Wireless LAN > General > Physical WLAN settings > WLAN interface 1 > Radio tab

Select the Frequency band 2.4 Ghz

Select the channel number to ""Automatic selection"" and the channel list to 1,6 and 11

If you want to use a fix channel then fix it in ""Channel number""

Repeat this step for WLAN interface 2 changing the frequency band and the channel list (see below)

Physical WLAN settings - WLAN interface 2

Operation Radio Performance Point-to-Point P2P Encryption Client mode

Frequency band: 5 GHz (802.11a/n)

Sub-bands: 2

Channel number: Automatic selection

2.4 GHz mode: Auto

5 GHz mode: Auto

Max. channel bandwidth: Auto

Antenna grouping: Auto

Antenna gain: 3 dBi

TX power reduction: 0 dB

Access point density: Low

Maximum distance: 0 km

Channel list: 100, 108, 116 Select

Background scan: 0

Background scan unit: seconds

Time of DFS rescan: 2

Number of channels to scan: 2

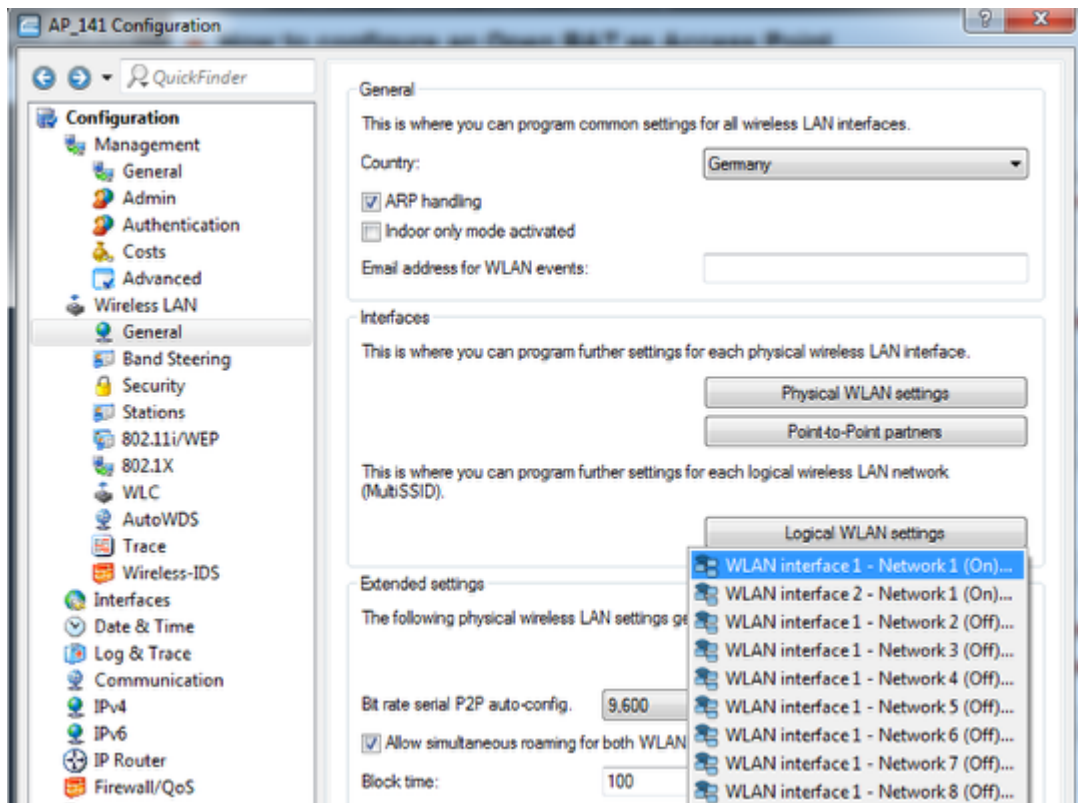
Rescan free channels: No

Adaptive Noise Immunity: On

OK Cancel

Channels 100, 108 and 116 are all in Sub band 2

### Configure an SSID (1)



Configuration > Wireless LAN > General > Logical WLAN settings >

Select WLAN interface 1 - Network 1

## Configure an SSID (2)





Logical WLAN settings - WLAN interface 1 - Network 1

Interface: WLAN interface 1 - Network 1

☒ WLAN network enabled

Network name (SSID): RESEAU\_TOTO

Suppress SSID broadcast: No

☒ MAC filter enabled

Maximum count of clients: 0

Minimal client signal strength: 0 %

Client Bridge Support: No

TX bandwidth limit: 0 kbit/s

RX bandwidth limit: 0 kbit/s

☐ RADIUS accounting activated

RADIUS accounting server: ▼ Select

☒ Allow data traffic between stations of this SSID

☐ (U-)APSD / WMM powersave activated

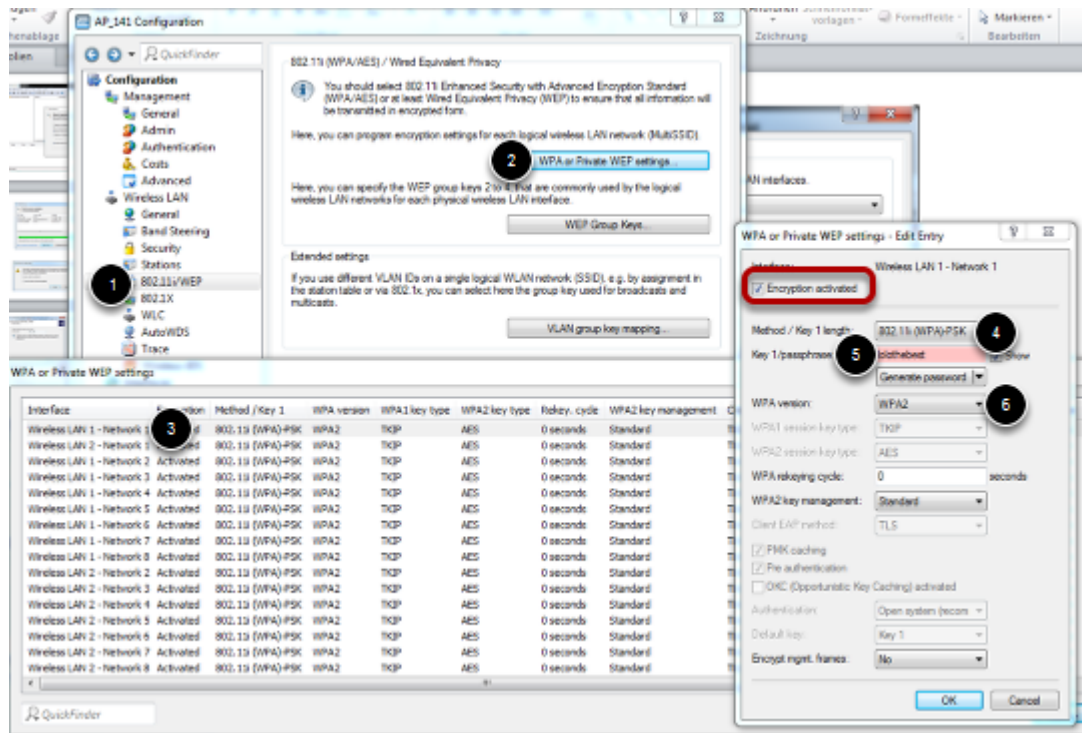
☐ Transmit only unicasts, suppress multicasts and broadcasts

OK Cancel

Enable the WLAN network and enter the desired SSID. In our example : RESEAU\_TOTO

Repeat this step for WLAN interface 2 - Network 1 (see in Configure an SSID (1) how to select this interface)

## Configure the security settings



Configuration > Wireless LAN > 802.11i/WEP > WPA or Private WEP settings

In WPA or Private WEP settings window, open the security settings of Wireless LAN 1 - Network 1

Take care that the Encryption is activated

Select as method: 802.11i (WPA)-PSK

Choose a passphrase

Select WPA2 as WPA version

Repeat this step for Wireless LAN 2 - Network 1 (from the WPA or Private WEP settings window)

Close all the windows by clicking OK.

Closing the main configuration dialog window, the configuration is applied on the BAT

**Check the applied config in the web interface (1)**

HiLCOS Menu Tree											
Logout											
HiLCOS Menu Tree											
Status											
WLAN											
Radios											
Ifc	Radio Band	Radio-Channel	Channel-Bandwidth	Radio-Mode	Ext.-Channel	40MHz-Permitted	Noise-Level	Modem-Load	Transmit-Power	EIRP	E
<a href="#">WLAN-1</a>	2.4GHz	6	40MHz	11bgn-mixed	Below	No	-86	44	15 dBm	18 dBm N	
<a href="#">WLAN-2</a>	5GHz	108	40MHz	11an-mixed	Above	Yes	-82	0	21 dBm	24 dBm N	

You can see under:

HiLCOS Menu Tree > Status > WLAN > Radio

The channels were the radios are operating

**Check the applied config in the web interface (2)**






## HiLCOS Menu Tree

 [Logout](#)

[HiLCOS Menu Tree](#)

 [Status](#)

 [WLAN](#)

### Networks

Ifc	Operating	Network-Name	BSSID	Radio-Mode	VLAN-Id	Num-Station
<u>WLAN-1-1</u>	Yes	RESEAU_TOTO	ce555ffd95b	11bgn-mixed	0	0
<u>WLAN-1-2</u>	No	HIRSCHMANN	000000000000	11bgn-mixed	0	0
<u>WLAN-1-3</u>	No	HIRSCHMANN	000000000000	11bgn-mixed	0	0
<u>WLAN-1-4</u>	No	HIRSCHMANN	000000000000	11bgn-mixed	0	0
<u>WLAN-1-5</u>	No	HIRSCHMANN	000000000000	11bgn-mixed	0	0
<u>WLAN-1-6</u>	No	HIRSCHMANN	000000000000	11bgn-mixed	0	0
<u>WLAN-1-7</u>	No	HIRSCHMANN	000000000000	11bgn-mixed	0	0
<u>WLAN-1-8</u>	No	HIRSCHMANN	000000000000	11bgn-mixed	0	0
<u>WLAN-2-1</u>	Yes	RESEAU_TOTO	ce555ffd8eb	11an-mixed	0	0
<u>WLAN-2-2</u>	No	HIRSCHMANN	000000000000	11an-mixed	0	0
<u>WLAN-2-3</u>	No	HIRSCHMANN	000000000000	11an-mixed	0	0

You can see under:

HiLCOS Menu Tree > Status > WLAN > Networks

The SSID in operation