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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



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

Select the country and the outdoor mode



Configuration > wireless LAN > Gen

Select the country Germany

untick ""Inddor 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)

Physical WLAN settings - WLAN	<u> १ ×</u>		
Operation Radio Performance F	Client mode		
Frequency band:	2.4 GHz (802.11g/b/n) 👻		
Sub-bands:	1 ×		
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:	um distance: 0 km		
Channel list:	1, 6, 11	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	

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	8 23	J									
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:	e: 0										
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 🗸]									
		ОК	Cancel]							

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

Configure an SSID (1)

AP_141 Configuration	2 - X -
G O - R QuickFinder	General This is where you can program common settings for all wireless LAN interfaces.
Seneral Admin Authentication	ARP handling Indoor only mode activated
Costs Advanced Wireless LAN	Email address for WLAN events:
Security Stations	This is where you can program further settings for each physical wireless LAN interface. Physical WLAN settings
6 802.11i/WEP 8 802.1X 8 WLC	Point-to-Point partners This is where you can program further settings for each logical wireless LAN network (MutiSSID).
♥ AutoWDS ■ Trace ■ Wireless-IDS	Extended settings
Q Interfaces ⊙ Date & Time B Log & Trace	The following physical wireless LAN settings ge 💱 WLAN interface 2 - Network 1 (On) WLAN interface 1 - Network 2 (Off) WLAN interface 1 - Network 3 (Off)
 	Bit rate serial P2P auto-config. 9,600 WLAN interface 1 - Network 5 (Off) WLAN interface 1 - Network 5 (Off) 9,600 WLAN interface 1 - Network 5 (Off) WLAN interface 1 - Network 6 (Off) 9,600 WLAN interface 1 - Network 6 (Off)
 IP Router Firewall/QoS 	Block time: 100 😤 WLAN interface 1 - Network 7 (Off)

Configuration > Wireless LAN > General > Logical WLAN settings >

Select WLAN interface 1 - Network 1

Configure an SSID (2)

Logical WLAN settings - WLA Network Transmission Alarms	N interface 1 - Network 1	8 23					
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, or unpress multicasts and broadcasts							
Transmit only unicests, supple							
		Cancer					

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											
Radio	os										
lfc	Radio Band	Radio- Channel	Channel- Bandwidth	Radio- Mode	Ext Channel	40MHz- Permitted	Noise- Level	Modem- Load	Transmit- Power	EIRP	E
WLAN- 1	2.4GH	6	10MHz	11bgn- mixed	Below	No	-86	44	15 dBm	18 dBm	N
WLAN- 2	5GHz	108	10MHz	11an- mixed	Above	Yes	-82	0	21 dBm	24 dBm	N
-											

F

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

	lfc	Operating	Network-Name	BSSID	Radio- Mode	VLAN- Id	Num- Statio
	WLAN-1	Yes	RESEAU_TOTO	ce555ffd95b	11bgn- mixed	0	0
	<u>WLAN-1-</u> 2	No	HIRSCHMANN	000000000000000000000000000000000000000	11bgn- mixed	0	0
	<u>WLAN-1-</u> <u>3</u>	No	HIRSCHMANN	000000000000000000000000000000000000000	11bgn- mixed	0	0
	<u>WLAN-1-</u> <u>4</u>	No	HIRSCHMANN	000000000000000000000000000000000000000	11bgn- mixed	0	0
	<u>WLAN-1-</u> 5	No	HIRSCHMANN	000000000000000000000000000000000000000	11bgn- mixed	0	0
	<u>WLAN-1-</u> 6	No	HIRSCHMANN	000000000000000000000000000000000000000	11bgn- mixed	0	0
	<u>WLAN-1-</u> 7	No	HIRSCHMANN	000000000000000000000000000000000000000	11bgn- mixed	0	0
	<u>WLAN-1-</u> 2	No	HIRSCHMANN	000000000000	11bgn- mixed	0	0
ľ	WLAN-2	Yes	RESEAU_TOTO	ce555ffd8eb	11an-mixed	0	0
	<u>vvlan-2-</u> 2	NU	TIRSCHWANN	0000000000000	11an-mixed	0	0
	<u>WLAN-2-</u> <u>3</u>	No	HIRSCHMANN	000000000000	11an-mixed	0	0

You can see under:

HiLCOS Menu Tree > Status > WLAN > Networks

The SSID in operation