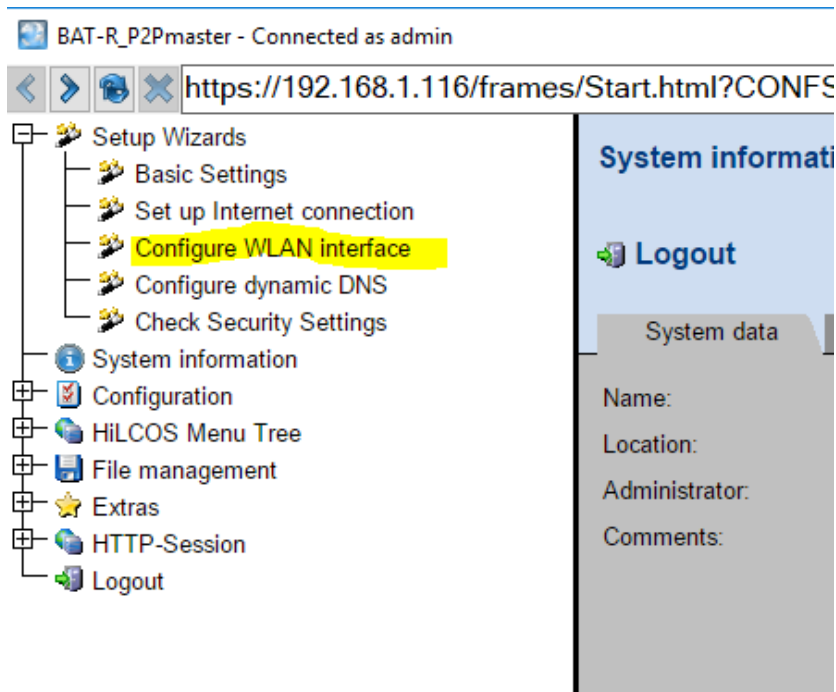


## Wireless Point to Point Configuration Guide

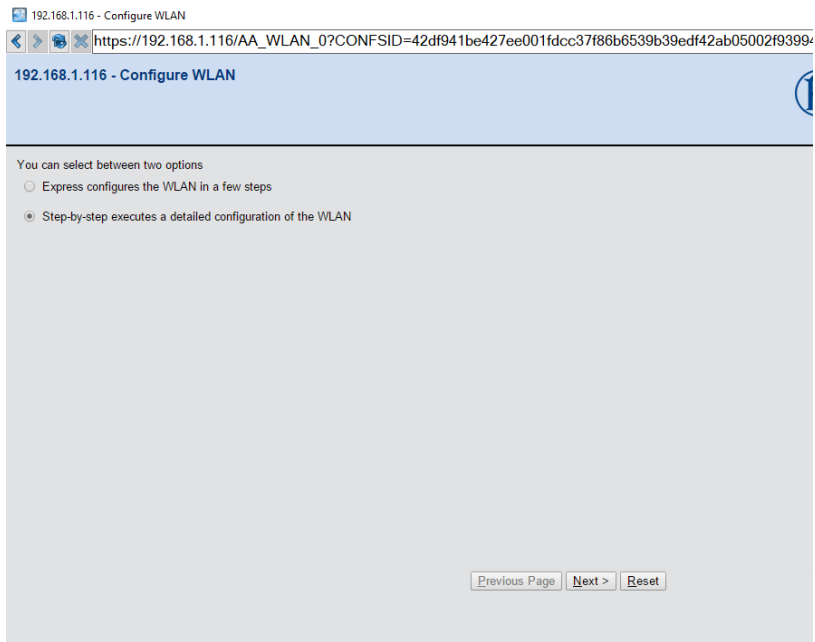
John M - 2019-12-23 - BAT, WLC (HiLCOS)

### Master AP Configuration

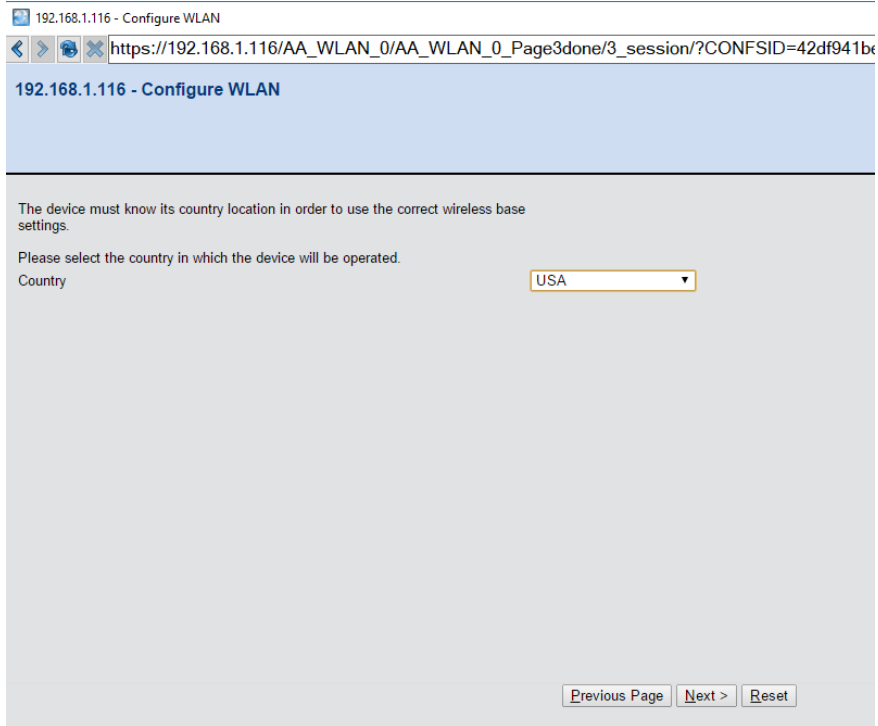
1. When the BAT radio is connected to a network or computer it will automatically take the subnet of the network with 254 for the last octet xxx.xxx.xxx.254.
2. Login to the device GUI and go to Setup Wizards/Configure WLAN interface



3. Choose the Step by step option and click next



4. Choose the country code the radio will be located in and click next



5. Select the WLAN interface and click next

192.168.1.116 - Configure WLAN

https://192.168.1.116/AA\_WLAN\_0/AA\_WLAN\_0\_Page7done/3\_session/?CONFSID=42df941be427ee001fdcc37f8

### 192.168.1.116 - Configure WLAN

The device supports two physical WLAN interfaces. Please select the one to configure.

WLAN interface to change

Current WLAN interfaces settings:

WLAN interface 1	Access point, 2.4 GHz, 1 network active
WLAN interface 2	Access point, 2.4 GHz, 1 network active

## 6. Choose the Access point mode and click next

192.168.1.116 - Configure WLAN

https://192.168.1.116/AA\_WLAN\_0/AA\_WLAN\_0\_Page10done/3\_session/?CONFSID=42df941be427ee001fdcc37f8

### 192.168.1.116 - Configure WLAN

Select the operating mode of the WLAN interface.

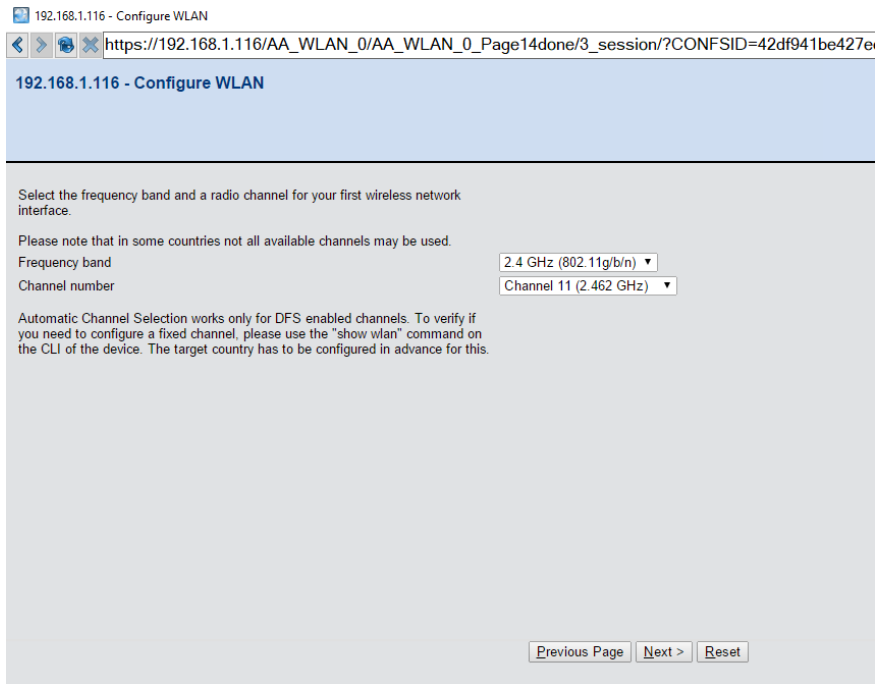
WLAN operating mode

If you select 'Access point' (default), clients (e.g. notebooks) can login to this interface and you will be able to establish WLAN point-to-point or relay connections via this interface.

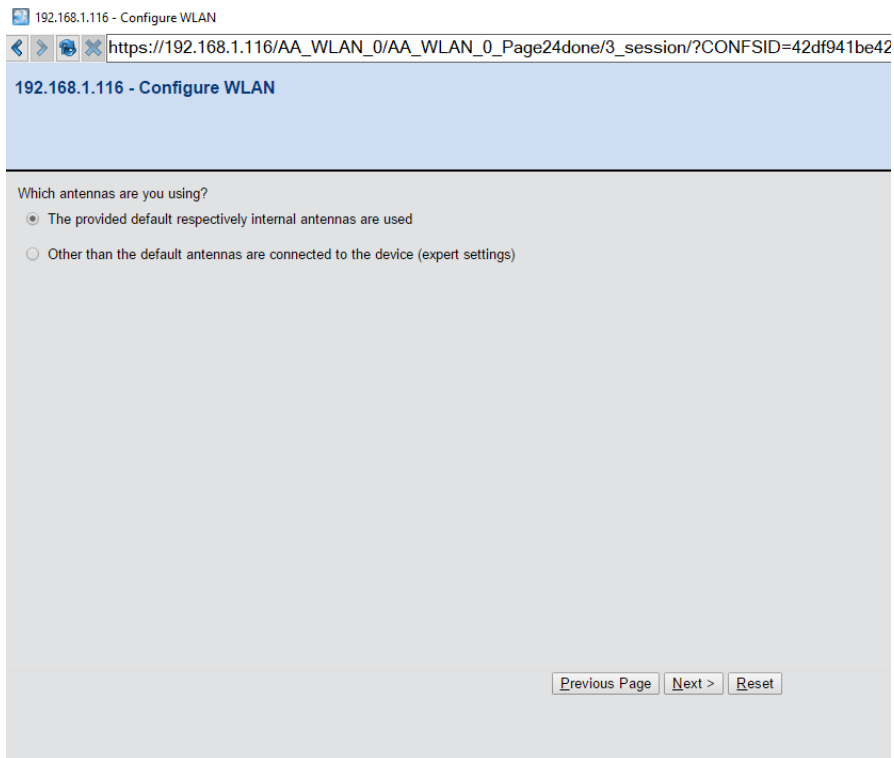
If you select 'Station' and the connected AP is a BAT too, you will have the possibility to select the transparent client mode later on. This mode will not replace all transmitted MAC addresses with the one of the WLAN adapter.

If you select 'Managed', no further configuration will be made here. The AP then tries to connect to a WLAN controller (WLC) to configure this WLAN interface.

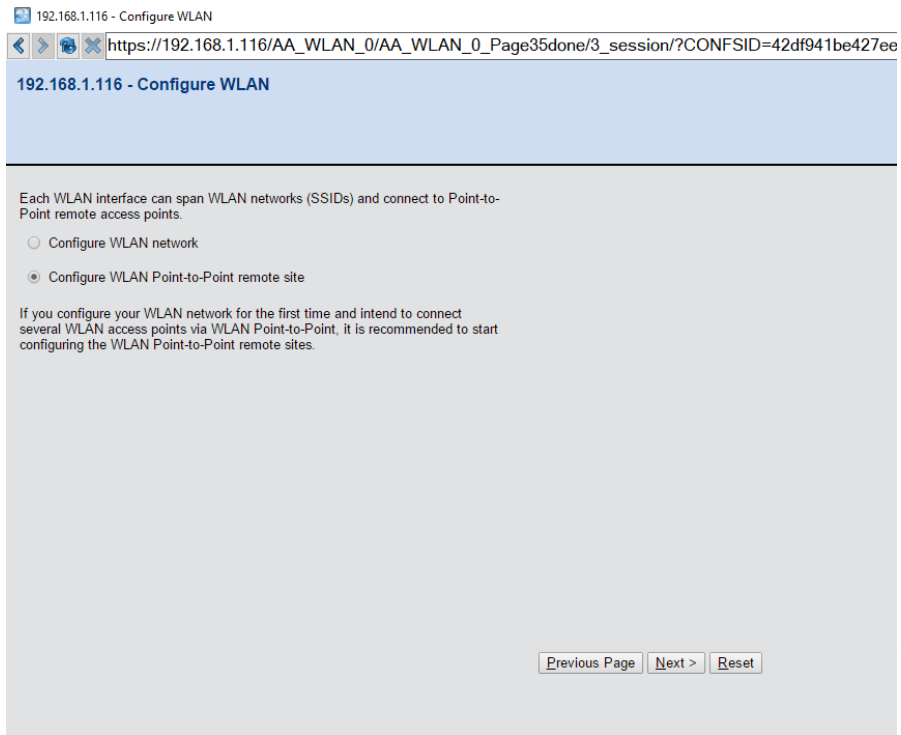
## 7. Select the frequency and channel for the radio and click next



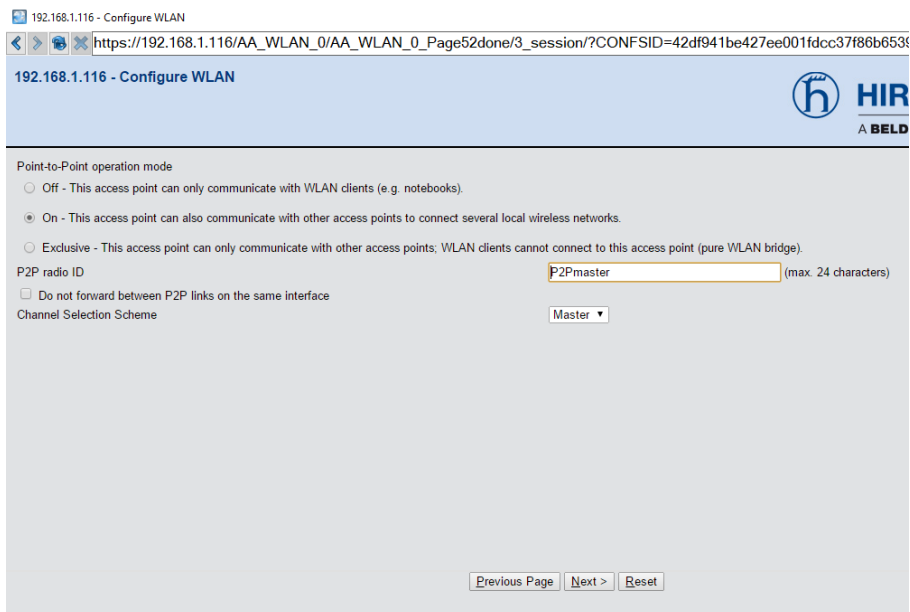
8. For link test select the internal antenna option and next. Note: if using a high gain antenna the radio may need to be attenuated per FCC standards



9. Select configure WLAN point to point and click next



10. If the network only Hirschmann devices with point to point links select exclusive, if the network has client devices connecting to the Aps select On, then specify the P2P radio ID, select Master for the channel selection scheme and click next



11. Put the estimated distance between radios to set the timing of the links and click next

192.168.1.116 - Configure WLAN

https://192.168.1.116/AA\_WLAN\_0/AA\_WLAN\_0\_Page53done/3\_session/?CONFSID=42df941be427ee001fdcc37

192.168.1.116 - Configure WLAN

If you plan to establish a long range connection (above 1 km), you have to fill this particular WLAN radio setting.

Maximum distance  km (possible values: 0 - 65535)

None of your wireless stations should exceed this distance. Otherwise it will be impossible to reach this station.

[Previous Page](#) [Next >](#) [Reset](#)

12. Choose the use WPA-2 to secure the link and click next

192.168.1.116 - Configure WLAN

https://192.168.1.116/AA\_WLAN\_0/AA\_WLAN\_0\_Page55done/3\_session/?CONFSID=42df941be

192.168.1.116 - Configure WLAN

Activate encryption for your wireless network to allow access only to authorized clients and encrypt all data transmissions.

Use WPA-2 (802.11i) Enhanced Security with Advanced Encryption Standard (WPA/AES) for encryption

Do not activate encryption for the wireless LAN (only for public access)

[Previous Page](#) [Next >](#) [Reset](#)

13. Type in the chosen passphrase and repeat to verify, then click next

192.168.1.116 - Configure WLAN

Enter the WPA passphrase that will be used to encrypt all data transmissions in your wireless network. This passphrase must also be set in all WLAN clients.

WPA passphrase  (max. 63 characters) (required)

(Repeat)

WPA passphrase  (max. 63 characters) (required)

You must enter between 8 and 63 ASCII characters for this key.

For higher security it is recommended to use a long key containing some special characters and numbers.

[Previous Page](#) [Next >](#) [Reset](#)

14. Choose no(default) for client bridge support and click next

192.168.1.116 - Configure WLAN

It is possible to negotiate the client bridge mode against BAT stations running in client mode.

If this mode establishes, all Ethernet packets are transmitted transparently. The MAC address of the packets is not replaced by the MAC address of the WLAN card as usual in all WLANs.

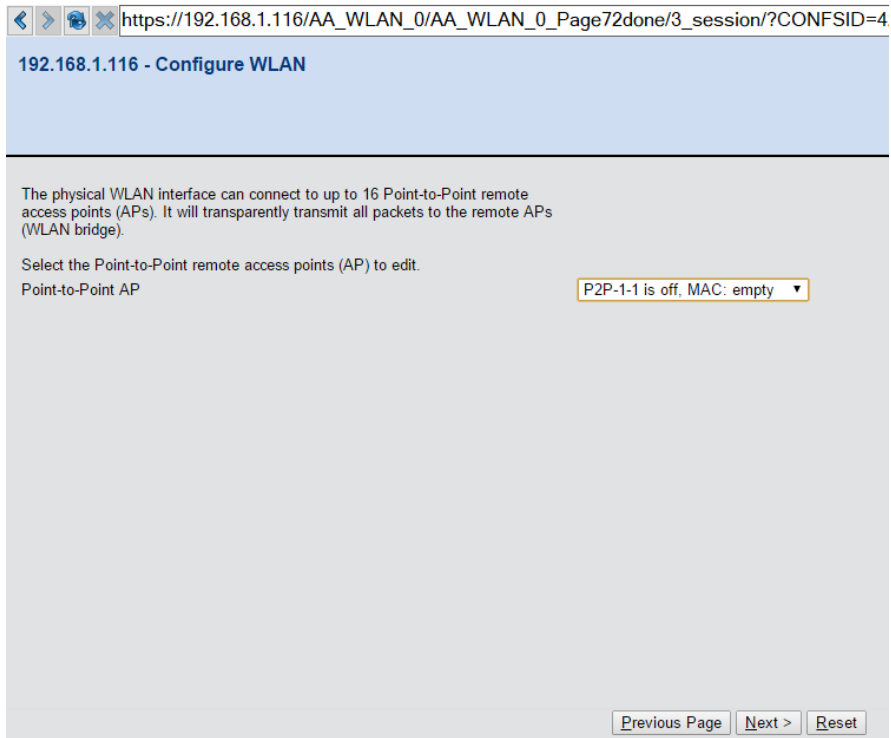
Client bridge support

If 'Exclusive' is selected for this WLAN network only clients supporting this mode are accepted.

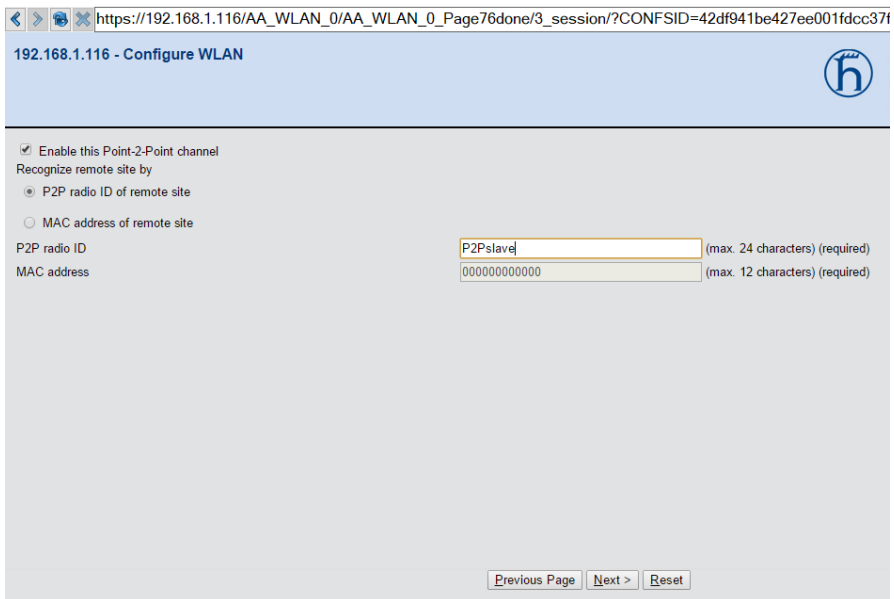
This mode is currently supported only by BAT stations which must have enabled client bridge support in client mode settings for this to function.

[Previous Page](#) [Next >](#) [Reset](#)

15. Choose the point to point link to edit and click next

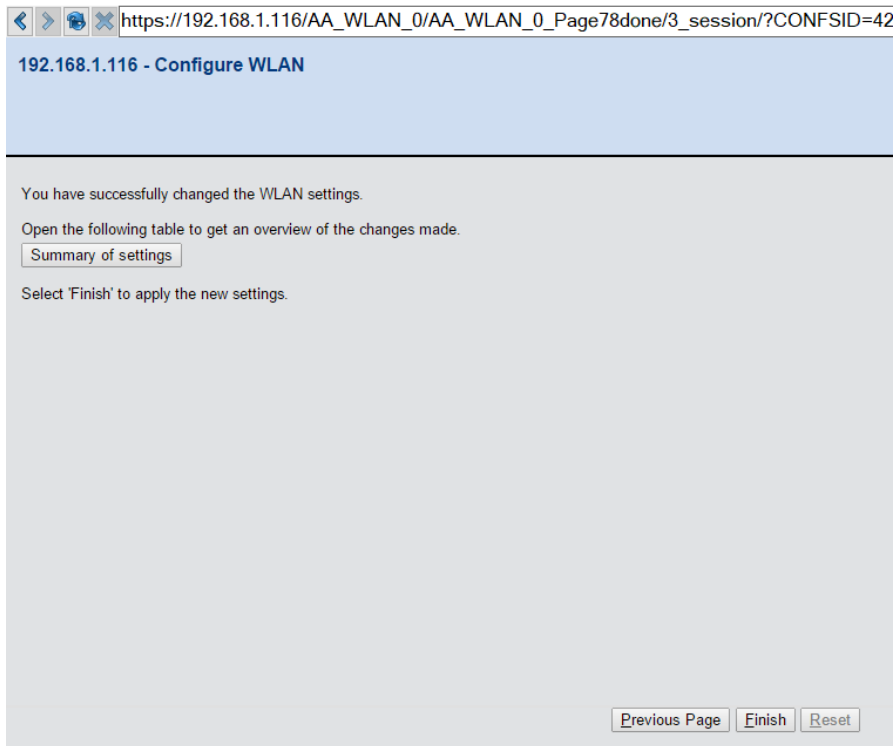


16. Enable the P2P channel, select P2P radio ID of remote site and specify the remote site radio ID, and then click next



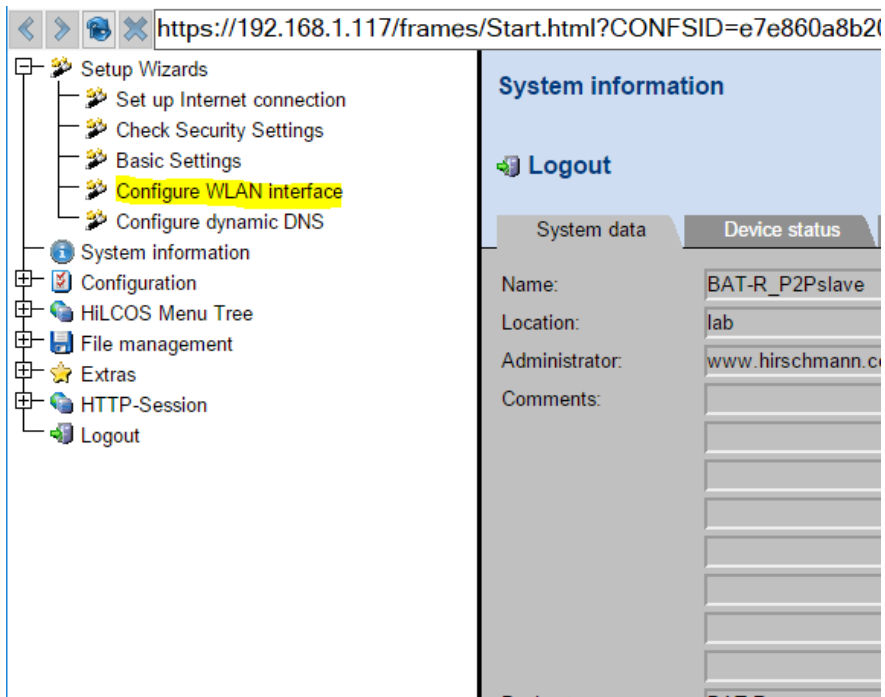
17. Click finish and the Master radio P2P link is configured



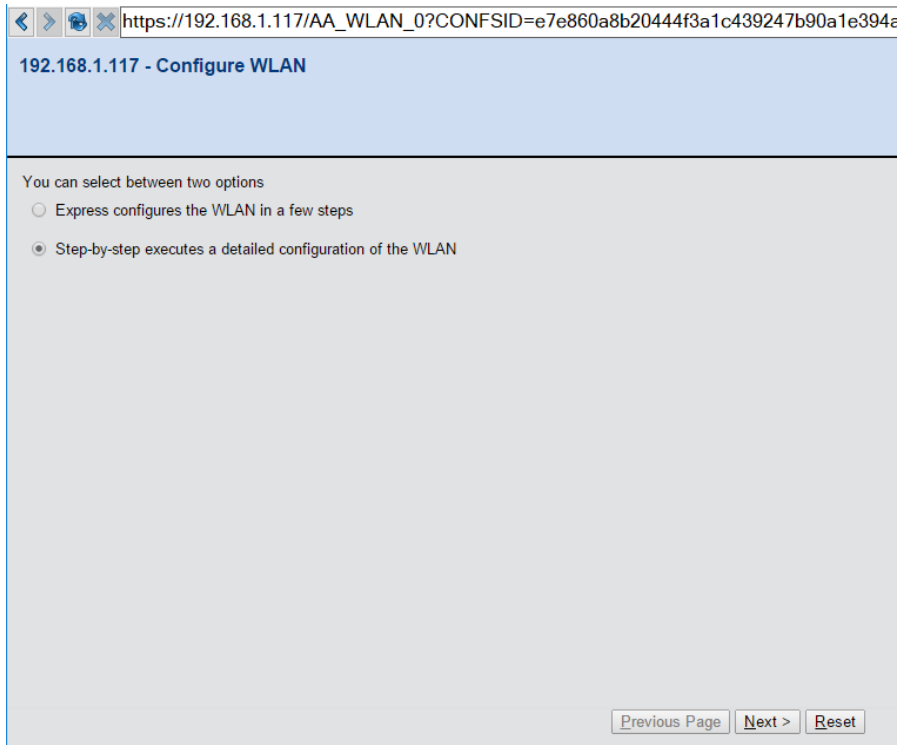


## Slave AP Configuration

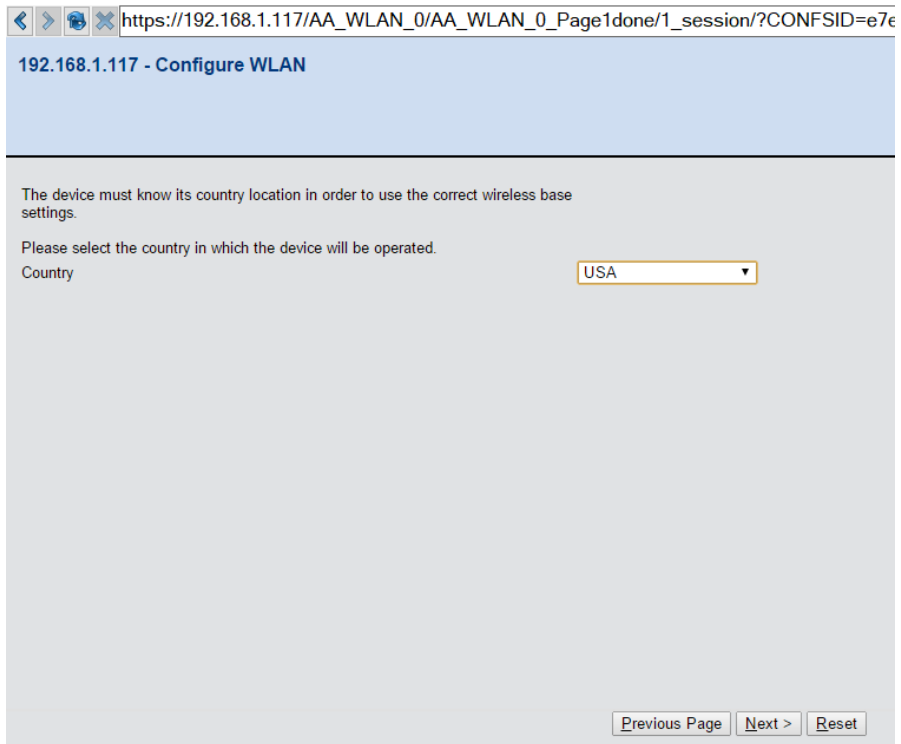
1. Login to the device GUI and go to Setup Wizards/Configure WLAN interface



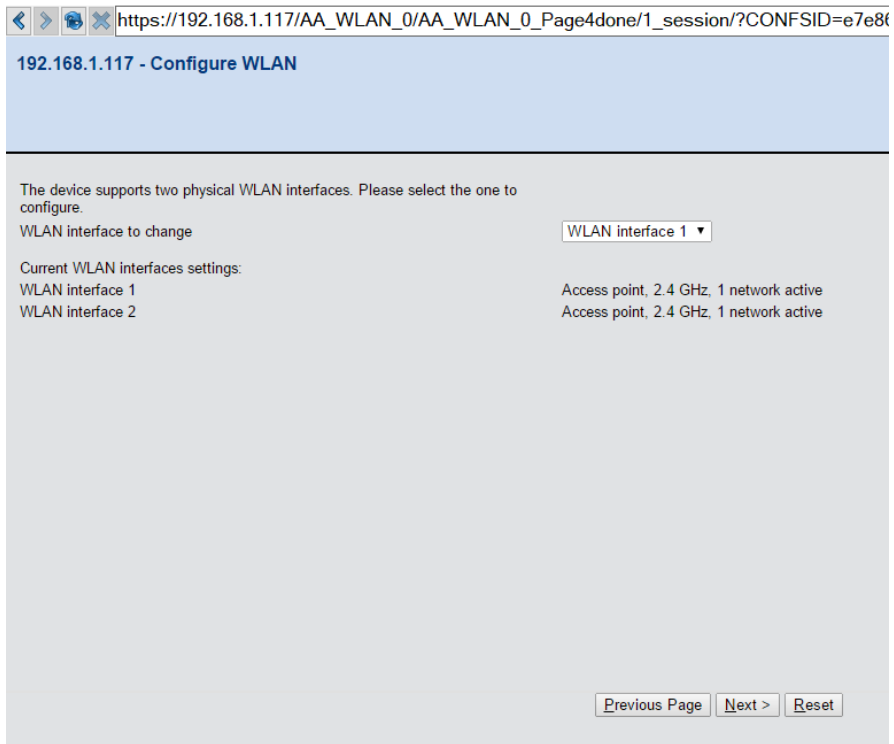
2. Choose the Step by step option and click next



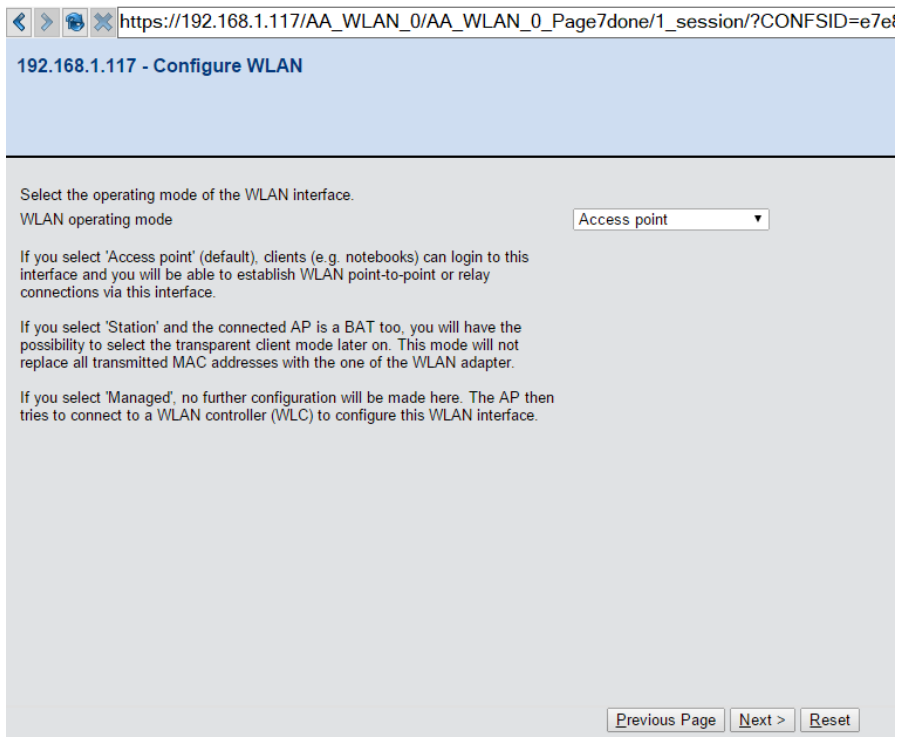
3. Choose the country code the radio will be located in and click next



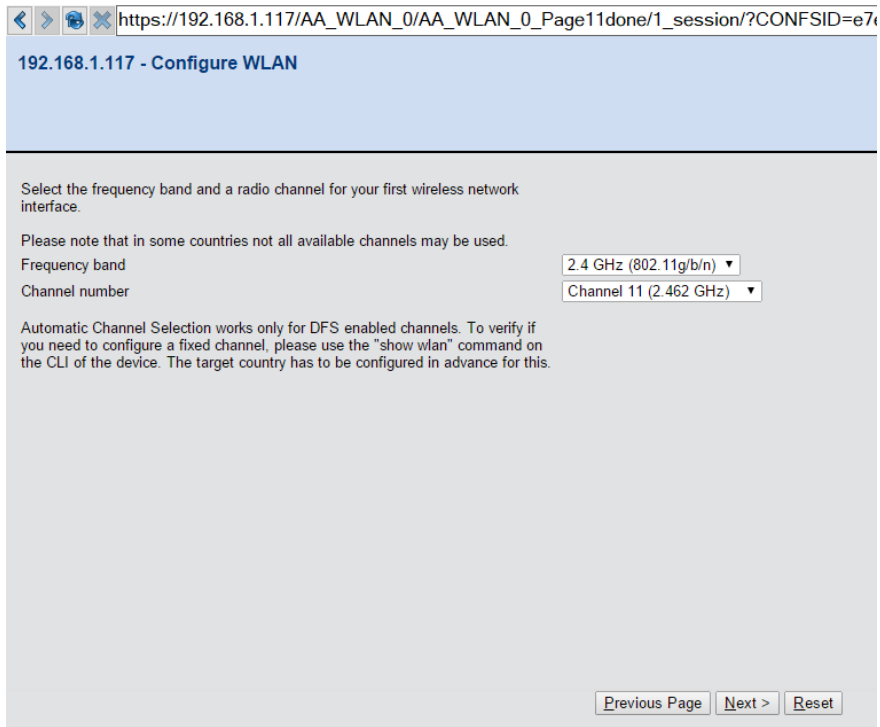
4. Select the WLAN interface and click next



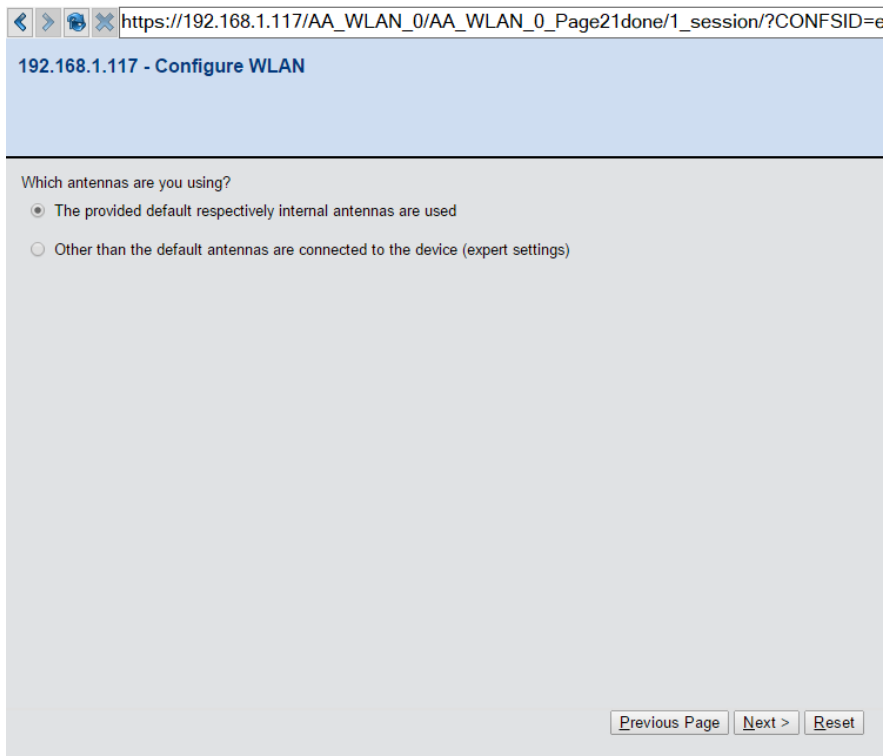
5. Choose the Access point mode and click next



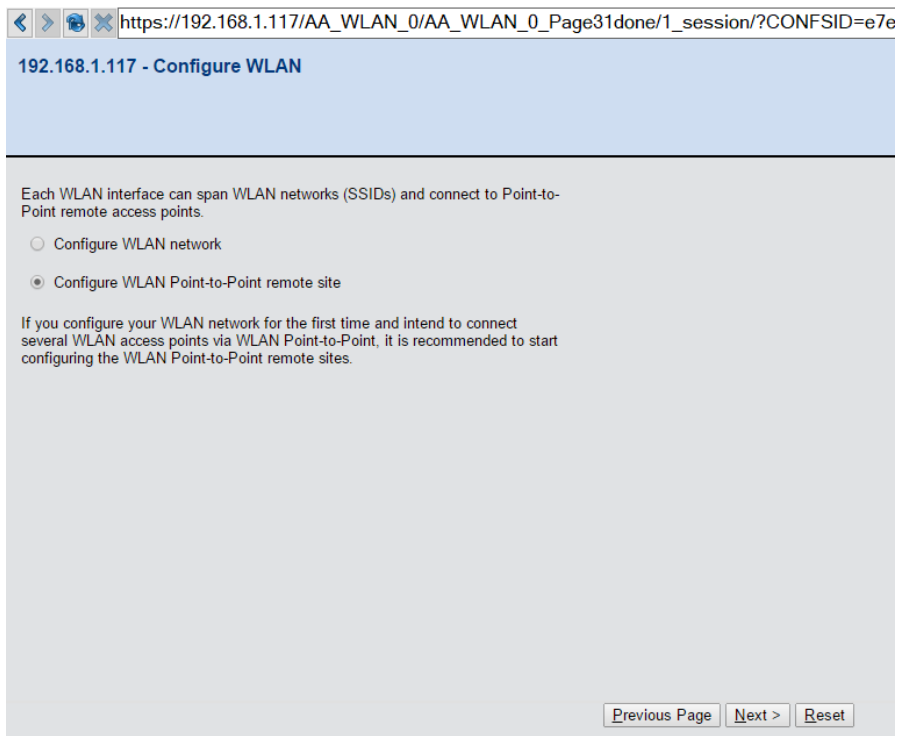
6. Select the same frequency and channel as the master radio and click next



7. For link test select the internal antenna option and next.



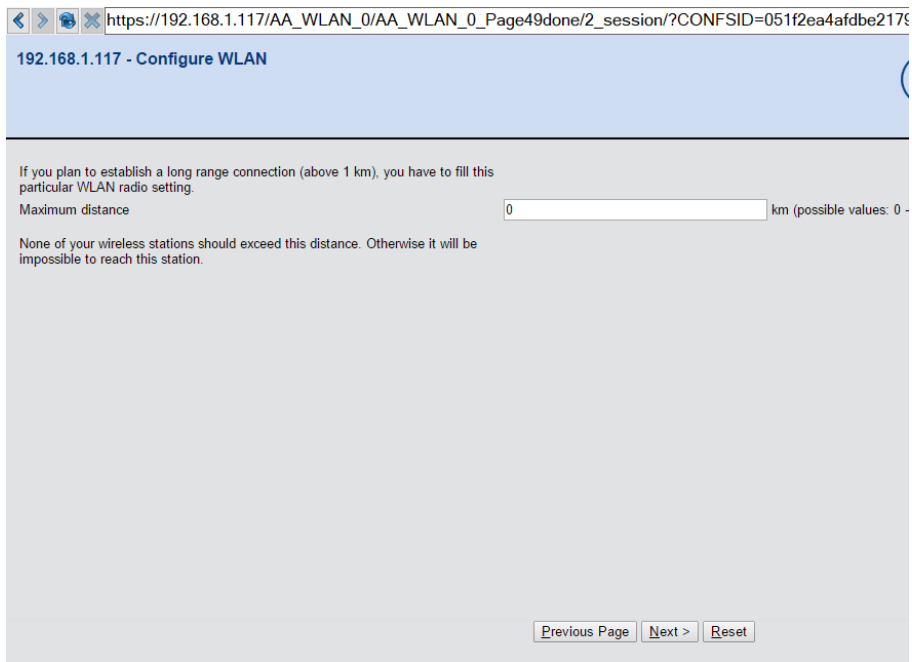
8. Select configure WLAN point to point and click next



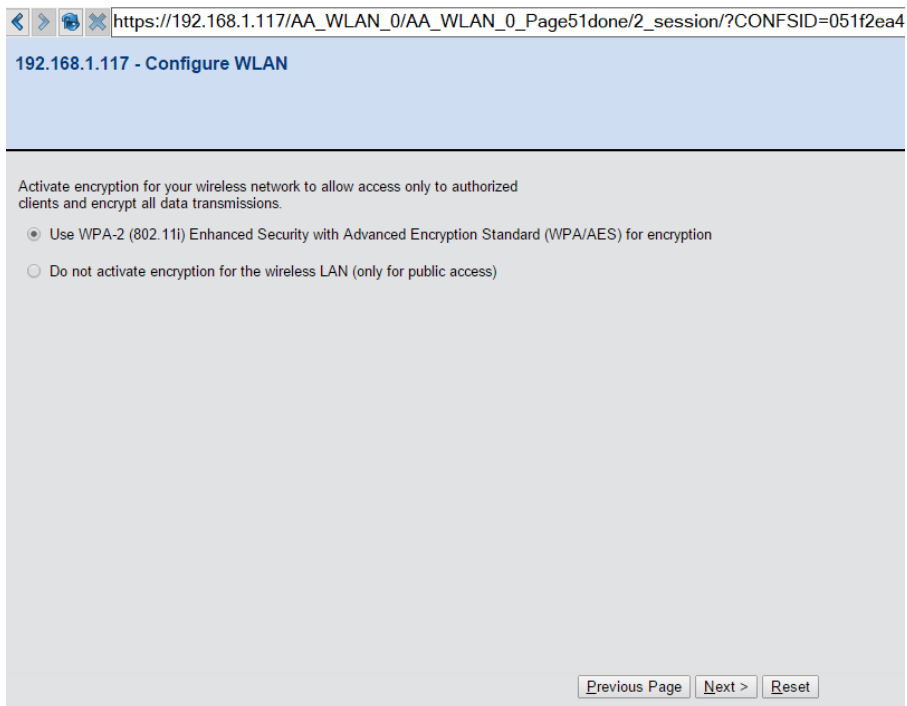
9. Select the same operation mode as the master radio, specify the radio ID (should be the same as the remote site ID in the master radio configuration), select the slave channel selection scheme and click next



10. The distance should be the same as the master configuration for timing purposes and click next



11. Choose the use WPA-2 to secure the link and click next Note: The encryption needs to be the same as the master radio or the link will not work



12. Type in the same passphrase as the Master radio, verify and click next

192.168.1.117 - Configure WLAN

Enter the WPA passphrase that will be used to encrypt all data transmissions in your wireless network. This passphrase must also be set in all WLAN clients.

WPA passphrase  (max. 63 characters) (required)

(Repeat)

WPA passphrase  (max. 63 characters) (required)

You must enter between 8 and 63 ASCII characters for this key.

For higher security it is recommended to use a long key containing some special characters and numbers.

[Previous Page](#) [Next >](#) [Reset](#)

13. Choose no(default) for client bridge support and click next

192.168.1.117 - Configure WLAN

It is possible to negotiate the client bridge mode against BAT stations running in client mode.

If this mode establishes, all Ethernet packets are transmitted transparently. The MAC address of the packets is not replaced by the MAC address of the WLAN card as usual in all WLANs.

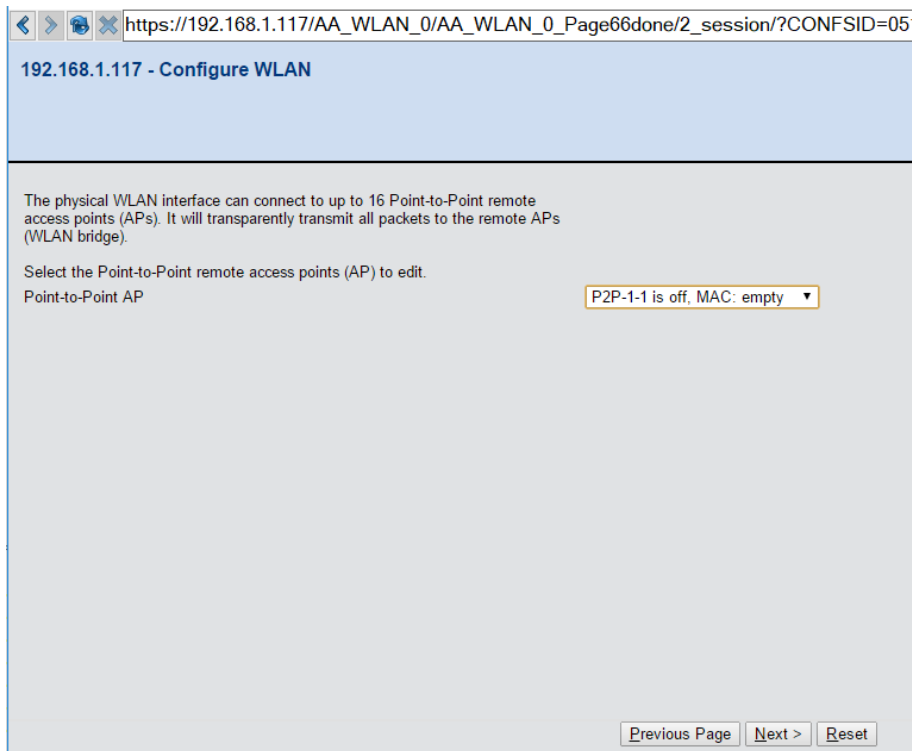
Client bridge support

If 'Exclusive' is selected for this WLAN network only clients supporting this mode are accepted.

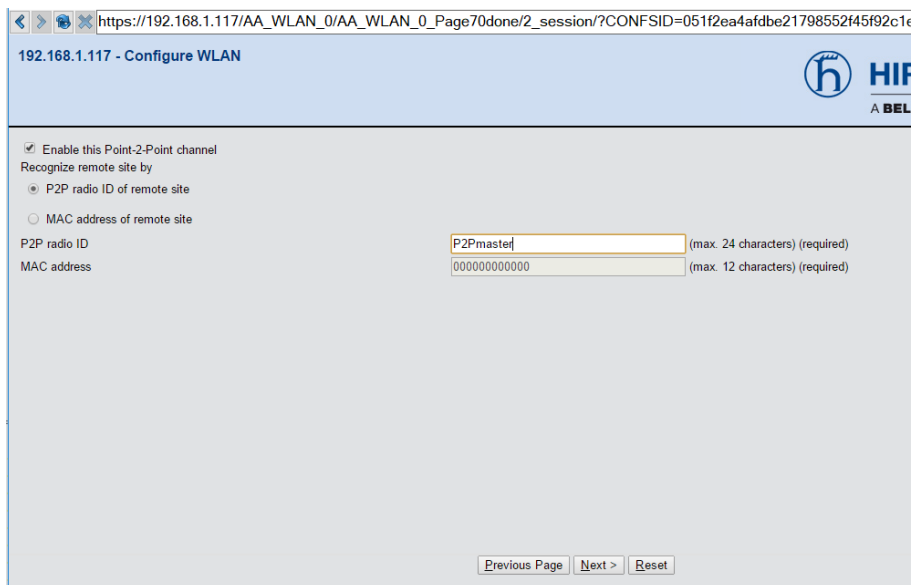
This mode is currently supported only by BAT stations which must have enabled client bridge support in client mode settings for this to function.

[Previous Page](#) [Next >](#) [Reset](#)

14. Choose the point to point link to edit and click next



15. Enable the P2P channel, select P2P radio ID of remote site and specify the remote site radio ID (Master radio ID), and then click next



16. Click finish and the Slave radio P2P link is configured



https://192.168.1.117/AA\_WLAN\_0/AA\_WLAN\_0\_Page72done/2\_session/?CONFSID=051

## 192.168.1.117 - Configure WLAN

You have successfully changed the WLAN settings.

Open the following table to get an overview of the changes made.

[Summary of settings](#)

Select 'Finish' to apply the new settings.

[Previous Page](#) [Finish](#) [Reset](#)

17. Verify the link is working by going to extras/WLAN link test. Here you can see the active link

BAT-R\_P2Pmaster - Connected as admin

https://192.168.1.116/wlan/?CONFSID=42df941be427ee001fdcc37f86b6539b39edf42ab05002f93994c60c26cbcf

- Setup Wizards
  - Basic Settings
  - Set up Internet connection
  - Configure WLAN interface
  - Configure dynamic DNS
  - Check Security Settings
- System Information
- Configuration
- HILCOS Menu Tree
- File management
- Extras
  - Search
  - Show/Search Other Devices
  - Display Key Fingerprints
  - Edit List of Allowed SSH Public Keys
  - Packet-Capture
  - WLAN Link Test
  - Spectral Scan
  - Create TCP/HTTP Tunnel
  - Activate Software Option

### WLAN Link Test

[Logout](#)

Station	Address	Signal Level	Noise Level	SNR	Data Rate
BAT-R_P2Pslave	ec:e5:55:ff:d7:d3	-56dBm	-87dBm	31dB	HT-1-39M
Ch 11 (2462 MHz)	locally seen:	-68dBm	-96dBm	28dB	HT-1-65M