



Quick Note 23

Configuring Wi-Fi Client mode on a TransPort

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1 VERSION

Version Number	Status
1.0	Published
1.1	Updated for new web UI released in firmware 5123 and above
1.2	Note added about DHCP
1.3	Updated screenshots and instructions for new web interface, rebranding (Mar 2016)

2 CONFIGURATION

The Wi-Fi client mode configuration involves configuring an Ethernet interface that will be associated with the Wi-Fi module, configuring the Wi-Fi parameters to match the Access Point (AP) that this client will be connected to and finally setting the default route to use the Ethernet interface linked with the Wi-Fi client.

2.1 Configure an Ethernet interface with either a static IP address or use the DHCP client

2.1.1 Option 1: Static IP address

Configuration - Network > Interfaces > Ethernet > ETH 0

▼ **ETH 0 - Wi-Fi Client Bridged**

Description:

Get an IP address automatically using DHCP

Use the following settings

IP Address:

Mask:

Gateway:

DNS Server:

Secondary DNS Server:

Changes to these parameters may affect your browser connection

▶ **Advanced**

▶ **QoS**

▶ **VRRP**

Select 'Use the following settings' and input the IP Address, Subnet Mask, Gateway, DNS server, and then click the **Apply** button.

Parameter	Setting	Description
Description	Free text	Friendly name
Use the following settings	Selected	Enables IP parameters
IP Address	192.168.1.1	Sets the IP address of ETH 0
Mask	255.255.255.0	Sets the subnet mask of ETH 0

Gateway	192.168.1.254	Sets the gateway to use
DNS Server	192.168.1.254	Sets the DNS server to use

2.1.2 Option 2: DHCP client

Configuration - Network > Interfaces > Ethernet > ETH 0

▼ ETH 0 - Wi-Fi Client Bridged

Description:

Get an IP address automatically using DHCP

Override these DHCP server values:

Mask:

Gateway:

DNS Server:

Secondary DNS Server:

Use the MAC address as the client ID

Use the following settings

Changes to these parameters may affect your browser connection

▶ Advanced

▶ QoS

▶ VRRP

Select 'Get an IP address automatically using DHCP', and then click the 'Apply' button. This is the default setting.

NOTE: If there is an existing DHCP server on the local Ethernet segment, this router's ETH 0 interface may obtain an IP address from that local DHCP server instead of from the TransPort's Wi-Fi AP. In this situation, either configure a static IP address as described in 2.1.1 or configure a logical Ethernet interface (instead of ETH 0) and ensure it's in a separate hub group ([how?](#)).

Parameter	Setting	Description
Description	Free text	Friendly name
Get an IP address automatically using DHCP	Selected	Enables DHCP client

NOTE: For both 2.1.1 & 2.1.2, Bridge mode is not enabled, as this is only needed in AP mode.

2.2 Configure the Global Wi-Fi settings

Configuration - Network > Interfaces > Wi-Fi > Global Wi-Fi Settings

▼ **Global Wi-Fi Settings**

Country:

Remote management access:

Network Mode:

Channel:

Antenna:

▶ **Advanced**

▶ **Wi-Fi Hotspot**

▶ **Wi-Fi Filtering**

Parameter	Setting	Description
Country	Select correct Country	Sets the Wi-Fi channels to be used
Channel	Auto	Allows automatic channel selection

Select your Country, ensure the default 'Auto' channel option is selected, and then click the '**Apply**' button.

2.3 Configure the Wi-Fi node

Configuration - Network > Interfaces > Wi-Fi > Wi-Fi Node 0

▼ **Network Scanning**

If the AP to be connected to is broadcasting its SSID, scroll down to expand the 'Network Scanning' sub menu to reveal the 'Perform Network Scan' button. Clicking this will perform a network scan and list APs that are visible in your location.

Configuration - Network > Interfaces > Wi-Fi > Wi-Fi Node 0

▼ Network Scanning

Perform Network Scan

SSID	MAC	Security	WPA Type	Signal	Channel	
Victorian Guest	E6:F4:C6:00:3F:7D	WPA2-PSK	AES	fair	4	Connect
xfinitywifi	E6:89:2C:B6:E4:D0	Open		fair	6	Connect
jersco1	88:DC:96:0E:9B:EA	WPA-PSK	AES	good	7	Connect
jersco1	00:02:6F:5D:2E:DC	WPA-PSK	TKIP	fair	7	Connect
monlux	CC:35:40:4F:17:E1	WPA2-PSK	TKIP	fair	11	Connect
xfinitywifi	CE:35:40:4F:17:E3	Open		fair	11	Connect
2WIRE240	E8:DE:27:FE:AE:36	WPA2-PSK	AES	excellent	1	Connect
HOME-BE92	14:AB:F0:10:BE:90	WPA2-PSK	TKIP	good	1	Connect
xfinitywifi	4E:7A:8A:59:40:EC	Open		fair	11	Connect
Secure_test_access_point	00:80:48:69:8E:76	WPA2-PSK	AES	excellent	1	Connect
HOME-BE8D	C4:27:95:CA:BE:8D	WPA2-PSK	TKIP	fair	1	Connect

Finished Network Scan.

Apply

Clicking the 'Connect' button for the appropriate SSID will enter the appropriate configuration details for the client configuration. Only the pre-shared key (PSK) should then need to be entered.

If the SSID is hidden, the scanning function will not be able to see the AP; manually enter the details as shown below.

Wi-Fi Node 0

Enable this Wi-Fi interface

Description:

SSID:

Mode:

Link this Wi-Fi client interface with Ethernet:

Click [here](#) to assign a timeband to this interface

Wi-Fi Security

Use the following security on this Wi-Fi interface:

None
 WEP
 WPA Personal
 WPA2 Personal
 WPA Enterprise
 WPA2 Enterprise

WPA-PSK Settings

WPA Encryption: TKIP AES (CCMP)

WPA pre-shared key: (8 - 63 chars)

Confirm WPA pre-shared key:

Network Scanning

Parameter	Setting	Description
Enable this Wi-Fi interface	Checked	Enables Wi-Fi
Description	Free text field	Friendly name
SSID	SSID text	Sets the SSID to connect to at the Access Point
Mode	Client	Sets the mode of the Wi-Fi
Security	WPA2-Personal	Sets the security method. This must match the Access Point
WPA Encryption	AES	Sets the WPA encryption type. This must match the Access Point
WPA pre-shared key	Password	Sets the pre-shared key. This must match the Access Point
Confirm WPA pre-shared key	Password	Confirms the pre-shared key. This must match the Access Point

NOTE: In order to maximize the security of the wireless connection, the use of a long pseudo-random pre-shared key is recommended.

2.4 Configure the default route

Configuration - Network > IP Routing/Forwarding > Static Routes > Default Route 0

Configuration - Network > IP Routing/Forwarding > Static Routes > Default Route 0

▼ **Default Route 0**

Description:

Default route via

Gateway:

Interface:

Use PPP sub-configuration:

Metric:

▶ **Advanced**

Set the interface to the Ethernet interface configured in 2.1, in this example, ETH 0.

NOTE: This gateway parameter will only need configuring if the Ethernet interface IP parameters were filled in manually (2.1.1). Otherwise, the DHCP client will take care of this, assuming the DHCP server is correctly configured with a default gateway option.

Wi-Fi Client mode configuration is now complete.

3 TESTING

3.1 Confirm the Wi-Fi client has connected to the AP

Browse to **Management - Network Status > Interfaces > Wi-Fi**

Management - Network Status > Interfaces > Wi-Fi

Wi-Fi

Module Detected: Yes (168C:002A)
Admin Status: Up
Operational Status: Up
Channel Mode: G
Channel: 1
MAC Address: 04:F0:21:17:81:CE

Bytes Received: 281547 Bytes Sent: 750
Packets Received: 1985 Packets Sent: 209
Receive Errors: 889 Transmit Errors: 2
Received Packets Dropped: 0

Number of Connected Wi-Fi Clients: 0

Number of Access Point Connections: 1

Access Point	Wi-Fi Node	RSSI	Flags	Power Save	Mode	Neg. Rates (Mbps)	TX Rate (Mbps)	RX Rate (Mbps)	Capability Info
Secure_test_access_point (00:80:48:69:8E:76)	0	87	-	Awake	G	1.0, 2.0, 5.5, 6.0, 9.0, 11.0, 12.0, 18.0, 24.0, 36.0, 48.0, 54.0	1.0	54.0	ESS, Privacy, Short Preamble, Short Slottime, <input type="button" value="Disconnect"/>

The status should be Up & the Wi-Fi Client mode connections should show 1.

3.2 Check the DHCP client status

If DHCP client mode was configured as in 2.1.2, navigate to **Administration - Execute a command**

Run the CLI command 'dhcpccli status', then review the output to confirm Eth 0 obtained an IP address:

Administration - Execute a command

Command:

Command: **dhcpccli status**
Command result

```
DHCP client status on ETH 0
    ipaddr : 192.168.1.100
      mask : 255.255.255.0
    gateway : 192.168.1.254
    dns_server : 192.168.1.254
    dhcp_server : 192.168.1.254
    lease remaining : 18143 mins
```

OK

3.3 Ping test

Return to 'Execute a command' and try and ping a FQDN such as www.google.co.uk:

```
Administration - Execute a command
-----
Command: ping www.google.co.uk
Execute

Command: ping www.google.co.uk
Command result

Pinging 'www.google.co.uk' [209.85.147.105]

sent PING # 1
PING receipt # 1 : response time 0.05 seconds
Iface: ETH 0
Ping Statistics
Sent      : 1
Received  : 1
Success   : 100 %
Average RTT : 0.05 seconds

OK
```

Wi-Fi Client mode is now properly configured.