sensia
Rockwell Automation + Schlumberger

+ MEASUREMENT SOLUTIONS

Scanner 3100 Wi-Fi & Advanced Networking Guide

Manual No. 50349155, Rev 2

Important Information

Symbols and Terms Used in this Manual

WARNING	**This symbol identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss.**
Caution	**Indicates actions or procedures which if not performed correctly may lead to personal injury or incorrect function of the instrument or connected equipment.**
IMPORTANT	Indicates actions or procedures which may affect instrument operation or may lead to an instrument response which is not planned.
Note	Indicates additional information about specific conditions or circumstances that may affect instrument operation.

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Section 1 - INTRODUCTION TO WI-FI & ADVANCED NETWORKING

The optional Wi-Fi & Advanced Networking expansion enables the Scanner 3100 flow computer to establish a local wireless network or to connect to an existing wireless network. This feature allows you to connect to the Scanner 3100 using the integral Wi-Fi of a smartphone, tablet, or PC, thereby avoiding the need to open the device enclosure to access the web interface through the wired Ethernet connection. Connecting to your established wireless network infrastructure brings immediate connectivity to the Scanner 3100 Web Interface, FTP server, and TCP communication ports.

Since this is an optional expansion, it is important to ensure it is installed before attempting any connection or configuration of the Wi-Fi & Advanced Networking expansion. This can be verified by holding your hand an inch or less away from the left side of the screen. After 3 seconds, the screen will switch to show the LAN and Wi-Fi configurations. If the Wi-Fi says “Not Installed”, then the Wi-Fi & Advanced Networking expansion is not installed.

With Wi-Fi & Advanced Networking expansion board installed in the Scanner 3100, the Ethernet connection is also upgraded with additional features. In addition to connecting to existing managed networks as a client, the Scanner 3100 can also act as a router, creating and managing its own local network of wired devices. This feature allows you to operate the Scanner 3100 as a stand-alone network and directly connect a wired laptop with ease, requiring only an ethernet cable and no additional networking equipment.

The Wi-Fi connection on the Scanner 3100 is independent and separate from the Ethernet connection; using one does not limit or preclude the use of the other. For example, you can connect the Scanner 3100 to your wired infrastructure while configuring the Scanner 3100 to additionally provide a wireless access point for user Wi-Fi enabled devices.

Wired and wireless networks in the Scanner 3100 are not bridged and adding an additional network poses no security risk to the others. A user connecting via Wi-Fi to the Scanner 3100 is on a separate network and cannot access computers or resources that may be connected to the Scanner 3100’s wired network. Similarly users connected to the wired network have no access to resources on the wireless network.

This guide will provide steps on how to connect to your Scanner 3100 for the first time using the Ethernet so you may gain access to the Web Interface for configuration, and how to configure your Scanner 3100 as a Wireless Access Point, a Wireless Client, an Ethernet DHCP (Stand-Alone) LAN server, or an Ethernet Client. This guide also details the steps for connecting your personal Wi-Fi or Ethernet enabled devices to a Scanner 3100 that is already configured in one of these modes.

Scanner 3100 Network Configurations

A Scanner 3100 equipped with a Wi-Fi expansion module can be configured to operate in one of two Wireless modes and one of two Ethernet modes, as described below.

Wireless Access Point

A wireless access point is a device that creates a wireless local area network for other devices to connect to. As a wireless access point, the Scanner 3100 hosts a public network (as shown in Figure 1) with the Scanner 3100 as the default SSID. If you have more than one wireless access point (i.e. two Scanner 3100's hosting separate wireless access points), each public network must have a unique SSID.

The section Configure the Scanner 3100 as a Wireless Access Point (page 11) will step you through this configuration.

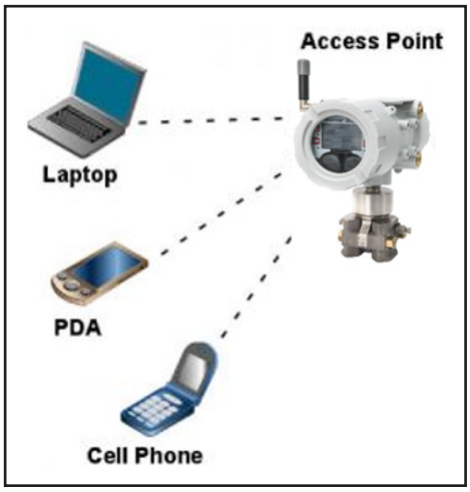

Figure 1 - Wireless Access Point

Wireless Client

As a wireless client, the Scanner 3100 connects to an existing wireless network (as shown in Figure 2), thereby allowing the Scanner 3100 to be available on a customer's existing Wi-Fi network through the IP address assigned by the customer's DHCP server. The Scanner 3100 can also be configured by assigning it a valid static IP address on the customer's existing network.

The section Configure the Scanner 3100 as a Wireless Client (page 15) will step you through this configuration.

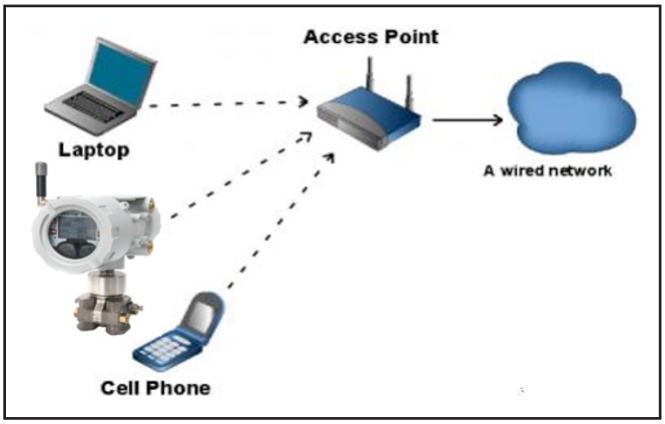

Figure 2 - Wireless Client

Ethernet Client

As an ethernet client, the Scanner 3100 connects to an existing wired network (as shown in Figure 3), thereby allowing the Scanner 3100 to be available on a customer's existing network through the IP address assigned by the customer's DHCP server. The Scanner 3100 can also be configured by assigning it a valid static IP address on the customer's existing network.

The section Configure the Scanner 3100 as an Ethernet Client (page 19) will step you through this configuration.

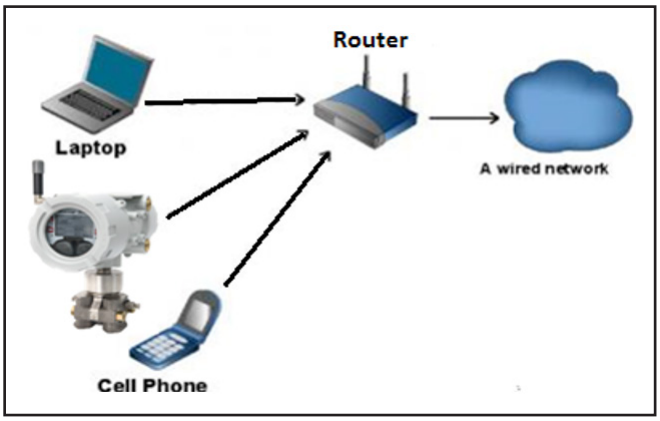

Figure 3 - Ethernet Client

Ethernet DHCP Server

A DHCP server is a device that dynamically assigns IP addresses to devices that connect to the network it is operating on. When configured as a ethernet DHCP server and not connected to any other wired network, the Scanner 3100 hosts its own managed wired network (as shown in Figure 4). This permits users to connect their personal Ethernet enabled device (e.g. Laptop) directly to the Scanner 3100 with an ethernet cable with no additional configuration or equipment.
The section Configure the Scanner 3100 as a DHCP Server (page 23) will step you through this configuration.

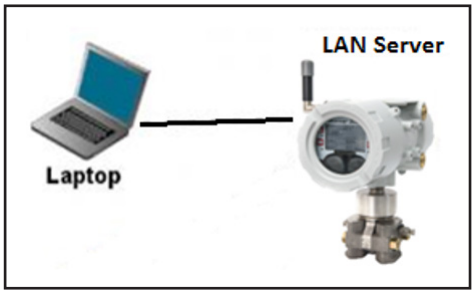

Figure 4 - Ethernet DHCP Server

Quick Start Flow Chart

Figure 5, summarizes the workflows for the first-time configuration of Scanner 3100 network options and the options to either connect or configure the Scanner 3100. Figure 6 (page 4) and Figure 7 (page 5) give more detailed options on configuring or connecting to a Scanner 3100 for different network configurations.

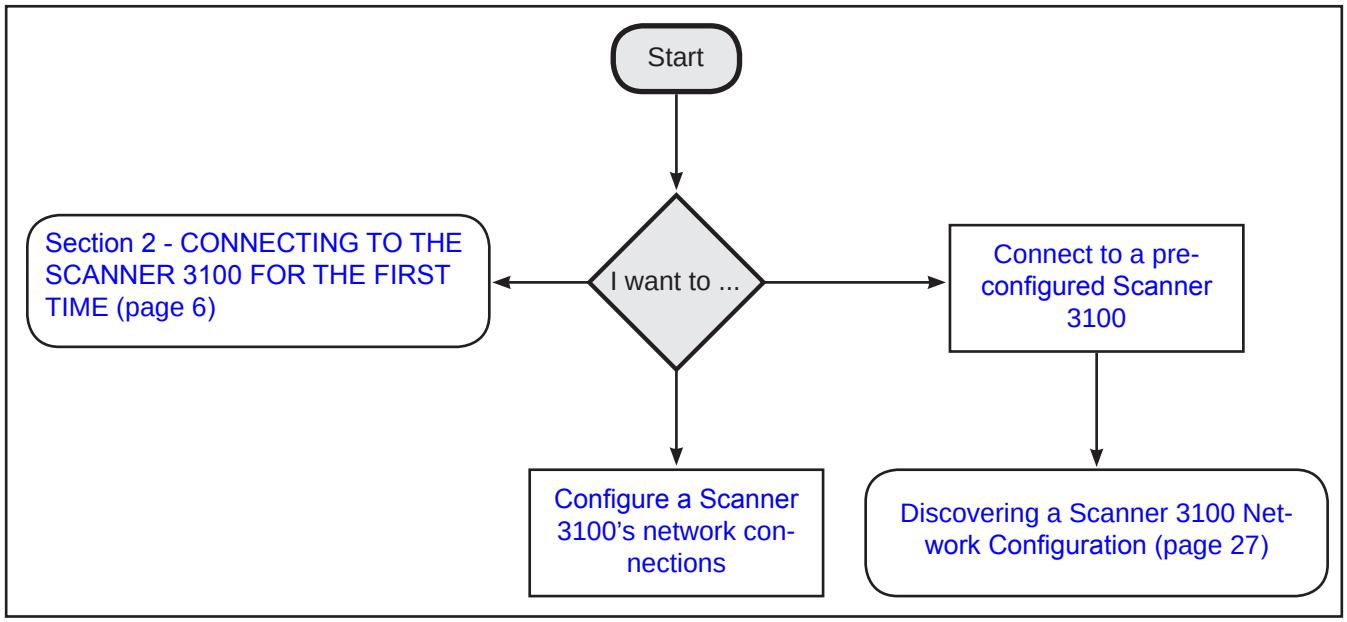

Figure 5 - Scanner 3100 network configuration and connection options flow chart

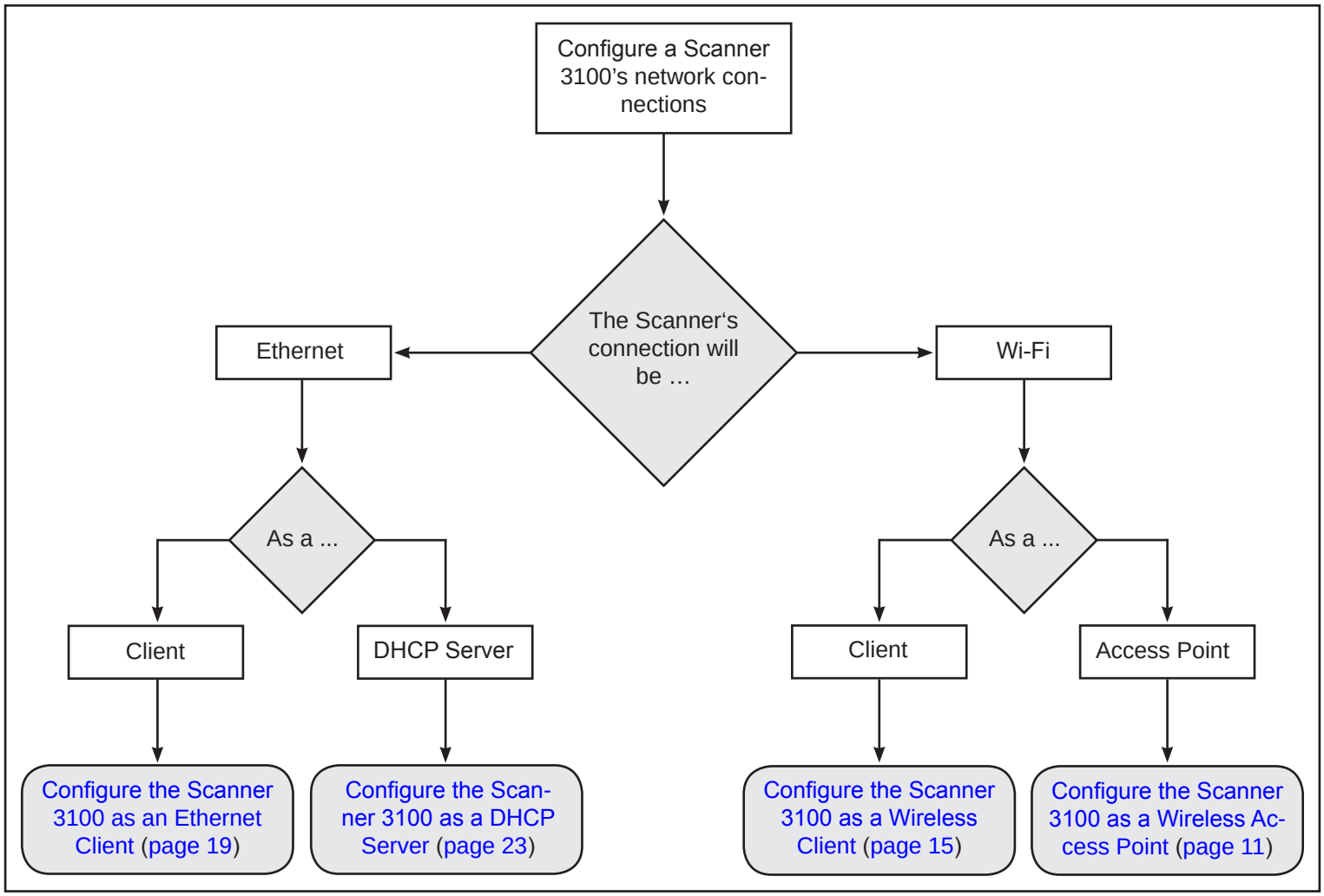

Figure 6 - Scanner 3100 network configuration options flow chart

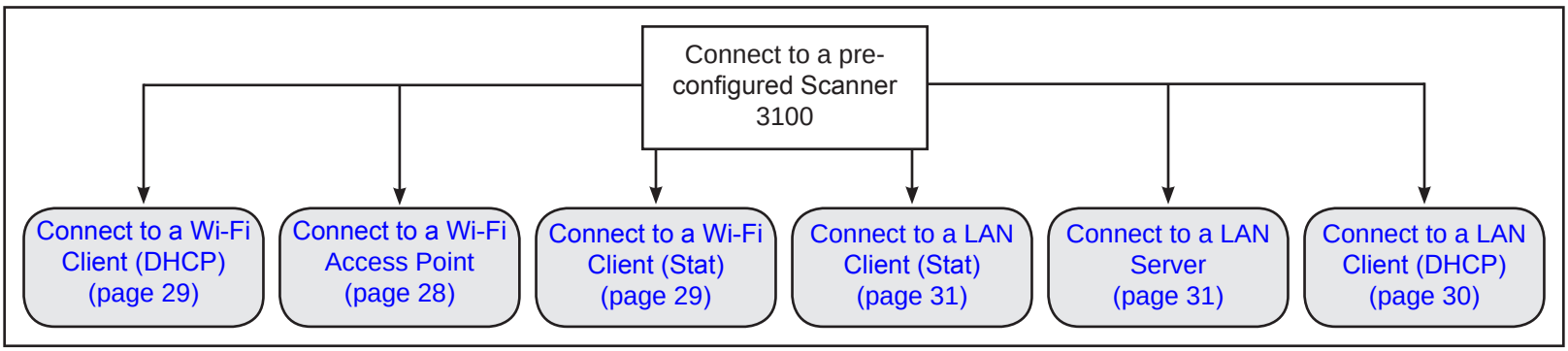

Figure 7 - Scanner 3100 network connection options flow chart

Section 2 - CONNECTING TO THE SCANNER 3100 FOR THE FIRST TIME

When first connecting to the Scanner 3100 and a wireless connection has not been configured yet, you will have to connect through the Ethernet port to configure the wireless network or to further configure the Ethernet network. Once connected, you can then proceed to configure either a Wireless Access Point or a Wireless Client, or a wired network as a DHCP client or DHCP server.

There are two ways in which the Scanner 3100 can be connected to the Ethernet for the first time: connecting to an existing managed network, or connecting directly to the Scanner 3100 without a managed network - “Stand alone Ethernet Access”.

Depending on the network you are connecting to, the Scanner 3100 may have to operate as a DHCP Client (existing managed network) or as a DHCP Server (Stand-Alone Ethernet Access). The Scanner 3100 network interface can be changed from the Scanner 3100 keypad.

Figure 8 shows the effects of entering and exiting the Stand Alone mode. The instructions below will tell you how and when to activate these modes.

Stand-Alone Ethernet Access Mode	Keypad Combination	Without Advanced Networking Option Installed	With Advanced Networking Option Installed
OFF (default)	ACCESS+LEFT	DHCP Client Enabled Scanner 3100 continually searches for server until found. All network parameters granted by server.	DHCP Client Enabled Scanner 3100 continually searches for server until found. All network parameters granted by server. When enabling mode, the network may reset.
ON	ACCESS+UP	Static Network Settings Scanner 3100 sets network to user configured settings. Client Defaults: IP Address: 192.168.0.40 Default Gateway: 192.168.0.254 Subnet Mask: 255.255.255.0 Primary DNS Server: 194.25.2.129 Secondary DNS Server: 194.25.2.130	DHCP Server Enabled Scanner 3100 manages the Ethernet network. Scanner 3100 will grant an address to any directly connected computer. When enabling mode, the network may reset. Server Defaults: IP Address: 192.168.0.40 Default Gateway: 192.168.0.254 Subnet Mask: 255.255.255.0 Primary DNS Server: 194.25.2.129 Secondary DNS Server: 194.25.2.130 Client Settings Defaults: Start IP Address: 192.168.0.100 Maximum Clients: 5 Lease Time: 12 hours

Figure 8 - Stand-Alone Ethernet Access Modes

Connecting the Scanner 3100 to an existing managed network

Follow the steps in this section if you are connecting the Scanner 3100 for the first time using an existing work or home network which is managed by a router or server.

IMPORTANT Place hand over the left hand side of the Scanner 3100 LCD for 8 seconds to wake up the gesture detection mode.

1. Configure the Scanner 3100 as a “LAN Client (DHCP)” using the keypad on the Scanner 3100 faceplate:
   a. Press **<ACCESS>** and **<LEFT>** keypad buttons together at the same time (Refer to Figure 8).
   b. Release the buttons at the same time.
   c. Wait 3 seconds and a **`Ethernet Mode Stand-Alone Off`** message will appear.
   d. The Scanner 3100 will restart the network configurations. A **`Restarting Network`** message will appear on the device and the restart will take 90 seconds.

2. To confirm if the Scanner 3100 is configured as a LAN Client (DHCP), cover the left side of the Scanner 3100 LCD and after 3 seconds a window will appear as shown in Figure 9. The lower section of the window will show the **`LAN Client (DHCP)`**.

3. Connect the Scanner 3100’s Ethernet Port to the managed network with an Ethernet cable.

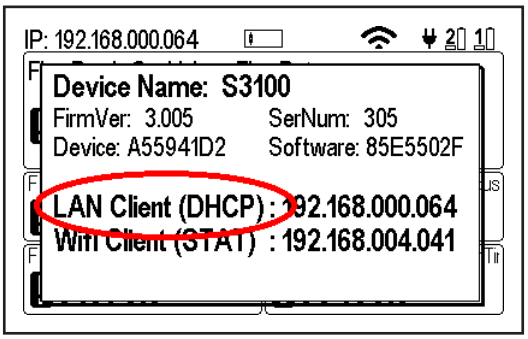

Figure 9 - LAN Client (DHCP)

4. On the Scanner 3100 faceplate, top left corner of LCD:
   a. A **`Not Connected`** or **`Link Searching`** message may appear while the Scanner is negotiating its IP address.
   b. The IP address appears (see Figure 10).

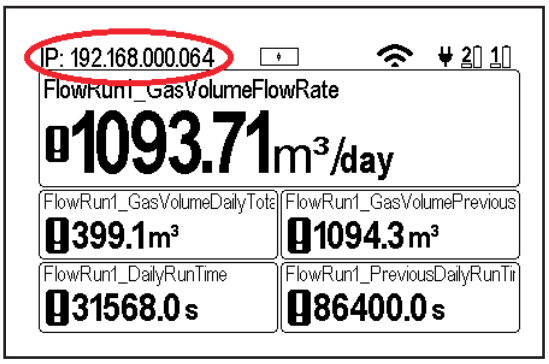

Figure 10 - IP Address

5. Open any Web Browser (e.g. Chrome, Internet Explorer, Safari, etc.):
   a. Type the IP address from the top left hand corner of the Scanner 3100 LCD into the browser’s address bar, as shown on Figure 11. You may also enter **`http://scanner`** if there is only one scanner on the network.

Figure 11 - Web browser entry of IP Address

b. The Scanner 3100 home page will appear as shown in Figure 12.

Figure 12 - Scanner 3100 Login Screen

6. Log into the Scanner 3100 using the following default credentials:

   User Name – **admin** and Password – **scanner**.
   Note: User names and passwords are case sensitive.

7. Click on the **Login** button and now you are successfully connected to the Ethernet for the first time using LAN Server (DHCP).

Now the Scanner 3100 has been successfully setup to connect to the Ethernet directly over a managed network, you now have the option to either: Configure the Scanner 3100 as a Wireless Access Point (page 11), or Configure the Scanner 3100 as a Wireless Client (page 15).
However, if you want to further configure the Ethernet settings on the Scanner 3100 go to Section 4 - CONFIGURING AN ETHERNET NETWORK (page 19).

Connecting directly to the Scanner 3100 without a managed network – Stand-Alone Ethernet Access

Follow the steps in this section if you are connecting the Scanner 3100 for the first time when there is no existing managed network for the Scanner 3100 to connect to (Stand-Alone Access). These steps will setup the Scanner 3100 as a DHCP Server and the Scanner 3100 will issue an IP address a device (e.g. laptop, PC) connected to it through an ethernet cable.

IMPORTANT Place hand over the left hand side of the Scanner 3100 LCD for 8 seconds to wake up the gesture detection mode.

1. Configure the Scanner 3100 as a “LAN Server” using the keypad on the Scanner 3100 faceplate:
   a. Press **<ACCESS>** and **<UP>** keypad buttons together at the same time (Refer to Figure 8).
   b. Release the buttons at the same time.
   c. Wait 3 seconds and a **`Ethernet Mode Stand-Alone On`** message will appear.

d. The Scanner 3100 will restart the network configurations. A **`Restarting Network`** message will appear on the device and the restart will take 90 seconds.

2. To confirm if the Scanner 3100 is connected as a LAN Server, cover the left side of the Scanner 3100 LCD and after 3 seconds a window will appear as shown in Figure 13. The lower section of the window will show the **`LAN Server`**.

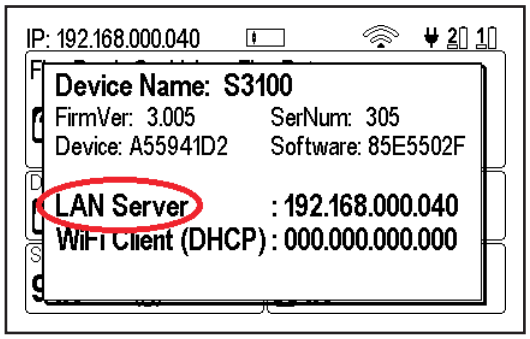

Figure 13 - LAN Server

3. Plug in the Scanner 3100 directly into the device (laptop) with an Ethernet cable.

4. On the Scanner 3100 faceplate, top left corner of LCD:
   a. A **`Not Connected`** or **`Link Searching`** message may appear while the Scanner is negotiating the IP address.
   b. The IP address appears (see Figure 14).

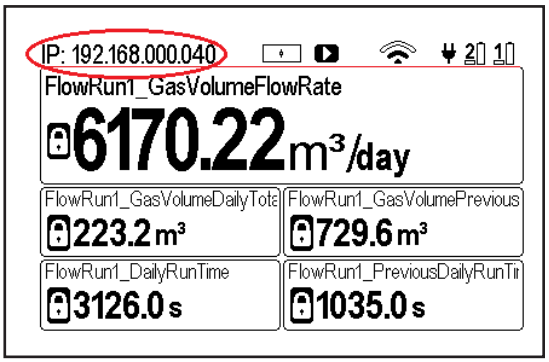

Figure 14 - IP Address

5. Open any Web Browser (e.g. Chrome, Internet Explorer, Safari, etc.):
   a. Type the IP address from the top left hand corner of the Scanner 3100 LCD into the browser's address bar, as shown in Figure 15.

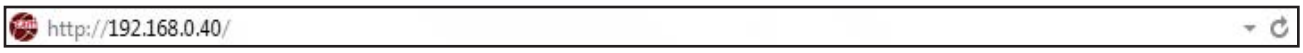

Figure 15 - Web browser entry of IP Address

The Scanner 3100 home page will appear as shown in Figure 16.

Figure 16 - Scanner 3100 Login Screen

6. Log into the Scanner 3100 using the following default credentials:

   User Name – **admin** and Password – **Scanner**.
   Note: User names and passwords are case sensitive.

7. Click on the **Login** button and now you are successfully connected to the Ethernet for the first time using the Scanner 3100 as the LAN Server.

Now the Scanner 3100 has been successfully setup to connect to the Ethernet directly over a unmanaged network (stand-alone), you now have the option to either: Configure the Scanner 3100 as a Wireless Access Point (page 11), or Configure the Scanner 3100 as a Wireless Client (page 15).
However, if you want to further configure the Ethernet settings on the Scanner 3100 go to Section 4 - CONFIGURING AN ETHERNET NETWORK (page 19).

Section 3 - CONFIGURING A WIRELESS NETWORK

Now the Scanner 3100 has been successfully setup with an Ethernet connection, you can configure the wireless network. There are two ways to configure the Scanner 3100 on a wireless network, either a Wireless Access Point or a Wireless Client.

Configure the Scanner 3100 as a Wireless Access Point

1. When the Device Status screen appears, select **Administration→Network** from the main toolbar above the Status screen as shown in Figure 17.

Figure 17 - Navigation to Network menu item

2. Click the **Wi-Fi** button located on the left side toolbar. The Wi-Fi Configuration screen will appear as shown in Figure 18.

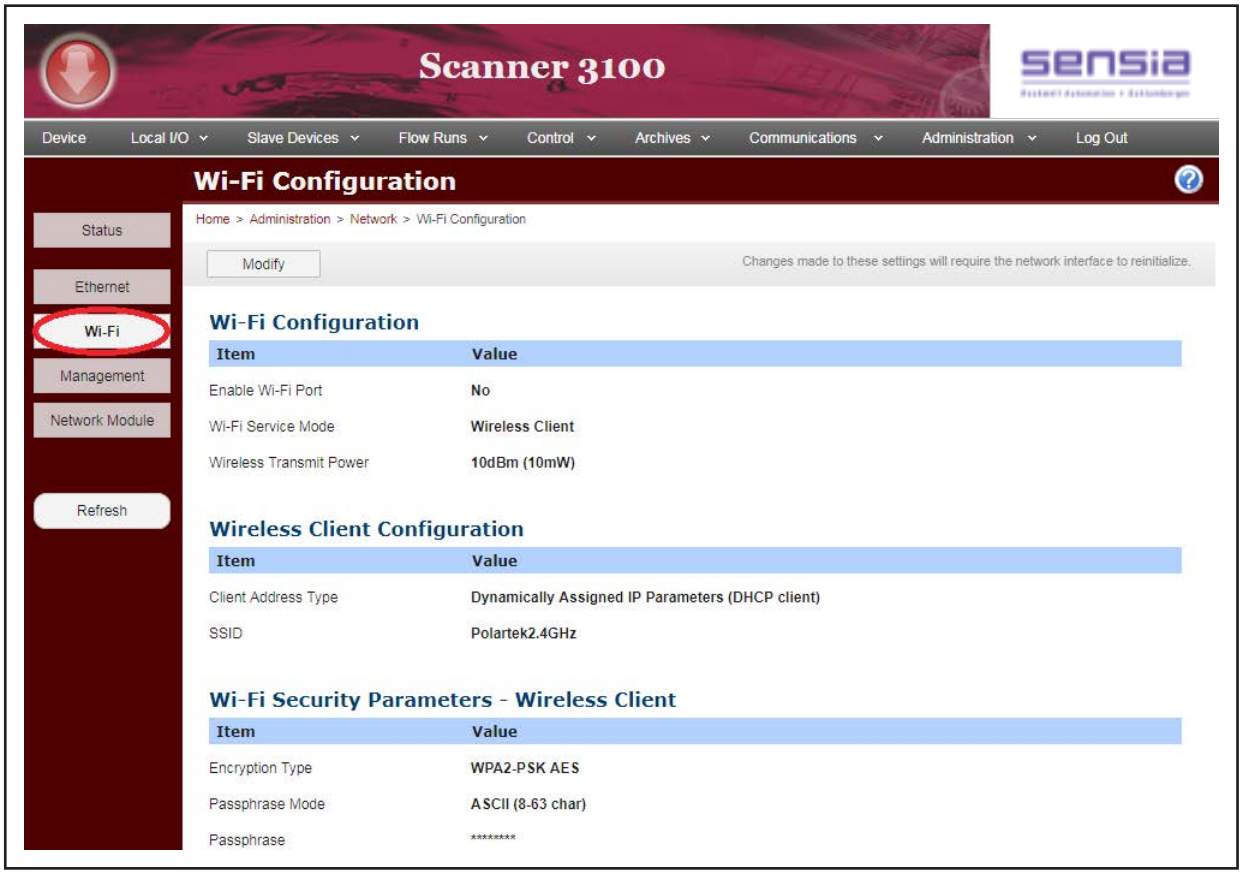

Figure 18 - View Wi-Fi Configuration screen

3. Click **Modify** button to change the Wi-Fi settings.

4. Under the ‘Wi-Fi Configuration’ heading;
   a. On the Enable Wi-Fi Port field select ‘Yes’ to enable the Wi-Fi port or ‘No’ to disable the Wi-Fi port from the dropdown list.
   b. To configure the device to act as a wireless access point, click on the Wi-Fi Service Mode field and select ‘Wireless Access Point’ from the Change Wi-Fi Service Mode dialog, as shown in Figure 19.
   c. Select the wireless transmit power from the Wireless Transmit Power dropdown list.

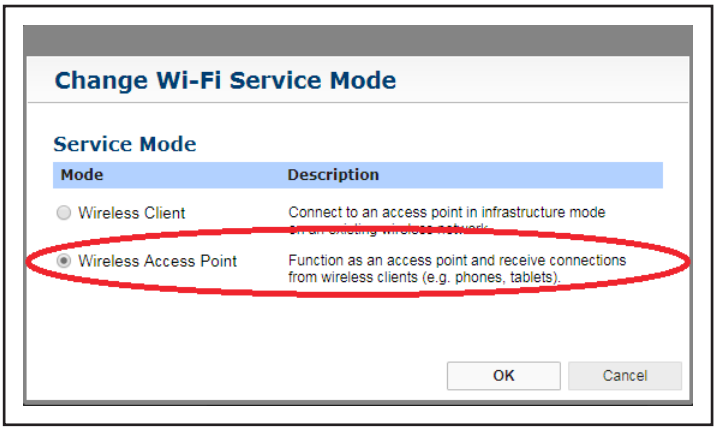

Figure 19 - Change Wi-Fi Service Mode dialog

5. Under the ‘Access Point Configuration’ heading (which will only appear if you select Wireless Access Point as the service mode), as shown on Figure 20.

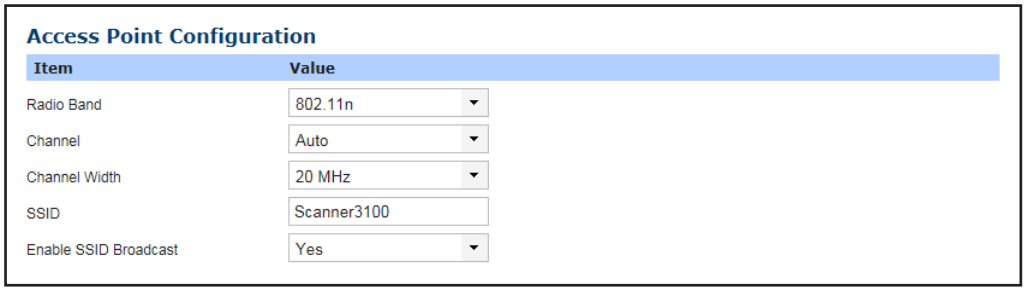

Figure 20 - Access Point Configuration section on the Modify Wi-Fi Configuration screen

   a. Select the Radio Band from the dropdown list. If you are unsure what the band is, choose 802.11n.
   b. Select the Channel from the dropdown list or select ‘Auto’ to automatically connect to the channel.
   c. Select the Channel Width from the dropdown list.
   d. Type the SSID of the device into the SSID field. The default SSID is ‘Scanner3100’.

IMPORTANT Each device must have a unique SSID.

   e. On the Enable SSID Broadcast field select ‘Yes’ to broadcast the device’s SSID or select ‘No’ to not broadcast the device’s SSID, and you will have to manually enter the correct SSID on the connecting devices. The SSID field is not tolerant of variations and a mistake will prevent a device from connecting wirelessly to the Scanner 3100.

6. Under the ‘Wi-Fi Security Parameters – Access Point’ heading, as shown on Figure 21;

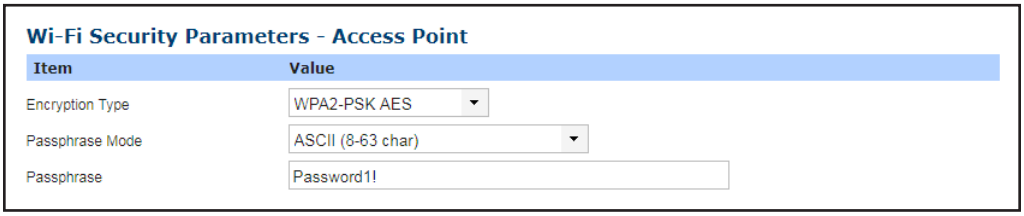

Figure 21 - Wi-Fi Security Parameters-Access Point section on Modify Wi-Fi Configuration screen

a. Select the Encryption Type from the dropdown list. Cameron recommends the ‘WPA2-PSK AES’ encryption type because it offers a high level of security.

b. Select the Passphrase Mode from the dropdown list. The selections will change depending on the Encryption Type selected.

c. Enter the Passphrase for the encrypted Wi-Fi device in the field provided.

7. Under the ‘IP Configuration – Access Point’ heading, as shown in Figure 22;

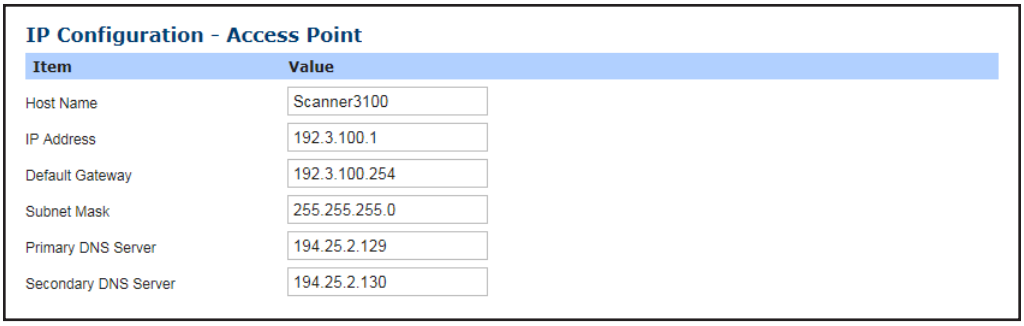

Figure 22 - IP Configuration - Access Point section on the Modify Wi-Fi Configuration screen

a. Enter the Host Name in the Host Name field.

b. Enter the IP Address in the IP Address field.

c. The remaining fields will self-populate.

IMPORTANT Make sure the Wi-Fi subnet entered is different to the Ethernet subnet, if not this conflict will cause the Scanner 3100 to shut down the Wi-Fi network. The message you will see on the web interface is shown in Figure 23.

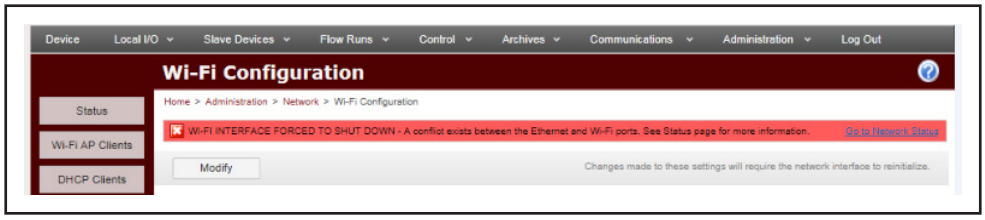

Figure 23 - Wi-Fi & Ethernet Conflict message

8. Under the ‘DHCP Server Configuration’ heading, as shown in Figure 24;

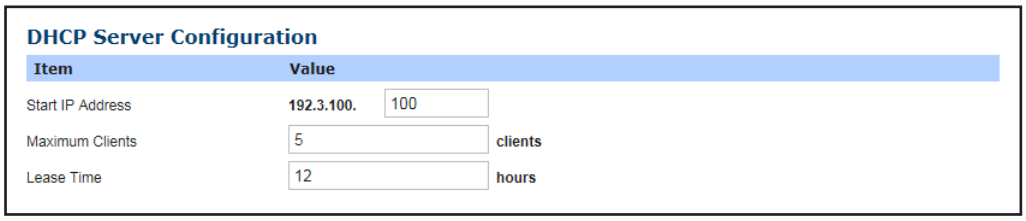

Figure 24 - DHCP Server Configuration section on the Modify Wi-Fi Configuration screen

a. Start IP Address field; as an Access Point, the Scanner 3100 manages the wireless network, enter the starting IP subnet address to define which addresses the Scanner 3100 will assign to connecting clients.

b. The Maximum Clients field, enter the maximum number of clients your Scanner-managed network can have at one time. The minimum and maximum number of clients is 1 and 10.

c. Lease Time field, enter the contract time before an assigned address will be released if its lease is not renewed. The minimum and maximum lease time is 1 and 24.

9. Under the ‘Wi-Fi Access Control’ heading as shown on Figure 25;

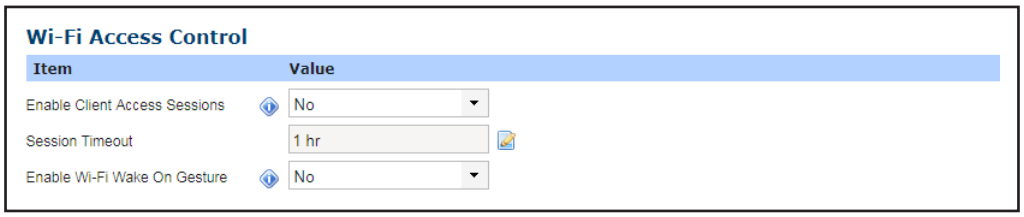

Figure 25 - Wi-Fi Access Control section on the Modify Configuration screen

a. On the Enable Client Access Sessions dropdown field and select ‘Yes’ or ‘No’. When the Wi-Fi Port is enabled in Access Point service mode, Client Access Sessions can be used to limit access by Wi-Fi clients by disabling the wireless network until it is manually activated.

b. Sessions can be initiated via a Modbus register command, a digital input special function, or by gesture detection. Active Wi-Fi service is maintained during a session while there is network activity from a connected client, but if the timeout period expires without communication, the Wi-Fi service is turned off and the session is closed - as shown in Figure 26 and Figure 27.

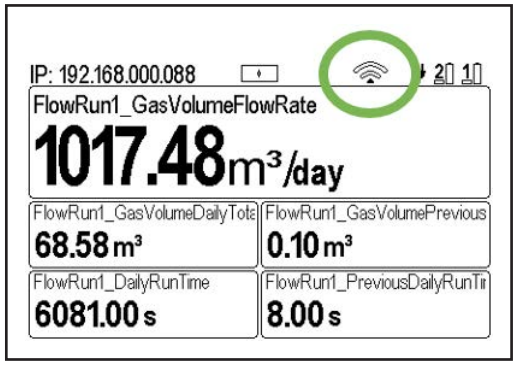

Figure 26 - Client Access Off

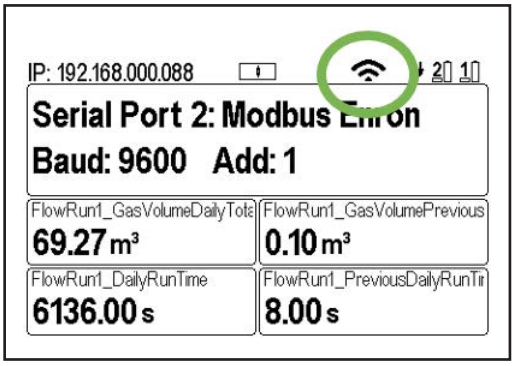

Figure 27 - Client Access On

c. Click on the Session Timeout field to set the time when the client session should be automatically timed out. To reset the device timeout session, log out of the current session or cover the left side of the Scanner LCD for approximately 8 seconds if the Wi-Fi Wake On Gesture feature is enabled.

d. On the Enable Wi-Fi Wake on Gesture dropdown list, select 'Yes' to enable the feature. To disable the feature select 'No'. When the Wake On Gesture feature is enabled, covering the right side of the Scanner 3100 for a few seconds will activate a Client Access Session.

10. Click the Save button to accept the changes. The system will write the changes and reset the wireless configuration settings. All networks will be shut down and restarted after 90 seconds.

Configure the Scanner 3100 as a Wireless Client

1. When the Device Status screen appears, select **Administration→Network** from the main toolbar above the Status screen as shown in Figure 28.

Figure 28 - Navigation to Network menu item

2. Click the **Wi-Fi** button located on the left side toolbar. The Wi-Fi Configuration screen will appear as shown in Figure 29.

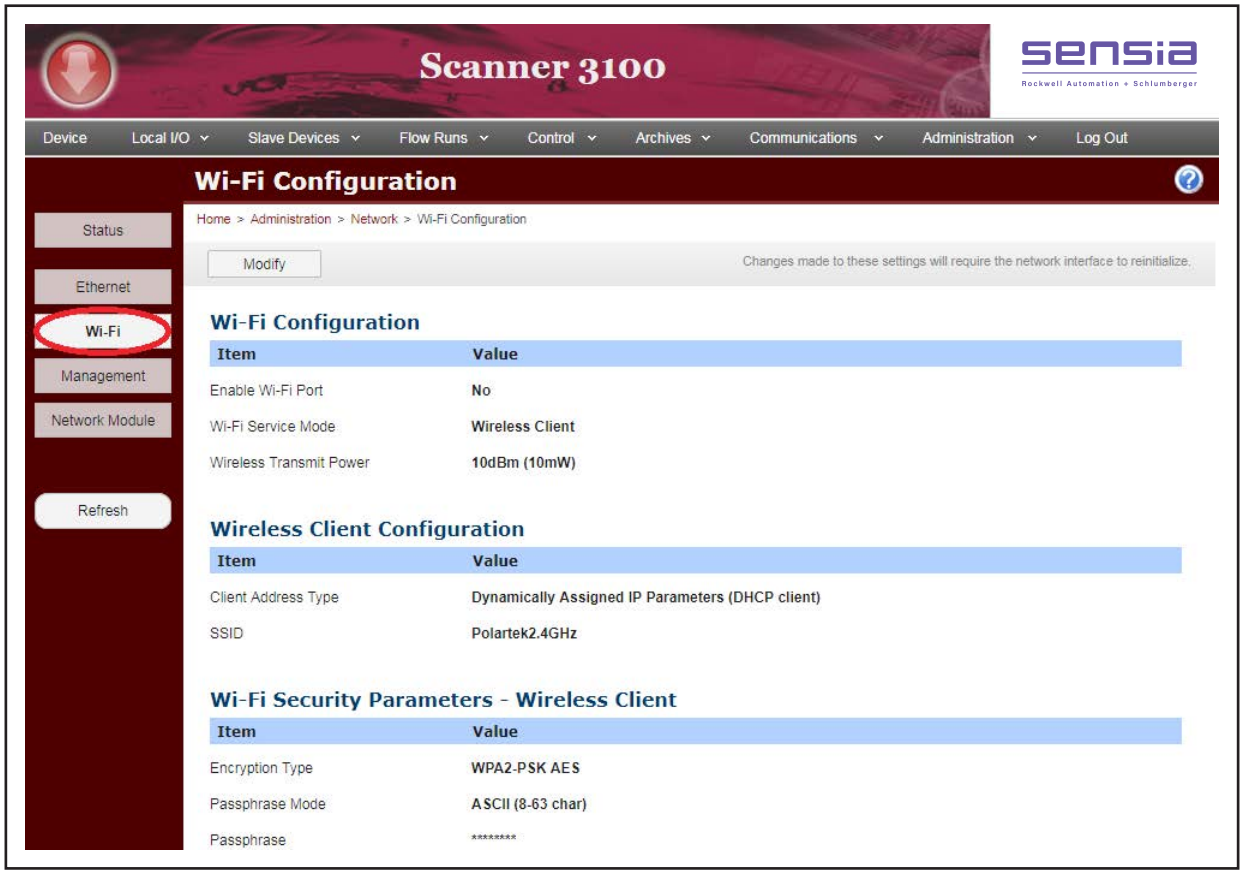

Figure 29 - View Wi-Fi Configuration screen

3. Click the **Modify** button to change the Wi-Fi settings.

4. Under the 'Wi-Fi Configuration' heading, as shown on the Figure 30;

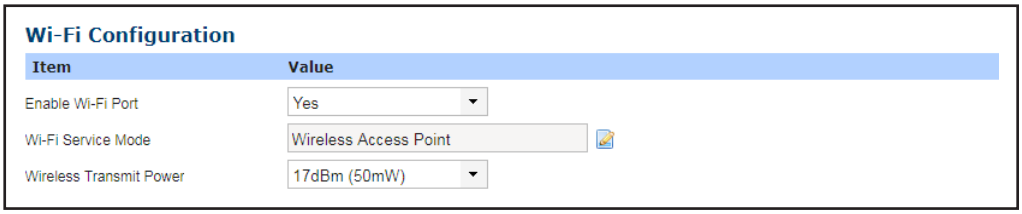

Figure 30 - Wi-Fi Configuration section on the Modify Wi-Fi Configuration screen

a. On the Enable Wi-Fi Port field select 'Yes' to enable the Wi-Fi port or 'No' to disable the Wi-Fi port from the dropdown list.

b. To configure the device to connect to an existing wireless network as wireless client, click on the Wi-Fi Service Mode field and select 'Wireless Client' from the Change Wi-Fi Service Mode dialog, as shown in Figure 31.

c. Select the wireless transmit power from the Wireless Transmit Power dropdown list.

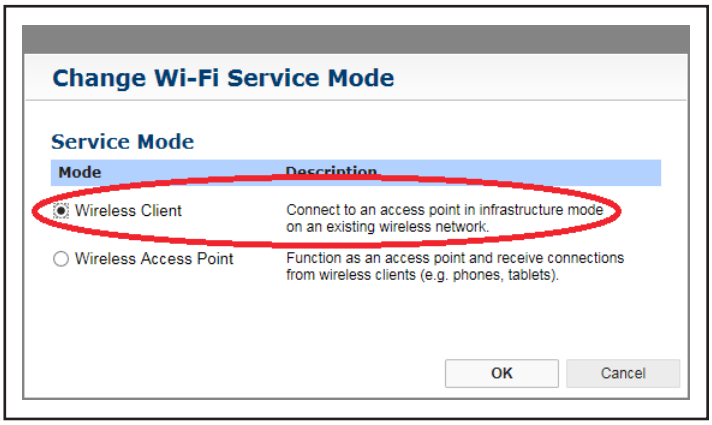

Figure 31 - Change Wi-Fi - Service Mode dialog

5. Under the 'Wireless Client Configuration' heading, as shown on Figure 32;

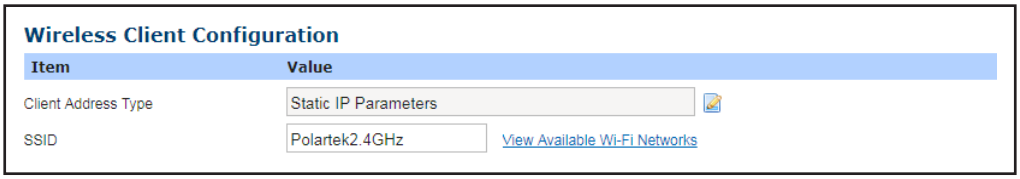

Figure 32 - Wireless Client Configuration section on the Modify Wi-Fi Configuration dialog

a. Click on the Client Address Type field and select whether the IP address should be automatically assigned (Dynamically Assigned) or manually assigned (Static), as shown on Figure 33.

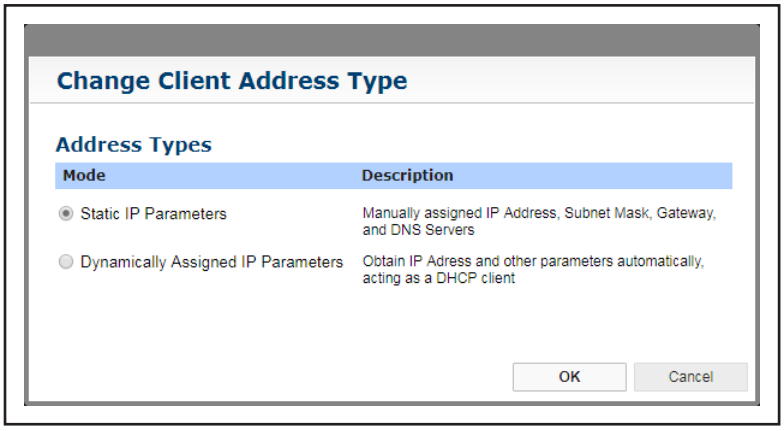

Figure 33 - Change Client Address Type dialog

IMPORTANT Make sure the Wi-Fi subnet entered is different to the Ethernet subnet, if not this conflict will cause the Scanner 3100 to shut down the Wi-Fi network.

This message you will see on the web interface is shown in Figure 34.

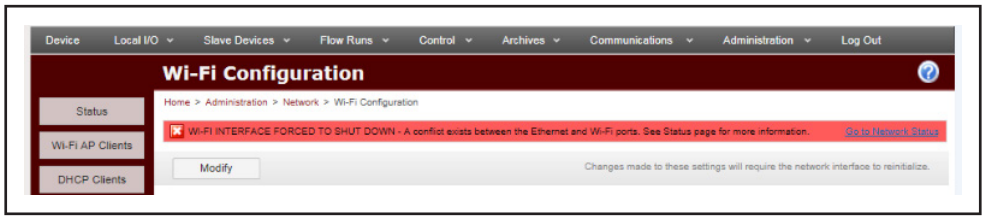

Figure 34 - Wi-Fi & Ethernet Conflict message

b. Enter the Wi-Fi network SSID or click **View Available Wi-Fi Networks** and select a wireless network from the available list as shown in Figure 35.

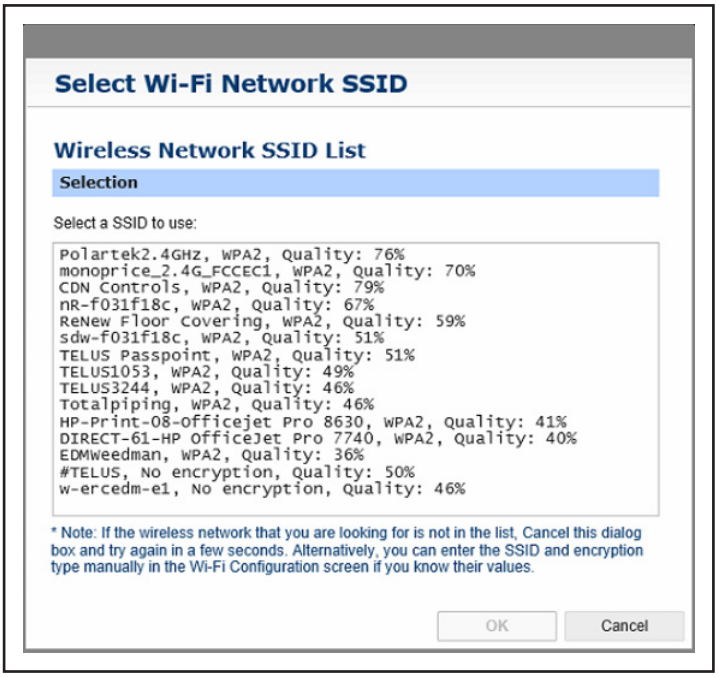

Figure 35 - Select Wi-Fi Network SSID dialog

6. Under the 'Wi-Fi Security Parameters – Wireless Client' heading, as shown on Figure 36;
   a. Select an Encryption Type that matches the target access point's encryption type from the dropdown list. If the access point was selected using the View Available Wi-Fi Networks feature, the encryption type will be selected for you.
   b. Select a Passphrase Mode required by the target access point from the drop-down list. The selections will change depending on the Encryption Type selected.
   c. Enter a Passphrase for the encrypted Wi-Fi device.

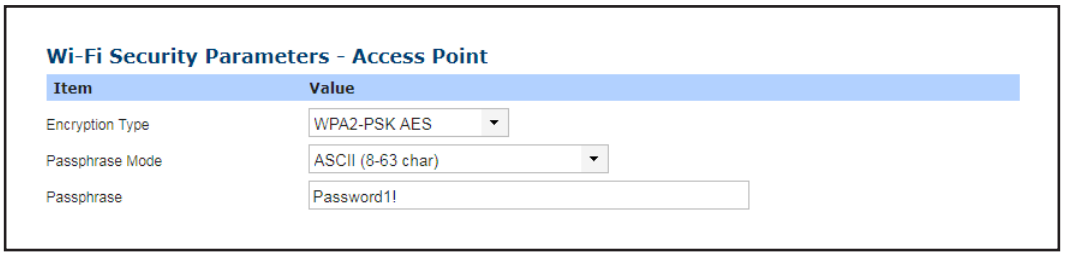

Figure 36 - Wi-Fi Security Parameters-Access Point section on Modify Wi-Fi Configuration screen

7. Under the ‘Static IP Configuration – Wireless Client’ heading as shown in Figure 37;

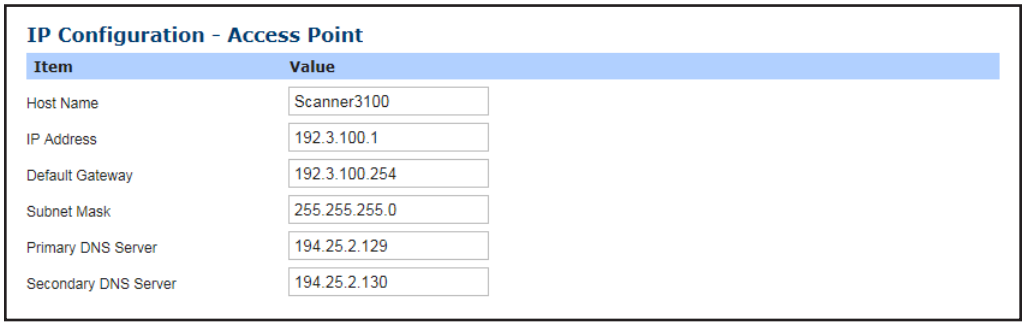

Figure 37 - IP Configuration - Access Point section on the Modify Wi-Fi Configuration screen

a. Enter a Host Name into the Host Name field.
b. Enter an IP Address into the IP Address field.
c. Enter a Default Gateway into the Default Gateway field.
d. Enter a Subnet Mask into the Subnet Mask field.
e. Enter a Primary DNS Server into the Primary DNS Server field.
f. Enter a Secondary DNS Server into the Secondary DNS Server field.

This section will only appear when Static IP Parameters is selected as the Client Address Type from Wireless Client Configuration section.

8. Click the **Save** button to accept the changes. The system will write the changes and reset the wireless configuration settings. All networks will be shut down and restarted after 90 seconds.

Section 4 - CONFIGURING AN ETHERNET NETWORK

Configure the Scanner 3100 over Ethernet

Now you have the Scanner 3100 setup as a DHCP Client or DHCP Server, this section will describe the way in which you can now configure your Scanner 3100 with the Ethernet connection.

Configure the Scanner 3100 as an Ethernet Client

This section describes how to configure the Scanner 3100 as an Ethernet Client which will connect to a wired network, using either static or dynamic IP address.

1. When the Device Status screen appears, select **Administration→Network** from the main toolbar above the Status screen as shown in Figure 38.

Figure 38 - Navigation to Network menu item

2. Click the **Ethernet** button located on the left side toolbar. The Ethernet Configuration screen will appear as shown in Figure 39.

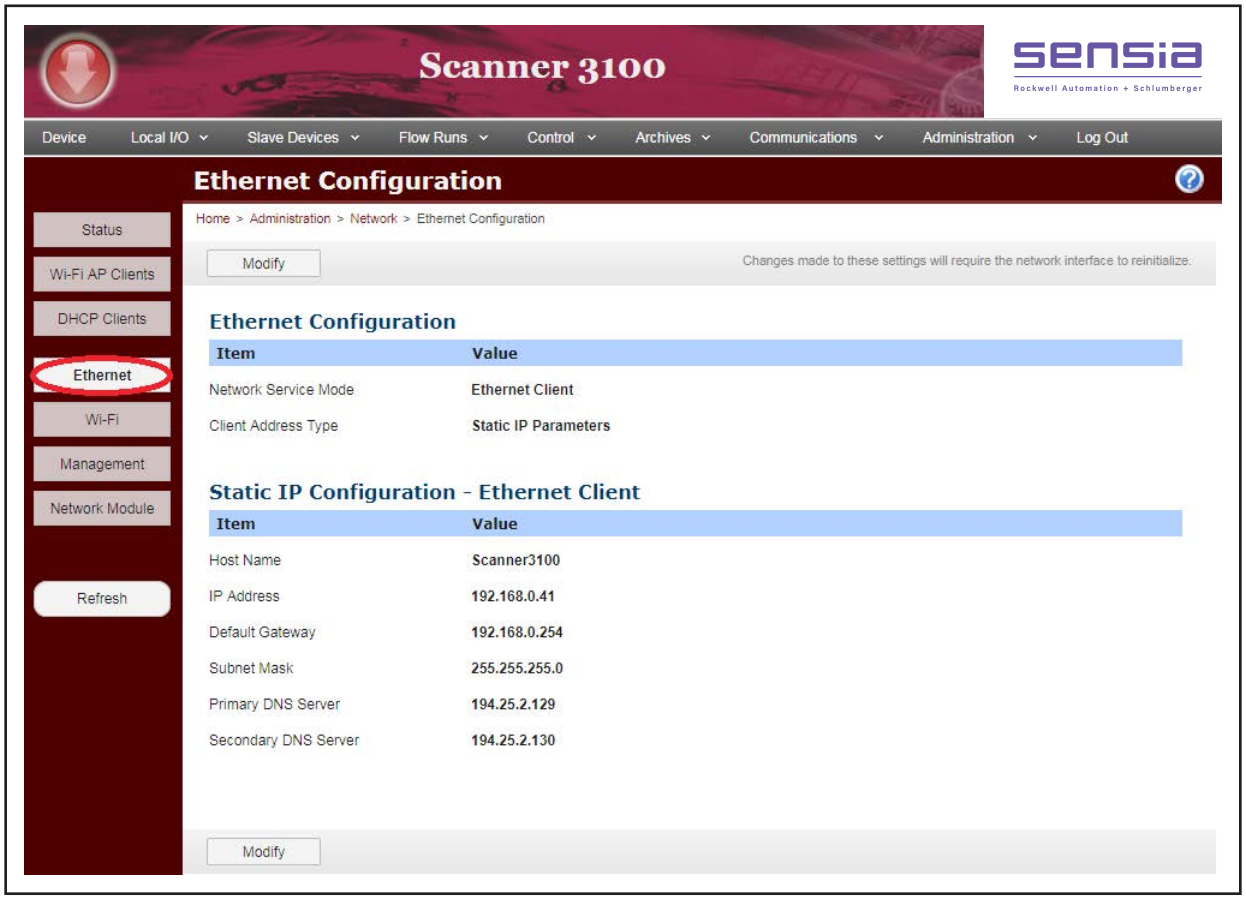

Figure 39 - View Ethernet Configuration screen

3. Click the **Modify** button to change the Ethernet settings.

4. Select 'Ethernet Client' from the Change Ethernet Port Mode dialog and click the **OK** button as shown in Figure 40.

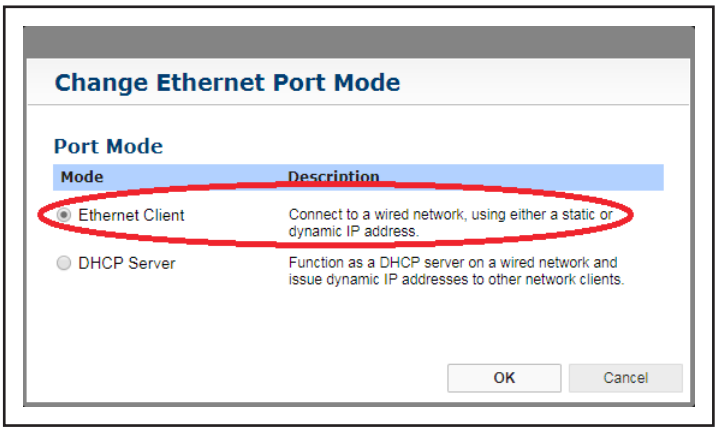

Figure 40 - Change Ethernet Port Mode dialog

5. Select one of the Address Types from the Change Client Address Type dialog as shown in Figure 41.

6. Click on the OK button on the Change Client Address Type dialog.
   a. If you selected 'Dynamically Assigned IP Parameters' skip ahead to Step 8.
   b. If you selected 'Static IP Parameters' continue to Step 7.

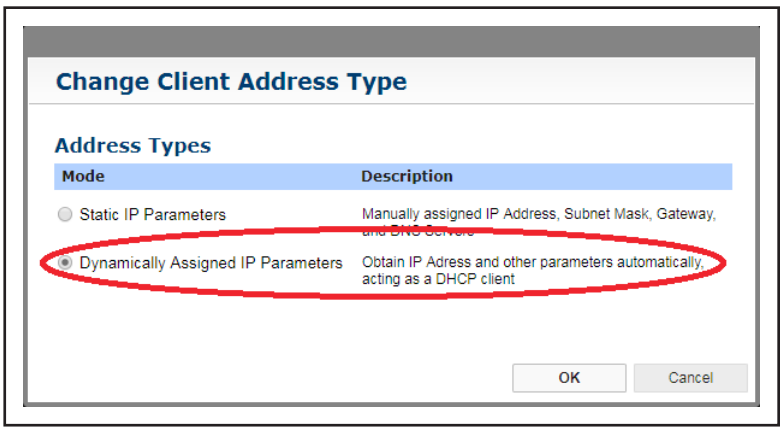

Figure 41 - Change Client Address Type dialog

7. Under the 'Static IP Configuration – Ethernet Client' heading enter the Host Name , IP Address, Default Gateway, Subnet Mask, Primary DNS Server and Secondary DNS Server into the provided fields as shown in Figure 42.

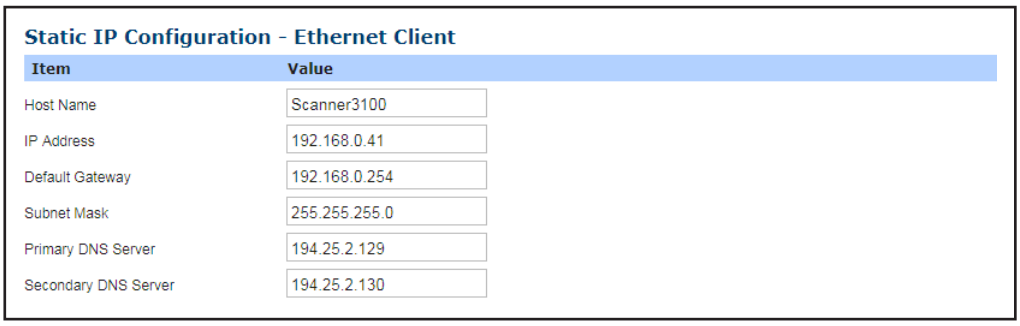

Figure 42 - Static IP Configuration – Ethernet Client section on the Modify Ethernet Configuration screen

8. Click the **Save** button on the Modify Ethernet Configuration screen to accept the changes.

9. A Confirmation dialog appears as shown in Figure 43 and click on the **OK** button.

10. The Scanner 3100 will restart the network configurations. A **`Restarting Network`** message will appear on the device and the restart will take 90 seconds.

11. While waiting for the IP Address to appear on the Scanner 3100 LCD in the top left hand corner, a message may appear in the top left hand corner of the Scanner LCD **`Not Connected`** or **`Link Searching`**.

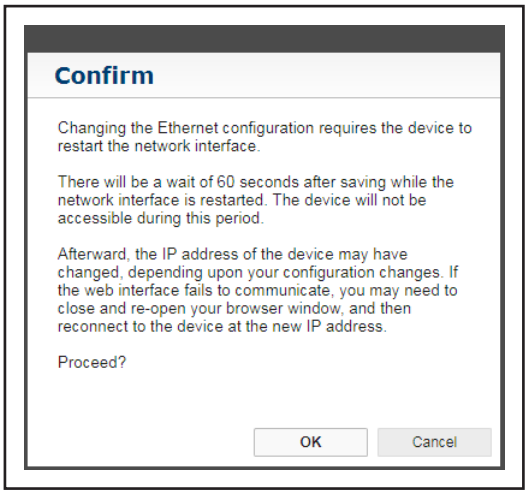

Figure 43 - Confirm Ethernet Configuration changes

IMPORTANT Place hand over the left hand side of the Scanner 3100 LCD for 8 seconds to wake up the gesture detection mode.

12. To confirm the new network settings are correct on the Scanner 3100, cover the left side of the Scanner 3100 LCD and after 3 seconds a window will appear as shown in Figure 44. The lower section of the window will show **`LAN Client (STAT)`**.

13. Open the Web Browser and log back into the network:

    a. Type in the IP address from the top left hand corner of the Scanner 3100 LCD. For example, see IP Address on Figure 44 entered into the browser on Figure 45.

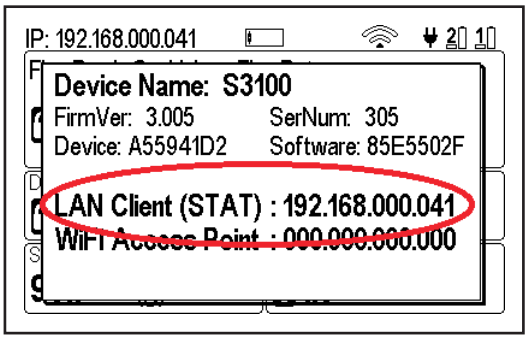

Figure 44 - LAN Client (Static)

Figure 45 - Web browser entry of IP Address

b. The Scanner 3100 home page will appear as shown in Figure 46.

Figure 46 - Scanner 3100 Login Screen

14. Log into the Scanner 3100 using the following default credentials:

    User Name - **admin** and Password - **scanner**.
    Note: User Names and passwords are case sensitive.

15. Click on the **Login** button and now you are successfully connected.

Configure the Scanner 3100 as a DHCP Server

This section will describe how to configure the Scanner 3100 as a DHCP server on a wired network and issue dynamic IP address to other network clients.

1. When the Device Status screen appears, select **Administration→Network** from the main toolbar above the Status screen as shown in Figure 47.

Figure 47 - Navigation to Network menu item

2. Click the **Ethernet** button located on the left side toolbar. The Ethernet Configuration screen will appear as shown in Figure 48.

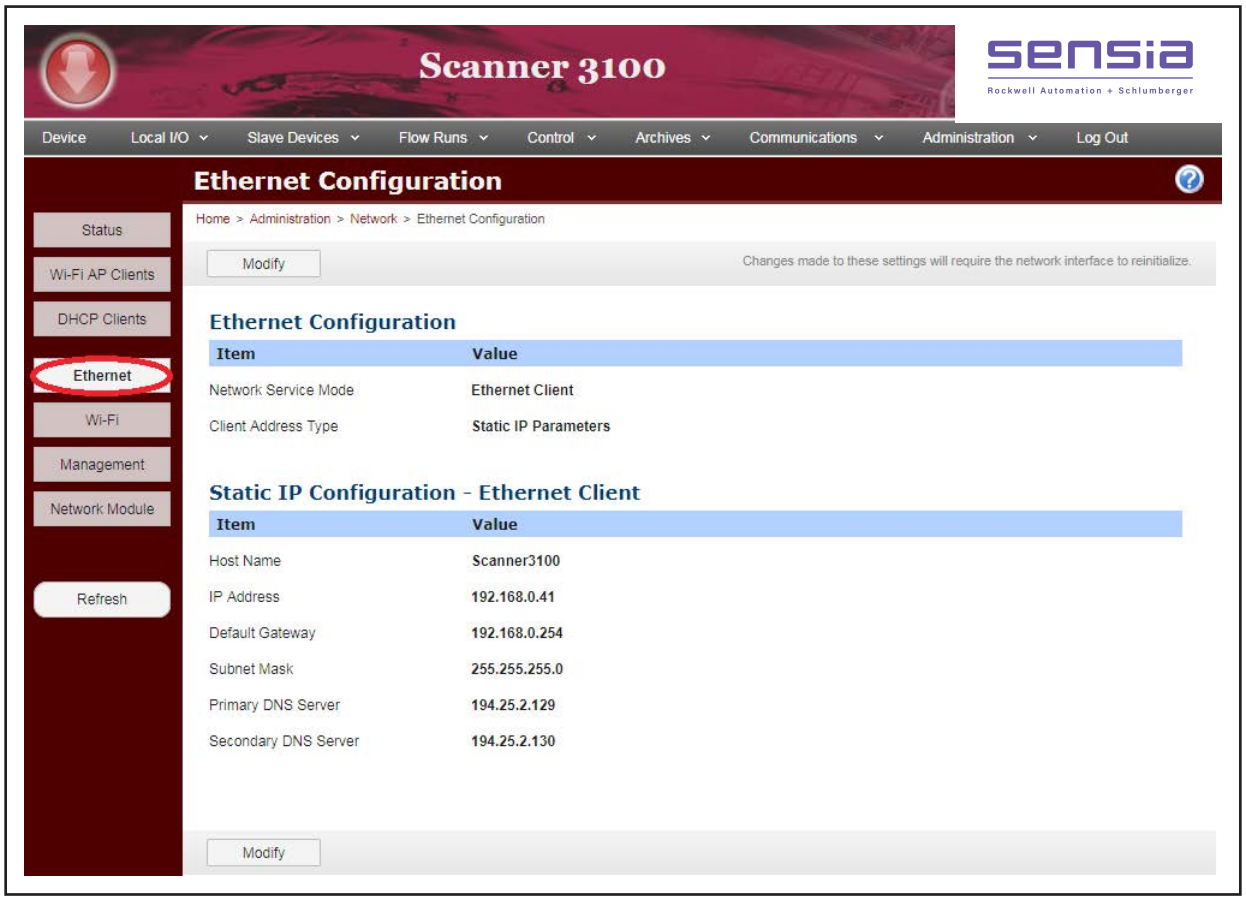

Figure 48 - View Ethernet Configuration screen

3. Click **Modify** to change the Ethernet settings.

4. Select 'DHCP Server' from the Change Ethernet Port Mode dialog and click on **OK** button as shown in Figure 49.

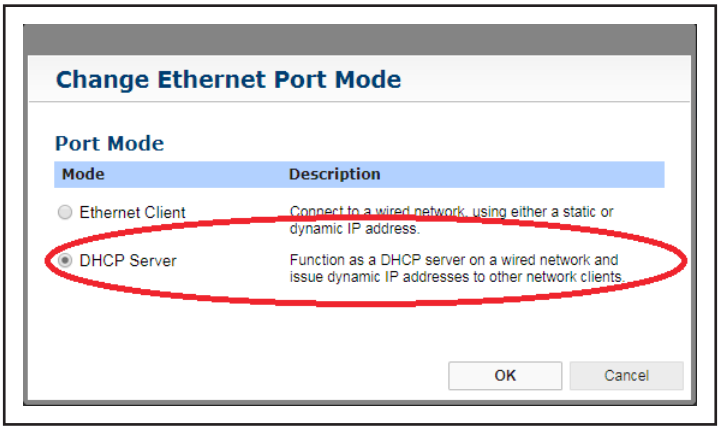

Figure 49 - Change Ethernet Port Mode dialog

5. Under the 'IP Configuration – DHCP Server' heading enter the Hosts Name, IP Address Default Gateway, Subnet Mask, Primary DNS Server and Secondary DNS Server into the provided fields as shown in Figure 50.

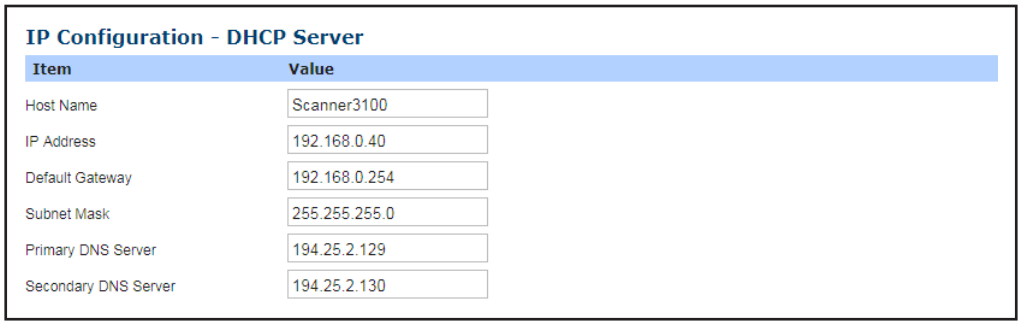

Figure 50 - DHCP Server section on the Ethernet Configuration screen

6. Under the 'DHCP Server Configuration' heading as shown in Figure 51:

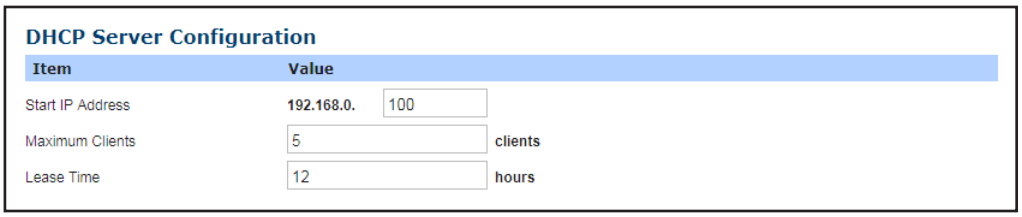

Figure 51 - DHCP Server Configuration section on the Modify Configuration screen

   a. Complete the IP address in the Start IP Address field. As a DHCP Server, the Scanner 3100 manages the wired network. Clients connecting to this network are assigned IP addresses starting at this value.

   b. Enter a value into the Maximum Clients field. This is the maximum number of clients your Scanner-managed network can have at one time. The minimum and maximum number of clients is 1 and 10.

   c. Enter a value into the Lease Time field. This is the number of hours before an assigned IP address will be released if its lease is not renewed. The minimum and maximum lease time is 1 and 24.

7. Click the **Save** button on the Modify Ethernet Configuration screen to accept the changes.

8. A Confirmation dialog appears as shown in Figure 52 and click on the **OK** button.

9. The Scanner 3100 will restart the network configurations. A **`Restarting Network`** message will appear on the Scanner 3100 LCD and the restart will take 90 seconds.

10. While waiting for the IP Address to appear on the Scanner 3100 LCD in the top left hand corner, a message may appear in the top left hand corner of the LCD **`Not Connected`** or **`Link Searching`**.

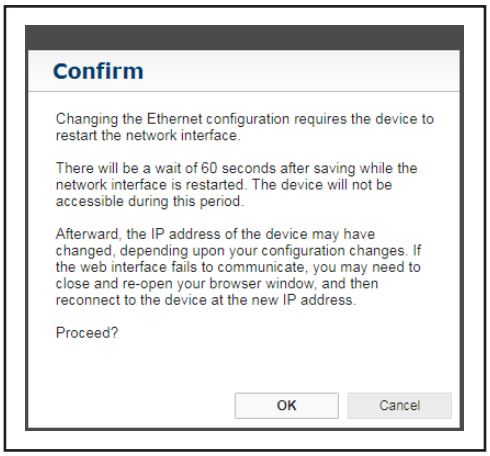

Figure 52 - Confirm Ethernet Configuration changes

IMPORTANT Place hand over the left hand side of the Scanner 3100 LCD for 8 seconds to wake up the gesture detection mode.

11. To confirm the new network settings are correct on the Scanner 3100, cover the left side of the Scanner 3100 LCD and after 3 seconds a window will appear as shown in Figure 53. The lower section of the window will show **LAN Server**.

12. Open the Web Browser and log back into the network:

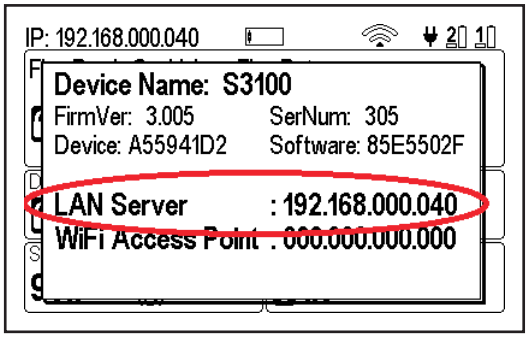

Figure 53 - LAN Server

Figure 54 - Web browser entry of IP Address

a. Type in the IP address from the top left hand corner of the Scanner 3100 LCD. For example, see IP Address on Figure 53 entered into the browser on Figure 54.

Figure 55 - Scanner 3100 Login Screen

b. The Scanner 3100 home page will appear as shown in Figure 55.

13. Log into the Scanner 3100 using the following default credentials:

User Name – **admin** and Password – **Scanner**.
Note: User Names and passwords are case sensitive.

14. Click on the **Login** button and now you are successfully connected.

Section 5 - CONNECTING TO A SCANNER 3100

Now your Scanner 3100 has been configured and you are on-site ready to connect your device (smart phone, tablet, laptop) to the Scanner 3100.
The following section will help to identify how a Scanner 3100 network is configured. If the Scanner 3100 network configuration is already known then skip down to Wi-Fi Network Configuration options (page 28) or the LAN Network Configuration options (page 30).
The Wi-Fi configuration options are able to connect to the Scanner 3100 using your personal Wi-Fi enabled device (smart phone, tablet, laptop).
The LAN configuration options are able to connect to the Scanner 3100 using your personal Ethernet enabled devices (laptop, PC).

Discovering a Scanner 3100 Network Configuration

This section will describe the process to locate the Wi-Fi & LAN network configuration on the Scanner 3100 and will also describe all the possible LAN & Wi-Fi configuration options.
These are the steps to locate the Scanner 3100 LAN & Wi-Fi network settings.

IMPORTANT Place hand over the left hand side of the Scanner 3100 LCD for 8 seconds to wake up the gesture detection mode.

1. On the Scanner 3100 cover the left side of the LCD.
2. After 3 seconds a window will appear that displays the LAN & Wi-Fi configuration settings in the Scanner 3100 LCD, as shown below in Figure 56.

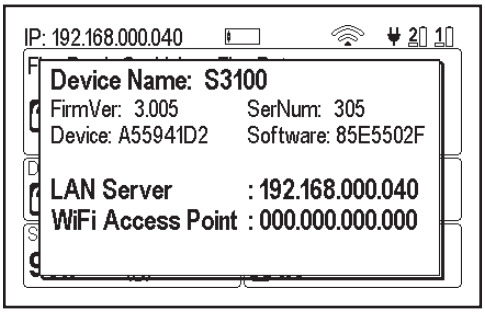

Figure 56 - LAN Server

IMPORTANT Pressing any button on the Scanner 3100 will disable the gesture detection for 20 seconds.

Wi-Fi Network Configuration options

The Scanner 3100 Wi-Fi network configuration has now been discovered and will be set to one of the following options: disabled, Wi-Fi Access Point, Wi-Fi Client (DHCP), or Wi-Fi Client (Stat).
The table below in Figure 57, describes the three Wi-Fi network configuration options available to the Scanner 3100:

Wi-Fi Network Configuration	Description of Network Configuration
Wi-Fi Access Point	**Wi-Fi Access Point Enabled** The Scanner 3100 is a Wi-Fi Access Point that will assign IP addresses to connecting devices. User Wi-Fi enabled devices can connect directly to the Scanner 3100
Wi-Fi Client (DHCP)	**Wi-Fi DHCP Client Enabled** The Scanner 3100 is a Wi-Fi client with a dynamically assigned address. When the Scanner connects to a local Wi-Fi network, the network's DHCP will grant it an address. User Wi-Fi enabled devices must connect to the local Wi-Fi network to reach the Scanner 3100.
Wi-Fi Client (Stat)	**Wi-Fi Static Client Enabled** The Scanner 3100 is a Wi-Fi client with a statically assigned address. The static network parameters are user defined. User Wi-Fi enabled devices must connect to the local Wi-Fi network to reach the Scanner 3100.

Figure 57 - Wi-Fi network configuration options

Connect to a Wi-Fi Access Point

Figure 58 shows the configuration window on a Scanner 3100 which has been configured as a Wi-Fi Access Point.

1. Configure your personal Wi-Fi enabled device as a wireless client using the configured Scanner 3100 SSID (network name) & password. When configuring the Scanner 3100, the device administrator will likely have chosen unique and private network credentials. These must be known to connect to the Scanner 3100. The default SSID is 'Scanner 3100' and the default password is blan k.
2. Allow time for your personal Wi-Fi enabled device to connect. The Scanner 3100 Access Point will grant your personal Wi-Fi enabled device an IP address.

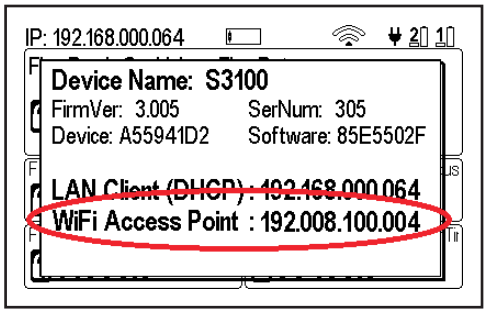

Figure 58 - Wi-Fi Access Point

3. Enter the Scanner 3100 IP address found on the window into the address line of a web browser. The Scanner 3100 IP address will be listed on the window after the **`Wifi Access Point`** label. As shown in the example on Figure 56, the Scanner 3100 Wi-Fi Access Point IP address is **`192.008.100.004`**. You may also enter **`http://scanner`** if this is the only scanner on this network.

Connect to a Wi-Fi Client (DHCP)

Figure 59 shows the configuration window on a Scanner 3100 which has been configured as a Wi-Fi Client (DHCP).

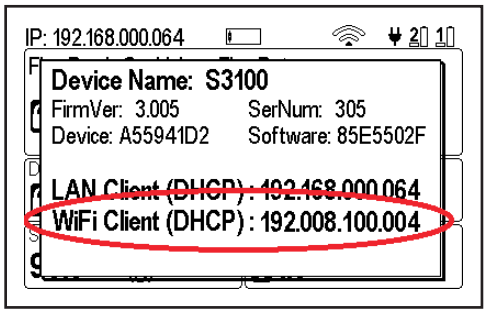

Figure 59 - Wi-Fi Client (DHCP)

1. Configure your personal Wi-Fi enabled device as a Wi-Fi DHCP client for a dynamic IP address assignment.
2. Connect your personal Wi-Fi enabled device to the same network the Scanner 3100 is connected to. The SSID and password of that network will have to be provided to you by the network administrator.
3. Allow time for your personal Wi-Fi enabled device to connect. The network DHCP server will grant your personal Wi-Fi enabled device an IP address.
4. Enter the Scanner 3100 IP address found on the window into the address line of a web browser. The Scanner 3100 IP address will be listed on the window after the **`Wifi Client (DHCP)`** label. As shown in the example on Figure 59, the Scanner 3100 Wi-Fi Client (DHCP) IP address is **`192.008.100.004`**.

Connect to a Wi-Fi Client (Stat)

Figure 60 shows the configuration window on a Scanner 3100 which has been configured as a Wi-Fi Client (Stat).

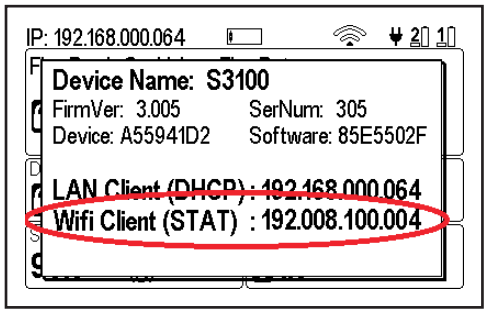

Figure 60 - Wi-Fi Client (Static)

1. Configure your personal Wi-Fi enabled device with a static IP address, which you know to not be used on the network but is on the same subnet as the Scanner 3100. A subnet is defined by the first three numbers of an IP address delimited by periods.
2. Connect your personal Wi-Fi enabled device to the same network the Scanner 3100 is connected to.
3. Confirm that the address is on the same subnet of the Scanner 3100 but is not the same IP address.
4. Enter the Scanner 3100 address found on the window into the address line of a web browser. The Scanner 3100 IP address will be listed on the window after the **`Wifi Client (STAT)`** label. As shown in the example on Figure 60, the Scanner 3100 Wi-Fi Client (Stat) IP address is **`192.008.100.004`**.

LAN Network Configuration options

The Scanner 3100 LAN network configuration has now been discovered and will be set to one of the following options: disabled , LAN Client (DHCP), LAN Client (Stat), or LAN Server.

The table below in Figure 61, describes the three LAN network configuration options available to the Scanner 3100:

LAN Network Configuration	Description of Network Configuration
LAN Client (DHCP)	**LAN DHCP Client Enabled** The Scanner 3100 is a LAN client with a dynamically assigned address. The Scanner 3100 must be connected to a managed network and the network's DHCP will grant it an address User Ethernet enabled devices must connect to the same managed network to reach the Scanner 3100.
LAN Client (Stat)	**LAN Static Client Enabled** The Scanner 3100 is a LAN client with a statically assigned address. When the Scanner 3100 connects to a managed network, the scanner will use its configured Static IP address. User Ethernet enabled devices must connect to the same managed network to reach the Scanner 3100.
LAN Server	**LAN DHCP Server Enabled** The Scanner 3100 is a LAN DHCP server that will assign IP addresses to connecting devices. User Ethernet enabled devices can connect directly to the Scanner 3100.

Figure 61 - LAN network configuration options

Connect to a LAN Client (DHCP)

Figure 62 shows the configuration window on a Scanner 3100 which has been configured as a LAN Client (DHCP).

1. Configure your personal Ethernet enabled device as a DHCP client for a dynamic IP address assignment.
2. Connect your personal Ethernet enabled device to the same network the Scanner 3100 is connected to. The SSID and password of that network will have to be provided to you by the network administrator.
3. Allow time for your personal Ethernet enabled device to connect. The network DHCP server will grant your personal Ethernet enabled device an IP address.
4. Enter the Scanner 3100 address found on the window into the address line of a web browser. The Scanner 3100 IP address will be listed on the window after the **`LAN Client (DHCP)`** label. As shown in the example on Figure 62, the Scanner 3100 LAN Client (DHCP) IP address is **`192.168.000.064`**.

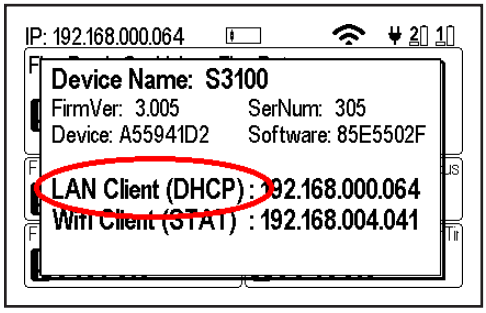

Figure 62 - LAN Client (DHCP)

Connect to a LAN Client (Stat)

Figure 63 shows the configuration window on a Scanner 3100 which has been configured as a LAN Client (Stat).

1. Configure your personal Ethernet enabled device with a static IP address, which you know to not be used on the network but is on the same subnet as the Scanner 3100. A subnet is defined by the first three numbers of an IP address delimited by periods.
2. Connect your personal Ethernet enabled device to the same network the Scanner 3100 is connected to.
3. Confirm that the address is on the same subnet of the Scanner 3100 but is not the same IP address.

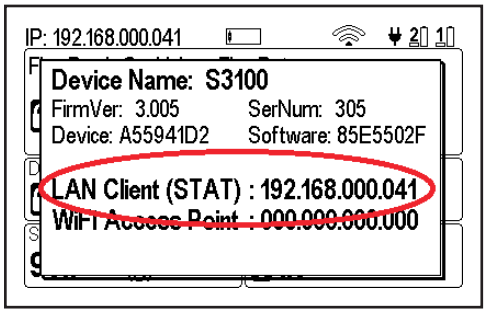

Figure 63 - LAN Client (Static)

4. Enter the Scanner 3100 address found on the window into the address line of a browser. The Scanner 3100 IP address will be listed on the window after the **LAN Client (STAT)** label. As shown in the example on Figure 63, the Scanner 3100 LAN Client (Stat) IP address is **192.168.000.041**.

Connect to a LAN Server

Figure 64 shows the configuration window on a Scanner which has been configured as a LAN Server.

1. Configure your personal Ethernet enabled device as a DHCP client for a dynamic IP address assignment.
2. Connect your personal Ethernet enabled device directly to the Scanner 3100 using the Ethernet port.
3. Allow time for your personal Ethernet enabled device to connect. The Scanner 3100 LAN server will grant your personal Ethernet enabled device an IP address.
4. Enter the Scanner 3100 address found on the window into the address line of a browser. The Scanner 3100 IP address will be listed on the window after the **LAN Server** label. As shown in the example on Figure 64, the Scanner 3100 LAN Server IP address is **192.168.000.040**.

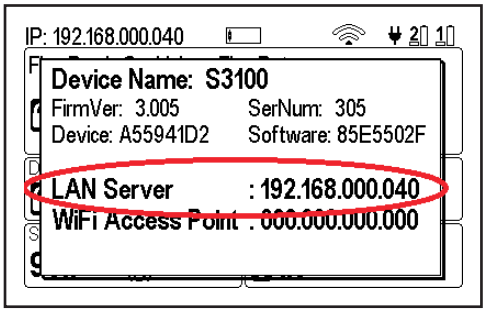

Figure 64 - LAN Server

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