







# xPico Wi-Fi Embedded Device Server Evaluation Board Quick Start Guide

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## **Disclaimer and Revisions**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This device is intended only for OEM Integrators.

## **Revision History**

Date	Rev.	Comments
June 2013	Α	Initial document.
December 2014	В	Updated with a new model of the xPico Wi-Fi module.

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# Introduction

Thank you for purchasing the Lantronix® xPico® Wi-Fi® embedded device server evaluation kit. This evaluation kit is designed to provide full access to all the input/output ports of the xPico Wi-Fi (XPW1001000-01, XPCW1003100) and xPico (wired Ethernet) (XPC1001000-01) modules.

This quick start guide describes the procedures for initial connection to the xPico Wi-Fi device through a network connection.

Once a connection is established you can use the Web Manager for configuration and control.

For the latest of this product document, please check our online documentation at <a href="https://www.lantronix.com/support/documentation">www.lantronix.com/support/documentation</a>.

# **Evaluation Kit Contents**

The evaluation kit comes fitted with an xPico device server module. The type of module depends on the evaluation kit part number.

### XPW100100K-01: xPico Wi-Fi with Board to Board Connector

The XPW100100K-01 comes with all that a user needs to evaluate the xPico Wi-Fi Device Server module.

- xPico Evaluation Board with xPico Wi-Fi module (XPW1001000-01)
- 2dBi, Whip Antenna with RP SMA connector (930-033-R)
- 1.5 to 2.5dBi, PCB Strip Antenna with 50mm U.FL cable (930-099-R)
- 5 Vdc Wall-mount power supply AC/DC, 1A with mini-USB connector



Figure 1: Evaluation Kit Contents

# XPCW1002100K: xPico Wi-Fi SMT W1002, with U.FL

The XPCW1002100 comes with all that a user needs to evaluate the xPico Wi-Fi SMT W1002 Device Server module.

- xPico Evaluation Board with xPico Wi-Fi SMT module (XPCW1002100)
- 2dBi, Whip Antenna with RP SMA connector (930-033-R)
- 1.5 to 2.5dBi, PCB Strip Antenna with 50mm U.FL cable (930-099-R)
- 5Vdc Wall-mount power supply AC/DC, 1A with mini-USB connector

Figure 2: Evaluation Kit Contents - XPCW1002100 Model



# XPCW1003100K: xPico Wi-Fi SMT W1003 with on-module antenna.

The XPCW1003100K comes with all that a user needs to evaluate the xPico Wi-Fi SMT Device Server module.

- xPico Evaluation Board with xPico Wi-Fi SMT W1003 module (XPCW1003100)
- 5 Vdc Wall-mount power supply AC/DC, 1A with mini-USB connector

Figure 3: Evaluation Kit Contents - XPCW1003100 Model



# What You Need to Know

## **Hardware Address**

The unit hardware address (also known as MAC address) is also used as the unique Serial Number to uniquely identify the unit. This number is located on the product label in the format **SN: YYYYYXXXXXX**-, where the YY represents the Lantronix OUI and XXs are unique numbers within that OUI namespace assigned to the product.

Hardware Address: \_\_\_\_-\_\_\_-\_\_\_-\_\_\_-\_\_\_\_

# **Evaluation Kit Layout**

The following is the layout of the xPico evaluation board and the xPico Wi-Fi SMT evaluation board. The XPW100100K-01 is illustrated below.

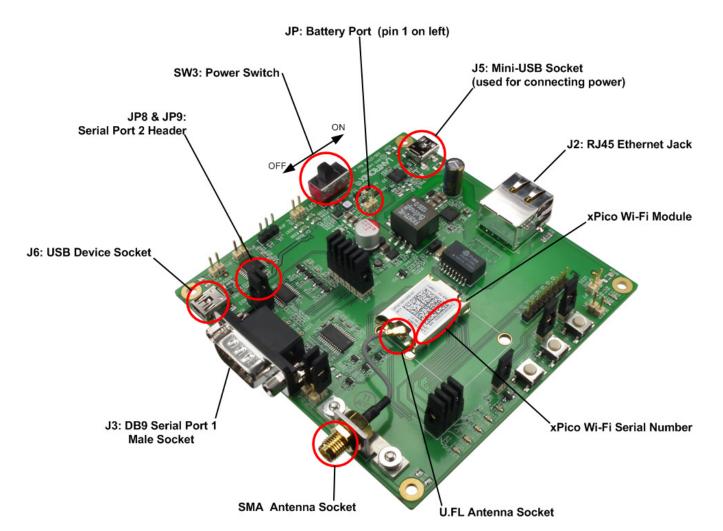


Figure 4: xPico Wi-Fi Evaluation Board Layout

J5: Mini-USB Socket (used for connecting power)

SW2: Power Switch

JP18: Serial Port 2 Header

JP18: Serial Port 2 Header

Figure 5: xPico Wi-Fi SMT Evaluation Board Layout

Table 1: xPico Wi-Fi Embedded Device Server Components

Description
Description
Also the module MAC Address. The last six digits are used in the
default SSID for Soft AP mode.
Used to connect either the SMA antenna cable or the alternative
PCB strip antenna to the xPico Wi-Fi Module.
If using External antenna attach at this point.
Power switch, turns power on and off to the Evaluation PCB.
Mini-USB socket used for connecting power to the Evaluation Kit or
to connect to the xPico module serial port 2 via an on-board USB to
serial converter
Battery Port (2.2 to 5.5V) provides power to the xPico Wi-Fi Module
via on board DC to DC converter.
DB9 for Serial Port 1
Leave JP11 and JP12 open for RS232 mode on serial port 1. Install
jumper on JP11 for RS422 (4-wire) mode. Install JP11 and JP12 for
RS485 (2 wire mode)
Serial Port 1 break-out header. Leave jumpers installed to route
module signals to J3 DB9 serial port
Serial Port 2 RS232 header. Pin 1 TX(out), pin 2 GND, pin 3 RX(in)
Jumpers for serial port 2 selection, install positions 1 to 2 to route
serial port 2 to JP18 RS232 port. Install positions 2 to 3 to route
serial port 2 to J5 USB to serial converter port.
USB device port (xPico Wi-Fi only)
RJ45 Ethernet Socket. This is not used with the xPico Wi-Fi module,
it can be used if a xPico serial to Ethernet Device Server module is
used in place of the xPico Wi-Fi
Voltage test pins. Monitor only. JP14 is 3.3V and JP15 is Ground

J6: USB Device Socket

# Connecting an xPico Wi-Fi Device

# Connecting Power to the xPico Wi-Fi Evaluation Module

There are five methods of providing power to the Evaluation Kit PCB. Use one of the methods below.

- 1. Connect the provided universal power supply with mini-USB connector to J5.
- 2. Connect the USB to serial converter port J5 to a PC USB host port
- 3. Connect the USB device port J6 to a PC USB Host Port (xPico Wi-Fi only)
- 4. Connect a battery pack or external power supply (2.2V to 5.5V) between JP19 pin 1 (+) and JP19 pin 2 (-)
- 5. Connect Ethernet Port to a Power over Ethernet complaint PSE source (xPico module only)

# **Wireless Connection Using Internal Soft AP**

If using the XPW100100K-01 or the XPCW1002100K, select your antenna of choice. If ducktail, this can be screwed directly into the SMA socket located on the Eval Board. If the PCB antenna is to be used, the wire between the xPico Wi-Fi module u.FL connector and the on-board SMA connector has to be carefully disconnected and the plug on the PCB strip antenna should be inserted.

**Note:** the XPCW10031000K uses a version of the xPlco Wi-Fi SMT which has an on-module antenna already fitted, so no action is necessary.



- 1. Once power and antenna is connected, turn on the board by moving switch SW3 in to the marked ON position.
  - By default the SoftAP mode is enabled with a default SSID of <code>XpicoWiFi\_xxxxxx</code>. Where <code>xxxxxx</code> are the last six characters of the unique xPico Wi-Fi serial number. This number is available on the module label. For example if the serial number on label were <code>0080A398010E</code> then the SSID would be <code>XpicoWiFi 98010E</code>.
- 2. Using the Wi-Fi Connection Manager of your connecting device the above SSID should be presented as an available connection choice. Select the SSID and follow the device connection manager instructions to continue to connect.

The default security for xPico Wi-Fi SoftAP is WPA2 and the passphrase is XPICOWIFI. These defaults can be changed through the configuration web manager after the initial connection has been established.

3. When prompted enter the passphrase to complete the Wi-Fi connection authentication process.

With a Wi-Fi client set to the above parameters, your device can connect directly to the xPico Wi-Fi Soft AP.

- 4. Open a standard browser (E.g. Internet Explorer®, Firefox®, Chrome™, Safari® etc.) and in the address field of the browser enter the following URL; xpicowifi.lantronix.com or alternatively use 192.168.0.1 as the IP Address.
- 5. When prompted enter the username of admin and password PASSWORD to access the Configuration and Management Web pages as shown below.



By clicking **Network > Network 1 > Link** to get to the **Configuration** page, the SSID, Security Suite Type and Security and passphrase can be modified. Modification to any of these parameters requires a reset/power cycle of the module in order to take effect.



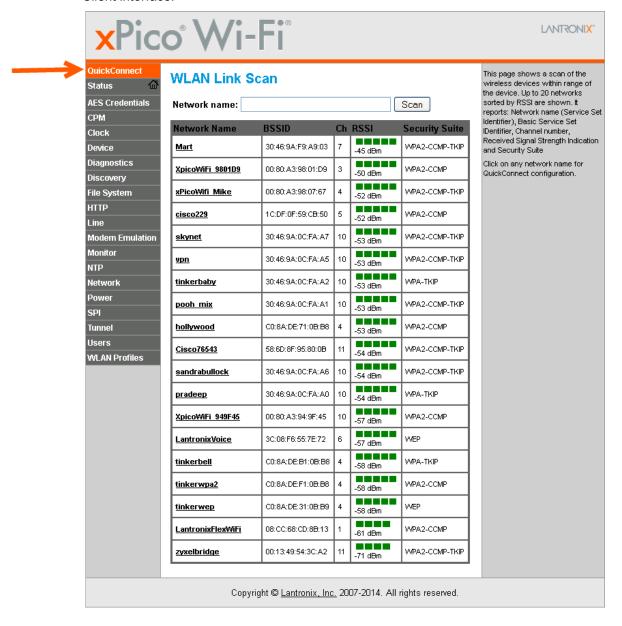
It is recommended that you record any changes you make.

SSID:	
Security Suite:	
Encryption:	
Passphrase:	

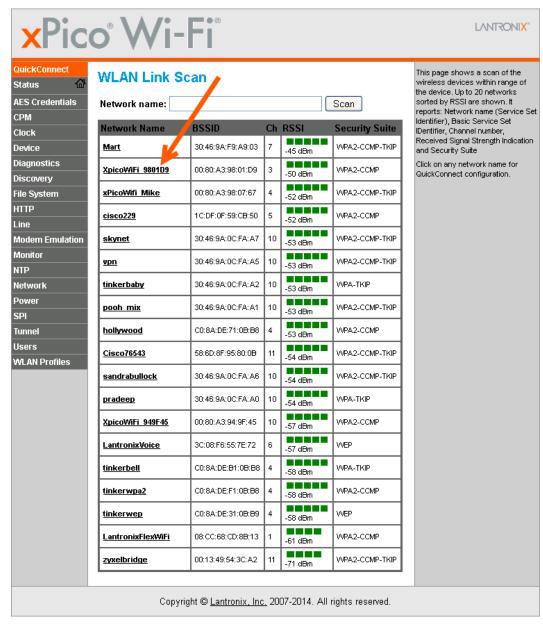
## QuickConnect

QuickConnect offers the ability to configure the STA (WLAN Client) interface on xPico WiFi to establish connection to an active Access Point.

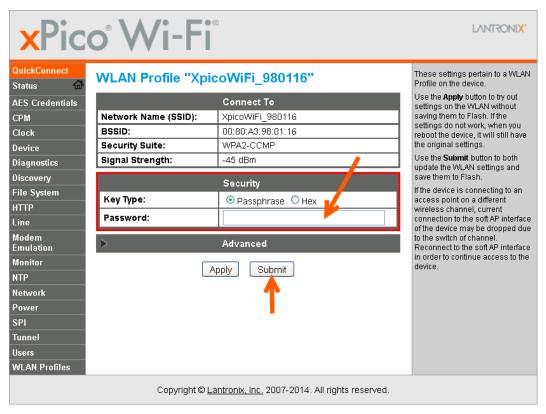
QuickConnect learns most of the connection properties from the available Access Points and prompts the user only for the security parameters and saves the settings under a corresponding new/existing WLAN profile for future autonomous operation of the WLAN Client interface.



Upon selection of the QuickConnect option, the xPico Wi-Fi scans and displays up to 20 wireless devices in order of strongest signal strength at the top. Click on a network name to view the connection to that desired Access Point.



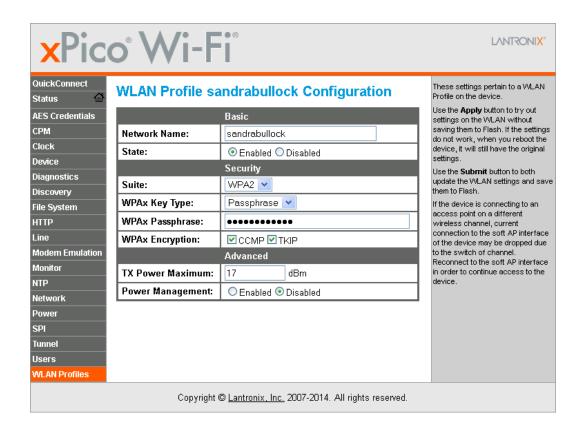
When the selected Access Point profile displays, enter the password and click **Submit** to directly connect to the Access Point and to add the profile and configuration details to the WLAN profiles.



Once added, the Quick Connect profile is connected and is accessible and configurable through WLAN Profiles.



Click the new WLAN profile to view and modify settings.



# **Reference Documentation**

For more information on the use and operation of the xPico Wi-Fi Device Server please refer to the latest product documents which are are available on the Product Website. <a href="https://www.lantronix.com/support/documentation">www.lantronix.com/support/documentation</a>.