Certification Exhibit

FCC ID: MWC406WIFI

FCC Rule Part: 15.247

TÜV SÜD Project Number: 16-3095

Manufacturer: Sealevel Systems Inc.
Model: 406

Manual

SeaIO WiFi Bridge Configuration Guide

> **MODEL:** **SeaIO WiFi Bridge**
> **P/N:** **406**
> **FCC ID:** **MWC406WIFI**

SEAI/O W-SERIES

SeaIO WiFi Bridge adds 802.11b/g/n communication interface to SeaI/O™ product family. It is an add-on daughter card that can be factory-installed in any SeaI/O™ module. It utilizes a single proprietary header for power and data transfer. WiFi option is indicated by "W" suffix in the SeaI/O™ module model name.

200W –WIRELESS GATEWAY

The 200W Wireless Gateway is a standalone Wi-Fi to RS-485 Modbus RTU converter. It contains SeaIO WiFi Bridge installed on a custom carrier in a metal enclosure. After configuration on a local network, the gateway enables the functionality of wireless modules to the serial or USB modules when the gateway is connected to the expansion port of SeaI/O™module.

SEAI/O WIRELESS SPECIFICATIONS

406 WiFi Bridge features networking engine based on TI's popular CC3200MODB module. This subsystem integrates an ARM Cortex-M4 MCU with an 802.11 b/g/n radio, baseband, MAC, and a powerful crypto engine for fast, secure Internet connections with 256-bit encryption. It supports Infrastructure and access point modes and supports WPA2 personal and enterprise security and WPS 2.0. The engine includes embedded TCP/IP and TLS/SSL stacks, HTTP server, and multiple Internet protocols.

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Standards	2.4 GHz IEEE 802.11b/g/n WLAN
Channels	1–11
Frequency Range	2.412 – 2.484 GHz
TX Power	17 dBm at 1 DSSS 17.25 dBm at 11 CCK 13.5 dBm at 54 OFDM
RX	–94.7 dBm at 1 DSSS –87 dBm at 11 CCK –73 dBm at 54 OFDM
Application Throughput	UDP: 16 Mbps TCP: 13 Mbps
Range	300' line-of-sight (with no obstructions or interference)
WLAN	2.4 GHz IEEE 802.11b/g/n WLAN Supported Protocols: Modbus/TCP, TCP/IP, UDP, DHCP, and HTTP TCP/IP Stack Infrastructure and Access Point Modes Crypto Engine for Secured WLAN Connections with 256-Bit Encryption WEP, WPA1 and WPA2 Personal and Enterprise Security

ANTENNA CONSIDERATIONS

The wireless device ships with an approved external hinged Wi-Fi antenna. Using a different antenna is not supported and it may invalidate regulatory certification and the user's authority to operate the equipment.

DEVICE SETUP (WINDOWS 7/8.1/10™)

AP MODE

Each WiFi enabled Seal/O™ device leaves the factory configured for connection in AP (Access Point) Mode. By default SSID is set to match the device name (SeaIO-270002 in the picture below) with no security. Select the device from available "Wireless Networks Connection" list and click "Connect" button.
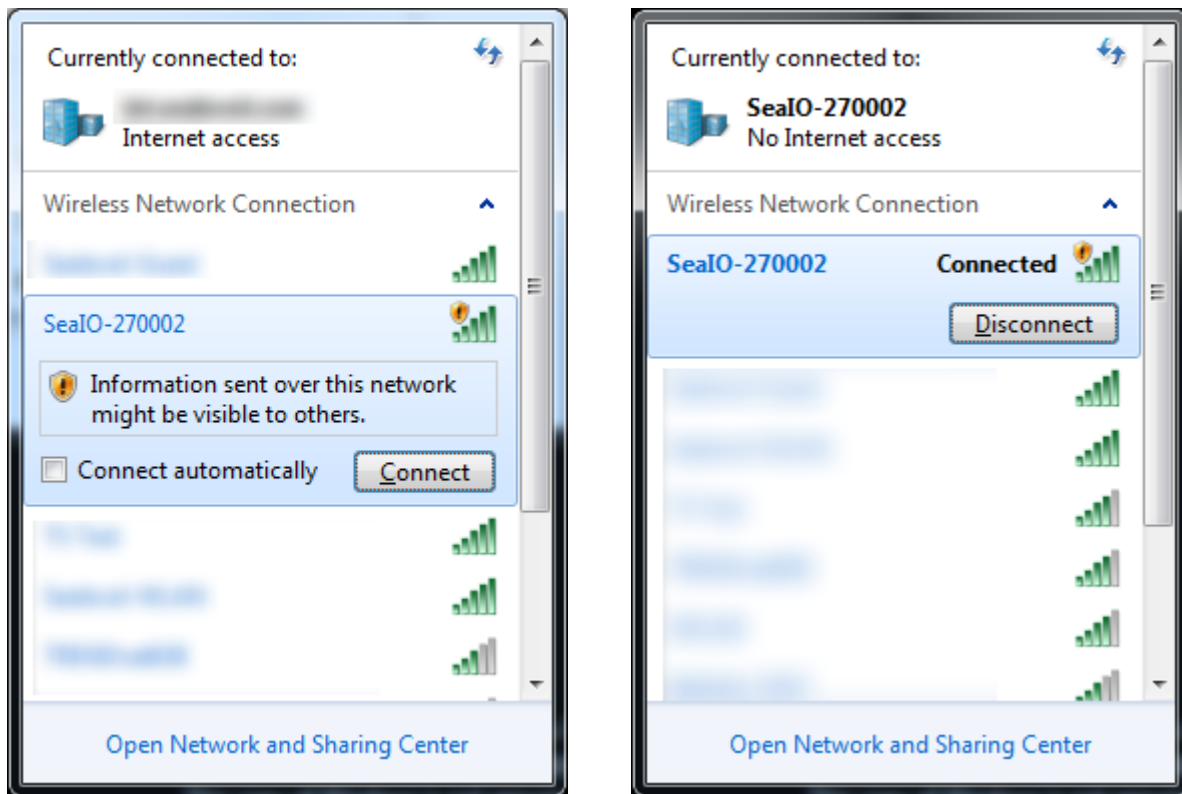
Once connected open web browser and enter http://SeaIO-27xxxx (replace xxxx with corresponding portion of your actual device name) in the address field to access the device status/configuration page. Enter administrator login credentials when prompted.

> Default User Name: seaioadmin
> Default Password: seaioadmin

It is strongly recommended to change the login credentials to prevent unauthorized access.

DEVICE TAB

The Device tab displays current configuration, as well as offers a path to firmware update over the WiFi connection. User can restart the device or reload factory defaults via buttons in Administration pane.
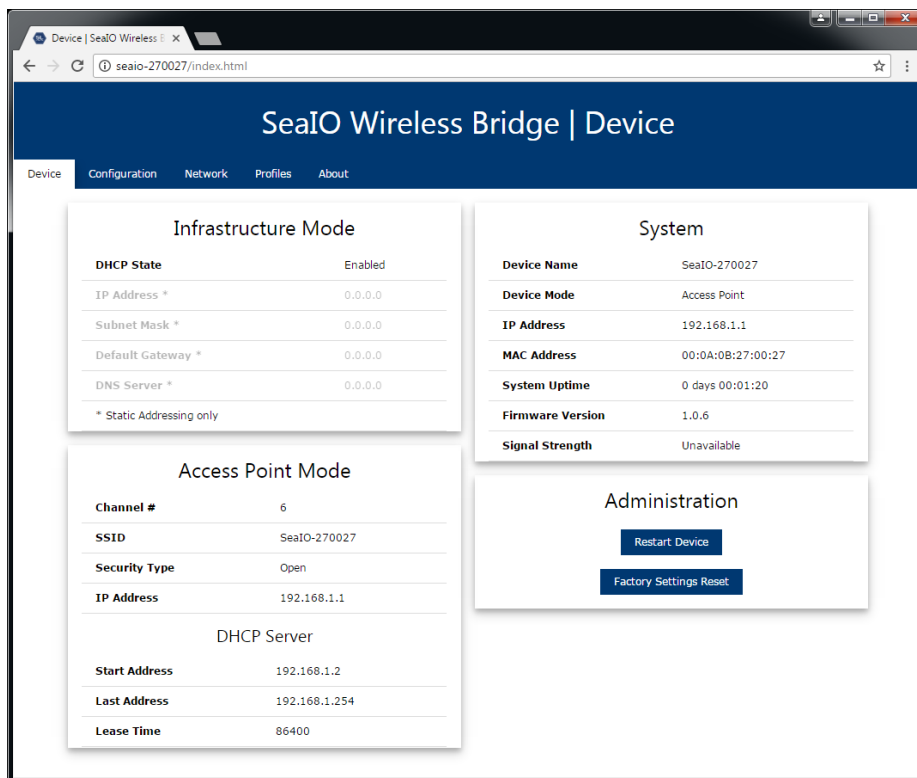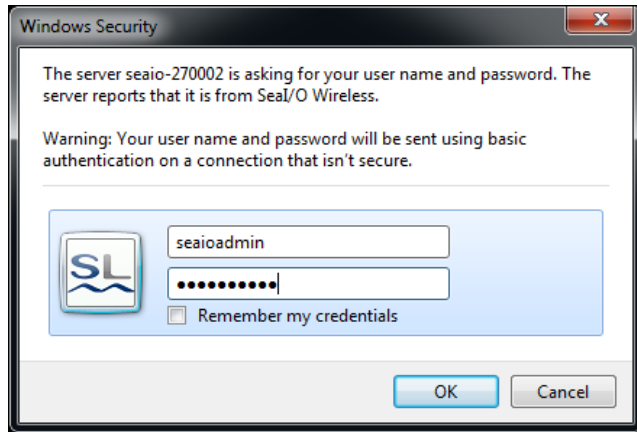
CONFIGURATION TAB

In the Configuration tab you can customize the device name if desired. If changed the new device name must be used to access the configuration pages. Administrator credentials can be modified in HTTP Authentication pane. Reset or power cycle is necessary for any changes to take effect.
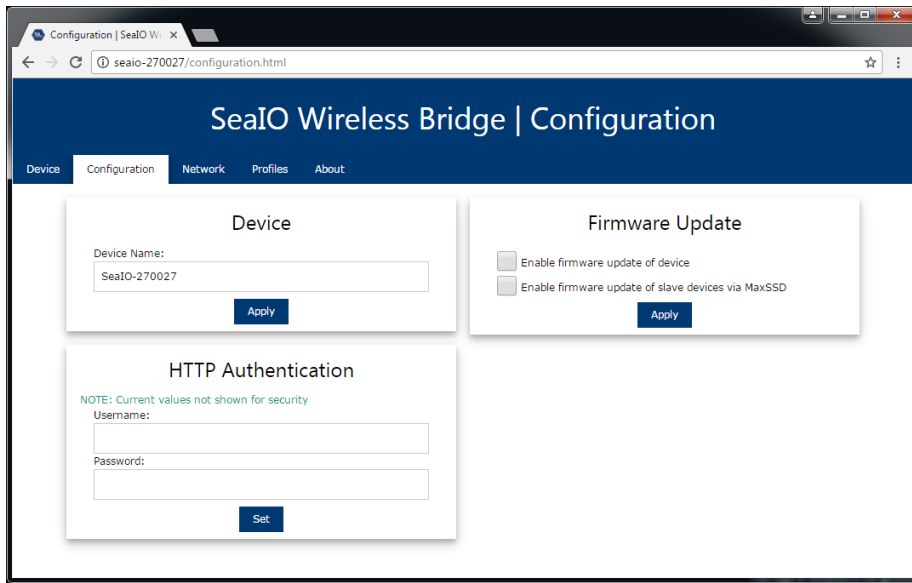
NETWORK TAB

The Network tab is used to customize connection parameters for Infrastructure Mode and AP Mode. Reset or power cycle is necessary for any changes to take effect.
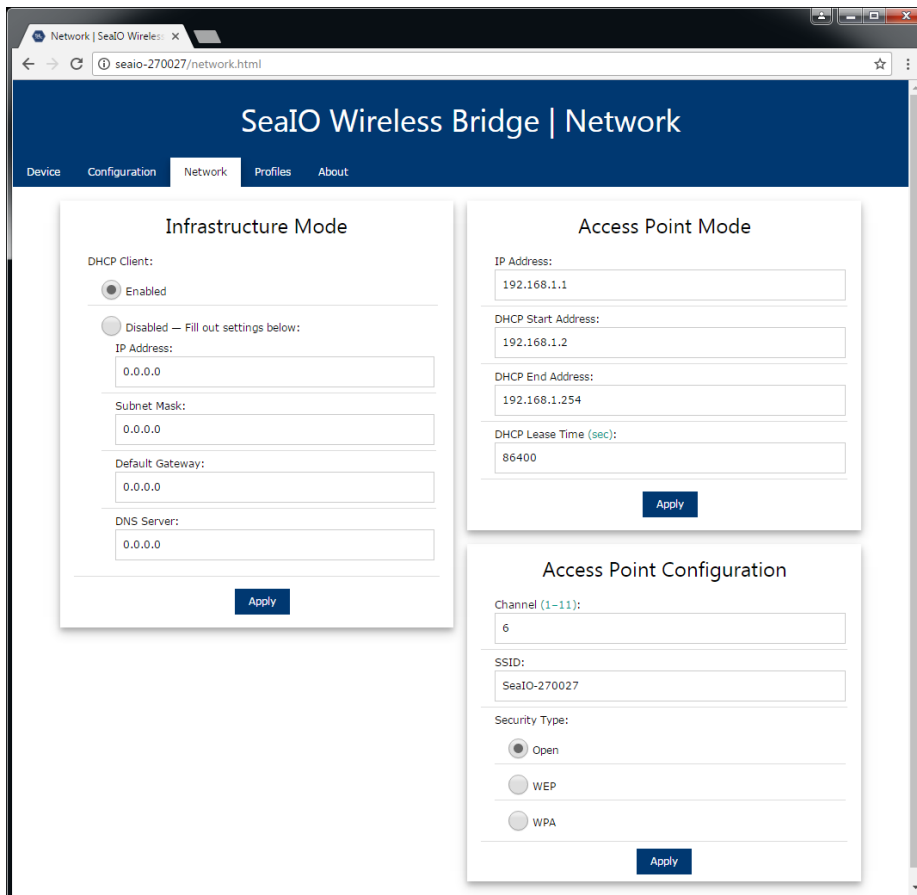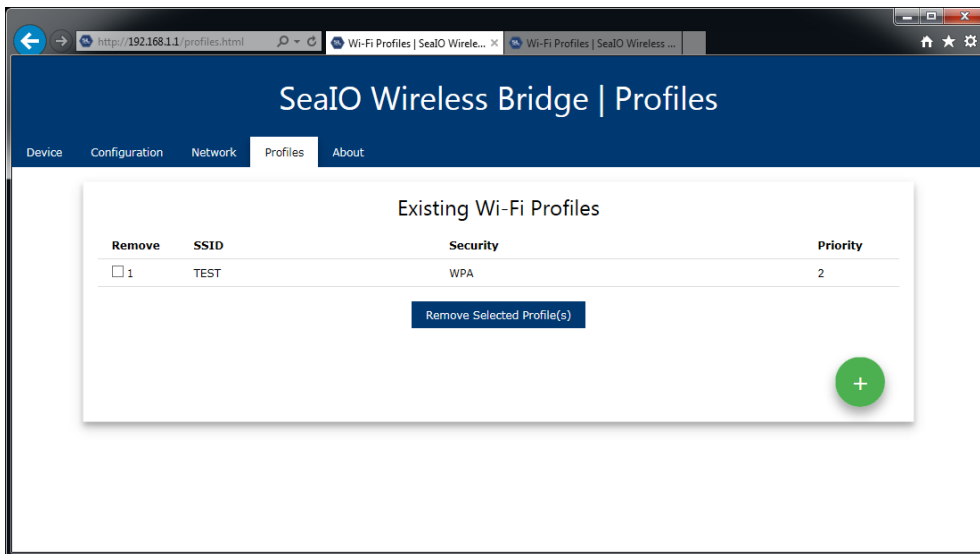
PROFILES TAB

In the Profiles you can configure typical connection parameters specific to your wireless network (SSID, security type, password). Multiple profiles are available. They can be prioritized via Profile Priority setting. Reset or power cycle is necessary for any changes to take effect.
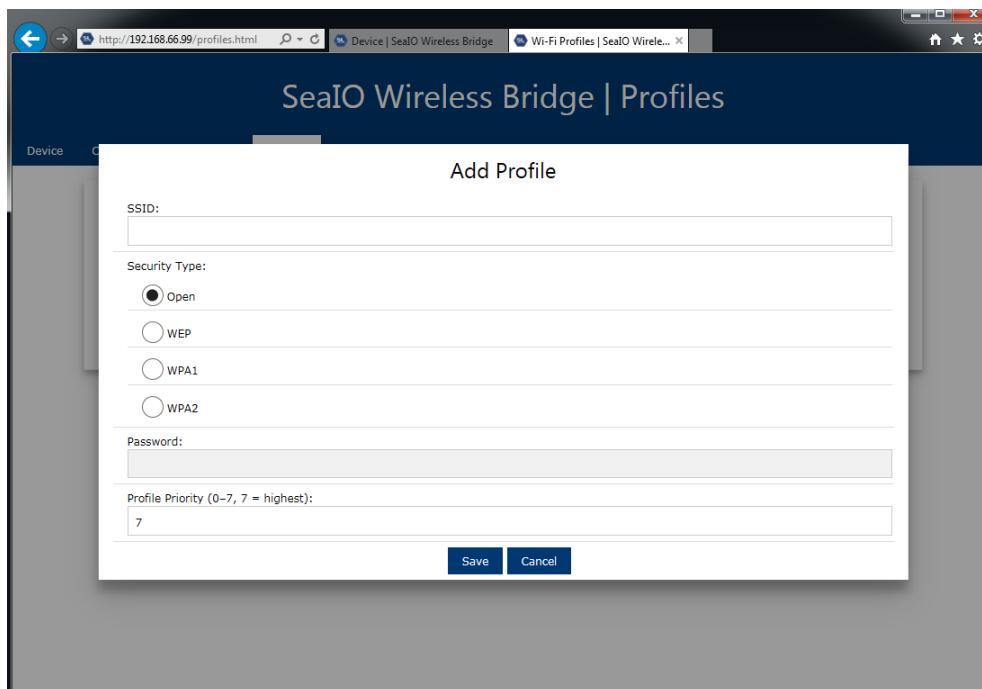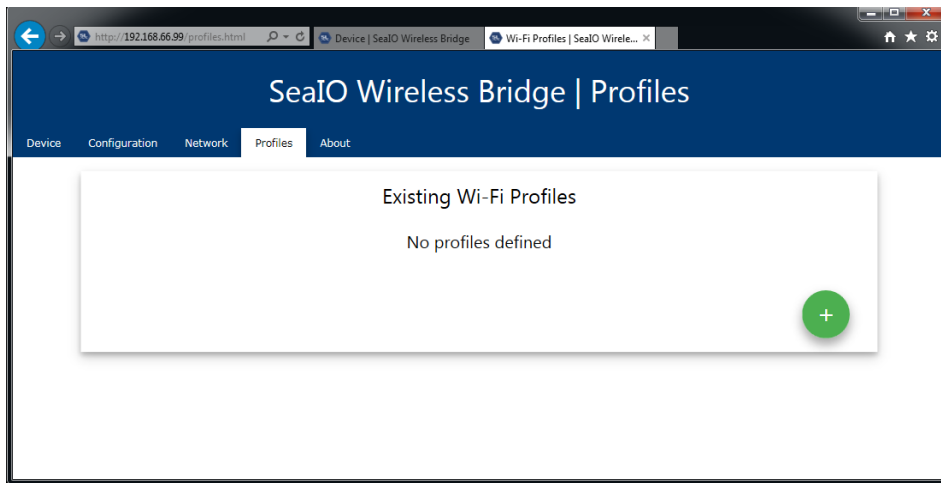

Existing profiles cannot be edited. They can only be deleted. If changes are required a new profile has to be created and configured.

Once the connection profile is defined the device will make an attempt to establish infrastructure type connection based on priority level. If there are no profiles that match the actual infrastructure settings the device will no longer be accessible. See Forced AP mode to regain access to the device.

ABOUT TAB

The About tab shows "Sealevel Systems" contact and support information.
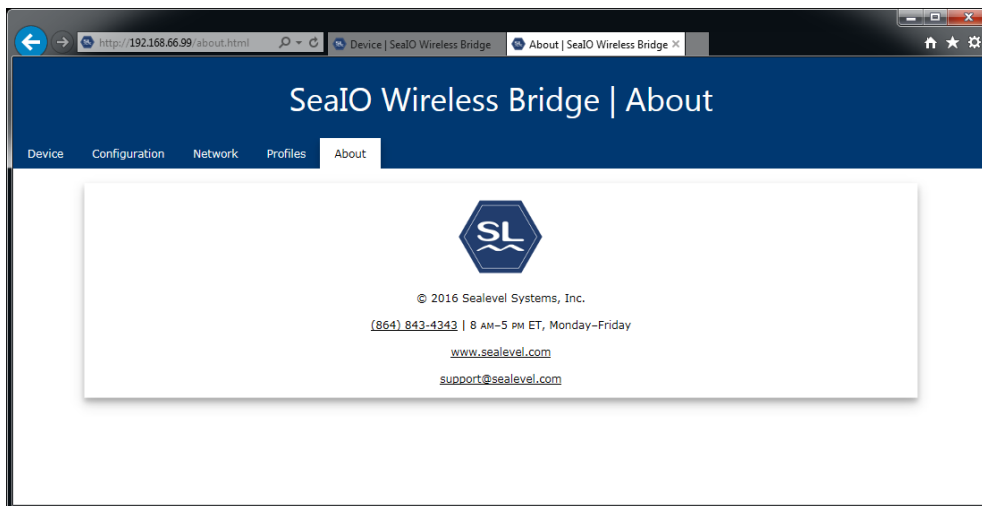
FORCE AP MODE

The device can be forced to reconnect in AP mode in case communication cannot be established in Infrastructure mode. Power down the device. Locate the Reset/Configure button on the front of the module just above the antenna. Using a paperclip or similar sized blunt object, depress and hold the button then power on the device. Wait about 3 seconds and release the button. The device is now in AP mode with settings as previously configured.

RESTORE FACTORY DEFAULTS

To reset the device to factory defaults locate the Reset/Configure button on the front of the module just above the antenna. Using a paperclip or similar sized blunt object, depress and hold the button for at least 10 seconds. The device has been reset. All the configuration settings have been reverted to their default values. The device is in AP mode ready to be configured.

TECHNICAL SUPPORT

The Sealevel website is an excellent resource located at www.sealevel.com. The most current software updates and user manuals are available via our homepage by clicking on the 'Drivers' or 'Manuals' links located under 'Technical Support.' Manuals and software can also be downloaded from the product page for your device.

Monday – Friday
8:00 am to 5:00 pm EST
Phone: +1 (864) 843-4343
Email: support@sealevel.com
www.sealevel.com

REGULATORY

FCC STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

RF EXPOSURE

This equipment complies with radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and human body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

UNAUTHORIZED MODIFICATIONS

Changes or modifications to this device not expressly approved by Sealevel Systems Inc. could void the user's authority to operate the equipment.