

Allied Wireless Unit Frequently Asked Questions

Is this PCI Compliant?

The AWU (Allied Wireless Units) have successfully passed multiple PCI penetration tests with several large customers. The AWU does not carry a specific PCI certification because the radios do not fit any of the formal PCI test classifications as a wireless Ethernet cable. However, all PCI best practices can be achieved or exceeded for securely transmitting network data between fuel dispensers and the store.

Do the AWU's use Wi-Fi?

This is not Wi-Fi. While our wireless communications use the 5 GHz spectrum, we do not function as a Wi-Fi device. TDMA (Time Division Multiple Access) Protocol transmission is used for communication between AWU's. The proprietary Network Name or SSID isn't visible to standard Wi-Fi devices (laptops, smartphones, tablets, etc.)

Why use TDMA to transmit data?

TDMA devices transmit in rapid succession by dividing the signal into different time slots. This allows multiple devices to share the same radio frequency channel in a more reliable and predictable manner than Wi-Fi CSMA (Carrier Sense Multiple Access) protocol.

Is this wireless solution secure?

Yes, the proprietary TDMA signaling and advanced encryption (AES) protects the confidentiality of the data between dispenser and the store. We meet or exceed the PCI compliance best practices.

Additional details are listed in the Secure Wireless Whitepaper available online at:

<https://fueldispenser.alliedelectronics.com/wireless-emv/>

What is 256-bit AES and why does it matter?

AES (Advanced Encryption Standard) is an international specification which defines how data is encrypted and decrypted. We use the same AES 256bit cyphers that are used by the US Military for DoD Secret Level confidentiality for data transmission and storage.

Is the in-dispenser radio UL Listed?

Yes, the In-Dispenser Subscriber Unit is UL Listed. The In-dispenser Subscriber Unit carries a UL1238 listing which is specific for inside fuel dispenser installation.

How hard is this system to install?

Not hard at all. Each AWU takes just minutes to install per dispenser with minimum interruption to the site.

Will any construction be required at the site before or during installation?

No. Since this is a wireless solution, no digging, demolition or breaking of concrete is required.

Why do I have to pair my Access Point and In-Dispenser Units?

Pairing the units is required as it allows for a restricted communication group between assigned AWU's. This creates a closed and secure network. The USB key shipped with every In-Dispenser Unit allows for quick pairing to the Access Point.

How many dispensers can I connect to a single Access Point?

A single Access Point can connect with 16 dispensers, 32 fueling points.

What if I have more than 16 dispensers?

To connect with more than 16 dispensers simply add a second access point at the site. Pair the new In-Dispenser Units to the new Access point via the USB keys.

Do trucks disrupt the connection?

Trucks will not disrupt the connection of the AWU's.

If there are multiple gas stations in the area, how is frequency interference handled?

The Access Point monitors the background noise levels and specifically tune the signal to avoid interference with other Access Points and other band users. Our radios use the lower noise 5GHz radio band and have the maximum legal output power at 1 Watt. Typical consumer devices have only 1/100th of that power which allows our radio to easily dominate the band.

Can I simply place the AWU's down inside the pump or store, rather than mounting them?

No, the antennas need to point up for maximize communication strength.

Where should the Access Point be installed?

As a best practice, the Access Point should be installed near a window facing the gas pumps of the store. Other favorable locations may include an inside wall that has visibility toward the forecourt mounted higher up on the wall. The Access Point should never be laying on the ground or mounted behind a metal wall. The radio has a powerful transmitter and is likely to work effectively in the back offices or storage area, however, we recommend that the radio be mounted in locations with visibility to provide the best coverage of the forecourt.

What distance can the AWU's connect?

Following the Access Point mounting best practices, the AWU's can reach $\frac{3}{4}$ of a mile in line of site. When mounted behind major obstructions, this range will begin to be reduced.

Are the radios fast enough to transmit all communication?

AWU's deliver 300 Mbps per Access Point. This provides ample speed for today's EMV and PCI compliance needs along with high enough bandwidth for the enhancements of tomorrow.

Can the AWU's provide segmentation and are the amount of ports limited?

AWU's can provide VLAN network segmentation with payment data on an isolated VLAN channel. A 4 port Ethernet VLAN switch is built in with each In-Dispenser Unit.

At what temperature range do the radios operate?

-40° F to 158° F (-40° C to 70° C)

What if I need to wirelessly connect a dispenser and/or card reader that communicates via Current Loop or RS485?

The Allied current loop/serial to ethernet conversion adapter board operates in conjunction with the AWU's to allow a fast and secure wireless communication to both dispensers and card readers. This adapter enables current loop and serial data communication to flow through a TCP/IP ethernet network. No need for digging or breaking through concrete at a site.

How many serial to ethernet conversion adapters are required at a site?

A serial to ethernet conversion adapter board inside of a dispenser can support two fueling points and two card readers within that dispenser. Each *In-Store* serial to ethernet conversion adapter can support up to eight dispensers.

What if I need more than eight dispensers or card readers to communicate wirelessly?

Simply add a second serial to ethernet conversion adapter board inside of the store.

