AL57700-EVK Single-Port Wireless USB Adapter Kit

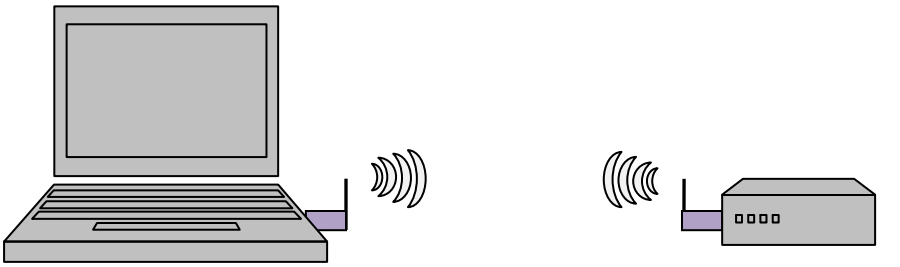
Description

Consumers and product vendors may need to connect a USB peripheral to a PC, laptop, phone, or other USB-capable computing device with a wireless link, and in a manner that is transparent to the peripheral and computing device. The AL57700-EVK Single-Port Wireless USB Adapter Kit meets this challenge by allowing connection of a USB device, USB composite device, or USB hub to a USB-capable computing device using a transparent wireless link. The evaluation kit features two radio nodes: one for the USB device and one for the computing device. The two radios create a transparent wireless bridge; neither end knows that a wireless link has replaced the wired link. The link between the two devices automatically establishes when the radios are within range (typically 5 - 10 meters). The link supports most USB peripherals at throughputs of 200 Mbps or more.

Use Cases

Connecting a Single USB Peripheral

The AL57700-EVK supports multiple use cases. The simplest case allows a computing device to connect to a single USB peripheral device via a wireless link, as shown in the following diagram.



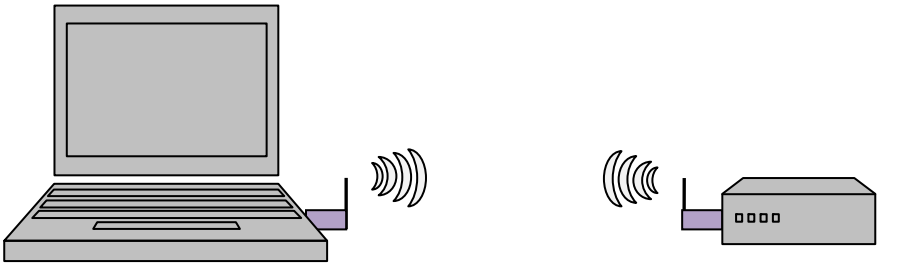
USB-Capable Computing Device

USB Peripheral

Most single USB peripheral devices may be connected without the need for a Wireless USB device driver on the computing device.

Connecting a USB Composite Device

A slightly more complex case allows a computing device to connect to a USB composite device via a wireless link, as shown in the following diagram.



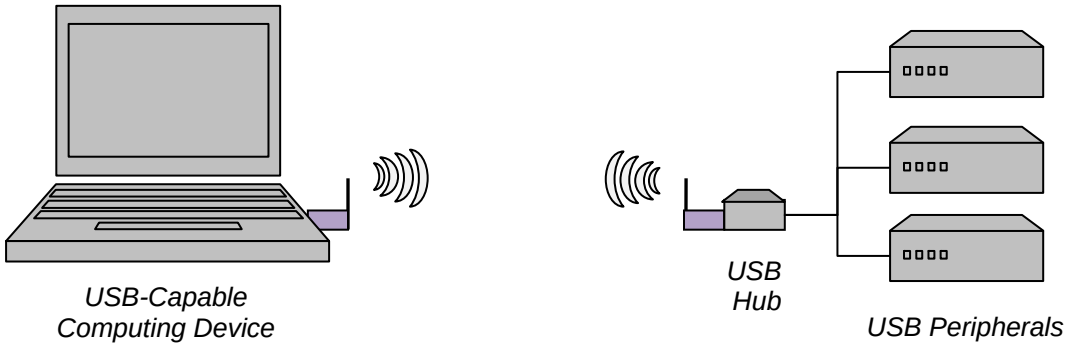
USB-Capable Computing Device

USB Composite

The USB composite device may consist of two or more discrete USB devices inside a single end-product. USB composite devices with a limited total number of endpoints may be connected without the need for a Wireless USB device driver on the computing device. Those with a larger set of endpoints require a Wireless USB device driver.

Connecting a USB Hub

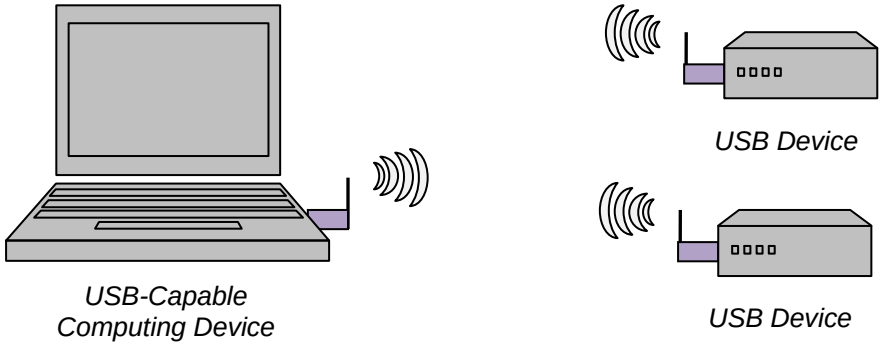
The most complex case allows a computing device to connect to a USB Hub via a wireless link, as shown in the following diagram.



The wireless connection of a USB hub requires a Wireless USB device driver on the computing device.

Connecting Multiple Wireless USB Devices

The radio attached to the computing device can connect to multiple USB device radios simultaneously, as shown in the following diagram.



Connection of multiple radios simultaneously requirs a Wireless USB device driver on the computing device. This case also requires the purchase of multiple evaluation kits.

Kit Contents

Each evaluation kit contains two radios, allowing the customer to connect a computing device to a USB peripheral, composite device, or hub. The radio for the computing device is an Alereon AL5704 Worldwide Wireless USB Adapter, which plugs into any USB2.0 or USB3.0 type A jack. The AL5704 is shown in the following image.

The radio for the USB peripheral, composite, or hub is the combination of the same Alereon AL5704 Worldwide Wireless USB Adapter plus an Alereon AL5619 Single-Port USB Device Wireless Adapter. The AL5619 is shown in the following image.

The AL5704 plugs into the AL5619's USB2.0 type A jack in the center of the adapter board. The USB peripheral, composite, or hub is connected to the USB2.0 type A jack on the edge of the board using an appropriate USB cable (the same cable that would be used for plugging the USB device into a computing device). The AL5619 accepts a 5V power supply which powers the radio and the downstream USB device.

The following table describes the contents of the evaluation kit.

Item	**Description**
AL5704 Worldwide Wireless USB Adapter	Radio for computing device
AL5704 Worldwide Wireless USB Adapter	Radio for downstream USB device
AL5619 Single-Port USB Device Wireless Adapter	Device-to-radio adapter for USB device
5V power supply	Power supply for AL5619
Wireless USB software CD	Installer software for Wireless USB device drivers. Supported operating systems include: • Windows 7 • Windows 8 • Windows 8.1 • MacOS 10.9