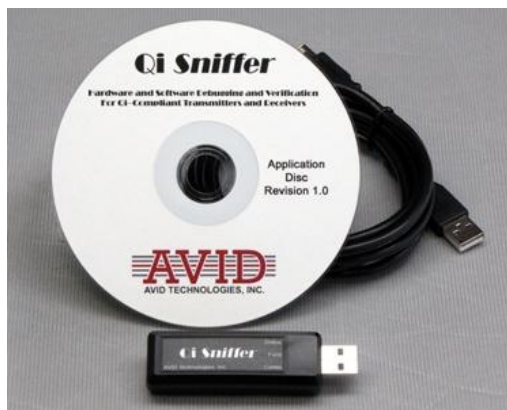# AVID

AVID TECHNOLOGIES, INC.

Qi *Sniffer*

Quick Start Guide

v1.1

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Overview

AVID Technologies' **Qi Sniffer** is a diagnostic tool that can be used to passively monitor Qi wireless power transmitters and receivers. The Sniffer captures and logs wireless power operational parameters such as transmitter ping and operating frequency, and receiver control error and power feedback. Communications messages are logged and displayed in real time including timing information.

The Qi Sniffer consists of a USB stick device and the **Qi Development System** application program. When the Sniffer is placed near a Qi transmitter (within 50 mm or about 2 inches), it will detect and capture wireless power interface information. The Qi Development System provides the user interface for the system and allows the captured data to be displayed and saved to a file.

Minimum System Requirements

Operating System: Windows XP Service Pack 3 (SP3); Windows Vista (Service Pack 1, or Service Pack 2); Windows 7
- For Windows XP, a PC with a CPU clock speed of 500 MHz or higher, and 256 MB RAM or higher.
- For Windows Vista and Windows 7, a PC with a CPU clock speed of 1.0 GHz or higher, and 1 GB RAM or higher.
- VGA display of 800×600 or higher.
- 200 MB of available hard disk space.

Installation

To install the Qi Development System, place the CD that came with your Sniffer into your computer CD/DVD drive. The installation should automatically start. If not, run the appropriate **setup.exe** from the CD.
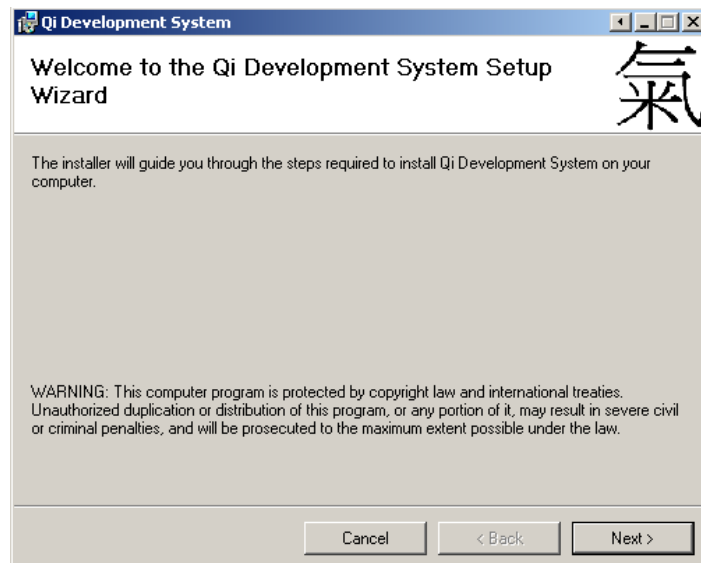

For 64-bit operating systems such as Window Vista or Windows 7:
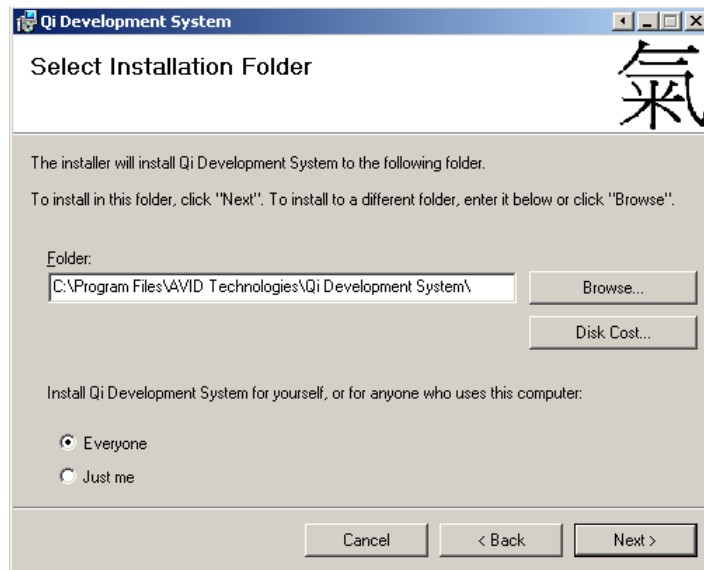> **E:\Setup\x64\setup.exe**

For 32-bit operating systems such as Windows XP:
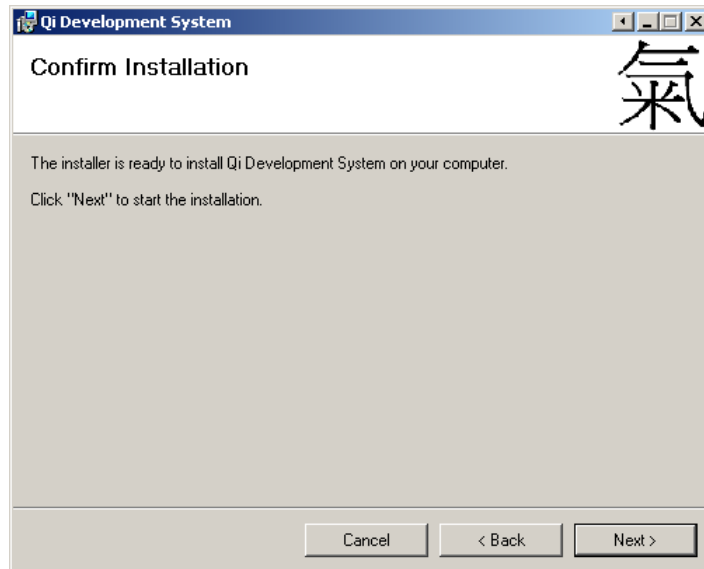> **E:\Setup\x86\setup.exe**

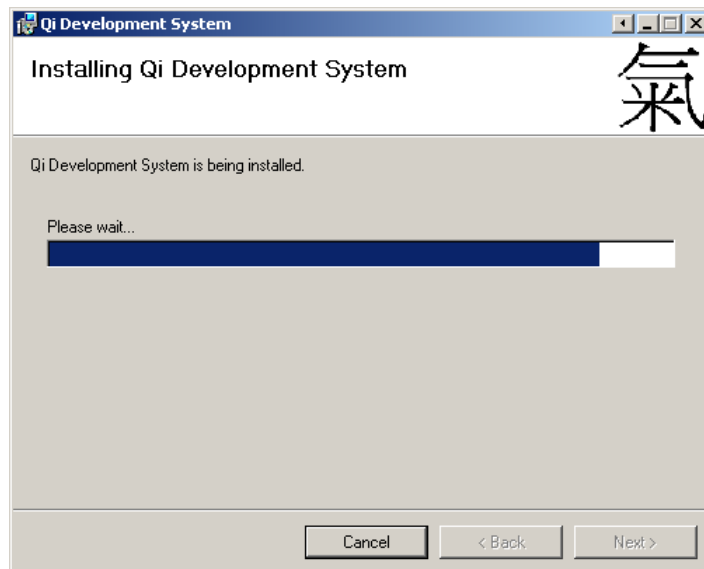At the welcome dialog click **Next.**

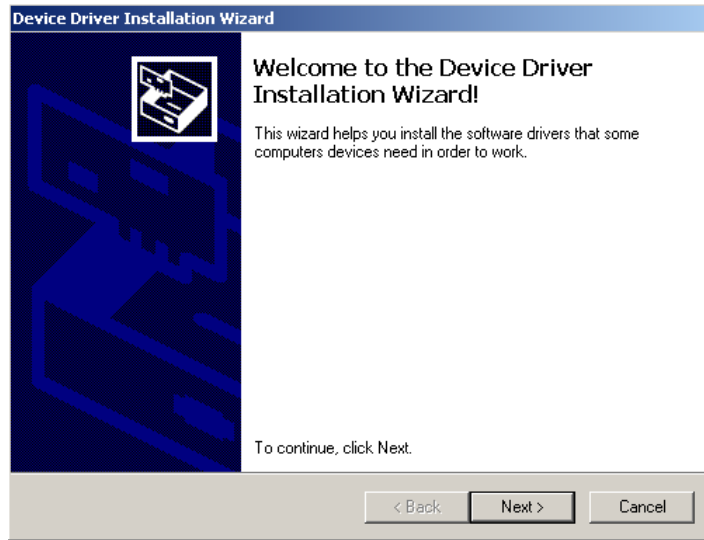Select the user context and installation location and click **Next.**

To confirm the installation click **Next.**

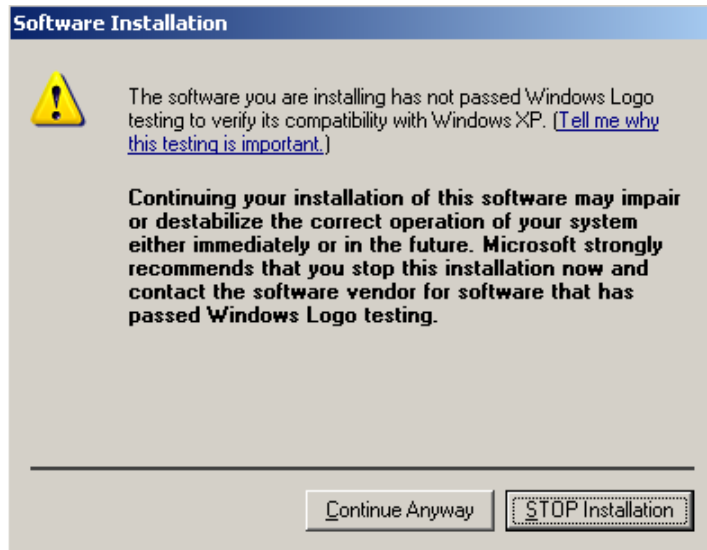The **Qi Development System** application will be installed …..

To install the **Qi Sniffer** device drivers click **Next.**

The **Qi Development System** uses standard serial port device drivers. These drivers have not been verified by Windows Logo testing.

To continue with the device driver installation click **Continue Anyway.**

To complete the driver installation click **Finish.**

To exit the installation, click **Close.**

Next plug the Qi Sniffer into a free USB port using the supplied USB extension cable.

To allow the previously installed drivers to be used select **No, not at this time,** and click **Next.**

Select **Install the software automatically,** and click **Next.**
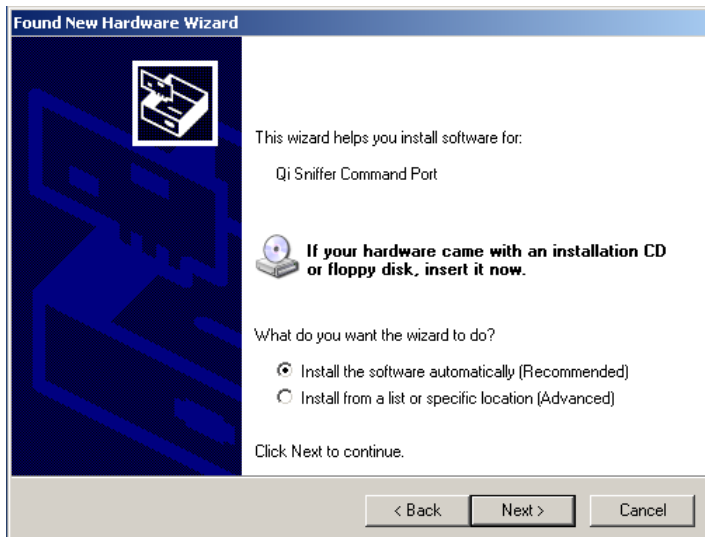
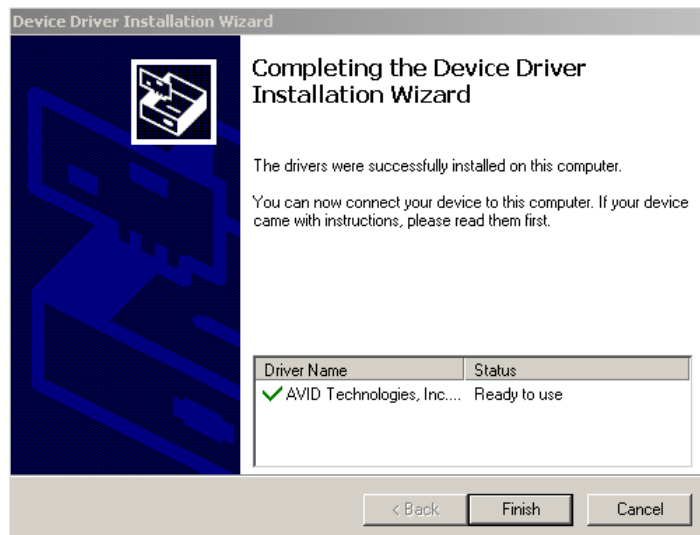The **Qi Sniffer Command Port** will be installed.

The **Qi Development System** uses standard serial port device drivers. These drivers have not been verified by Windows Logo testing.

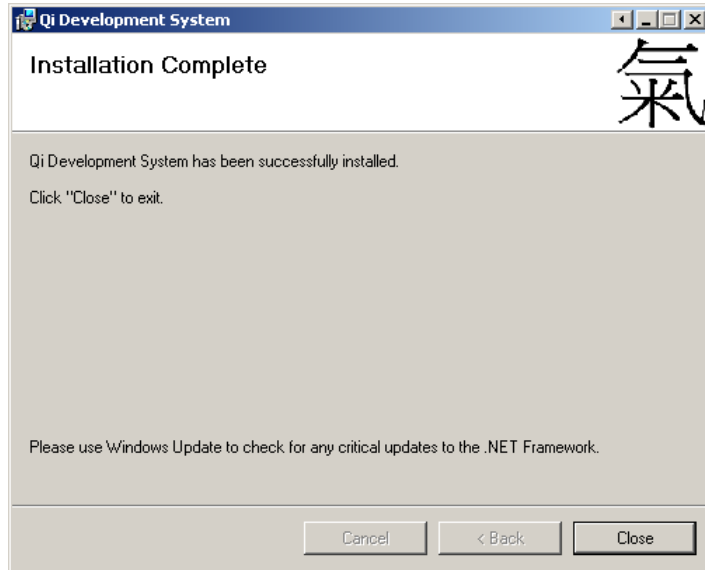To continue with the USB device installation click **Continue Anyway.**

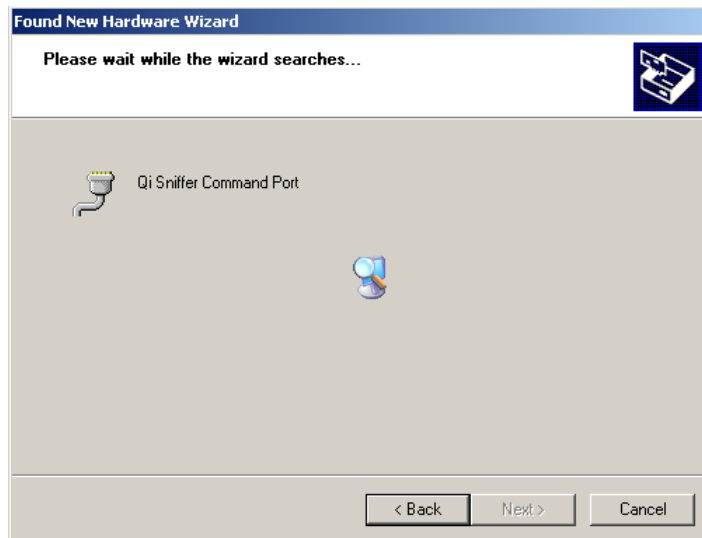To finish the **Qi Sniffer Command Port** installation click **Finish.**

To allow the previously installed drivers to be used select **No, not at this time,** and click **Next.**

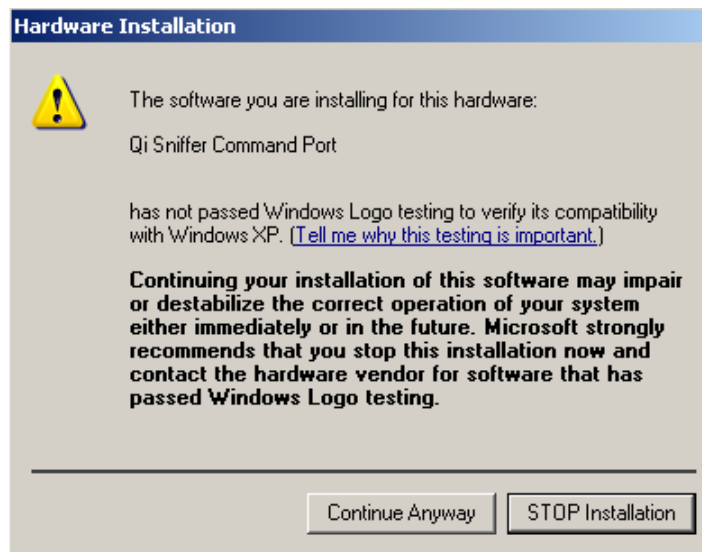Select **Install the software automatically,** and click **Next.**

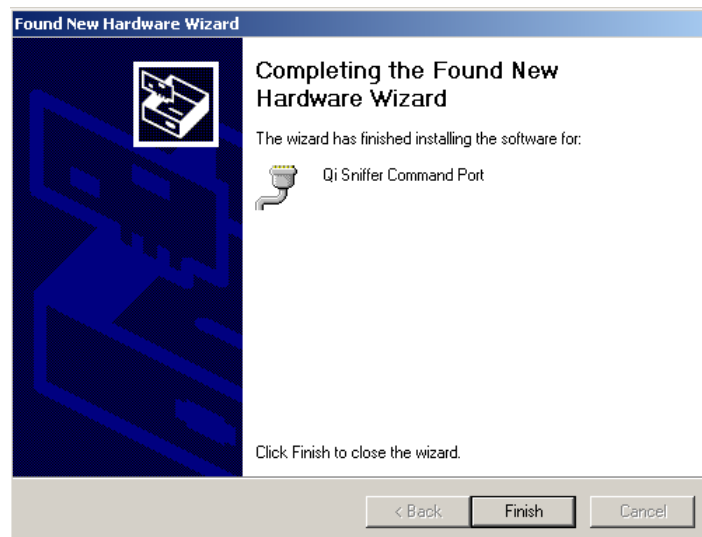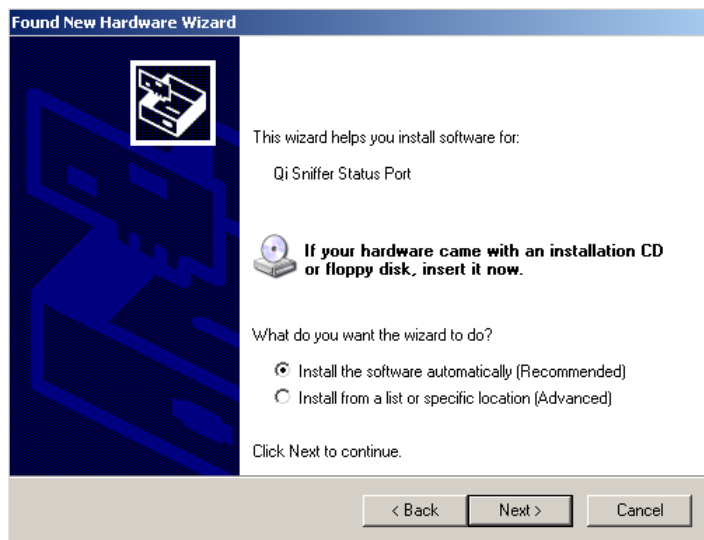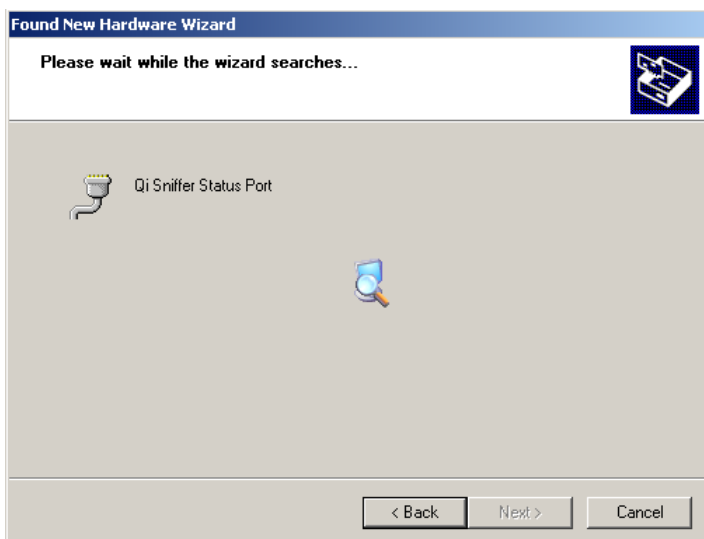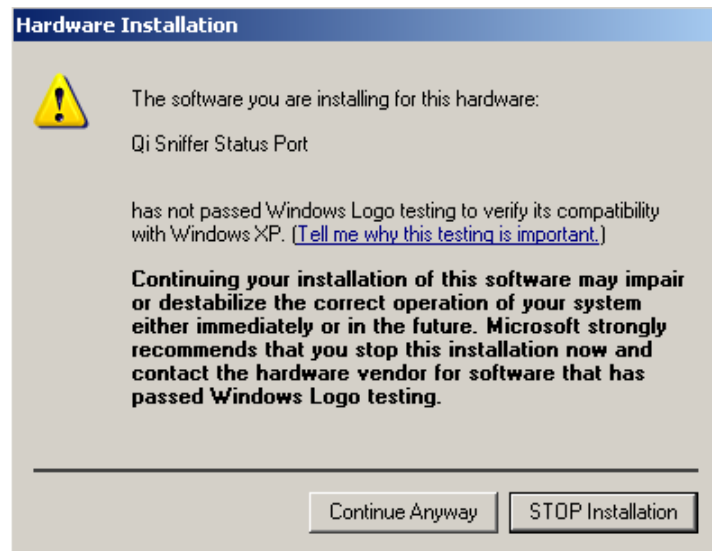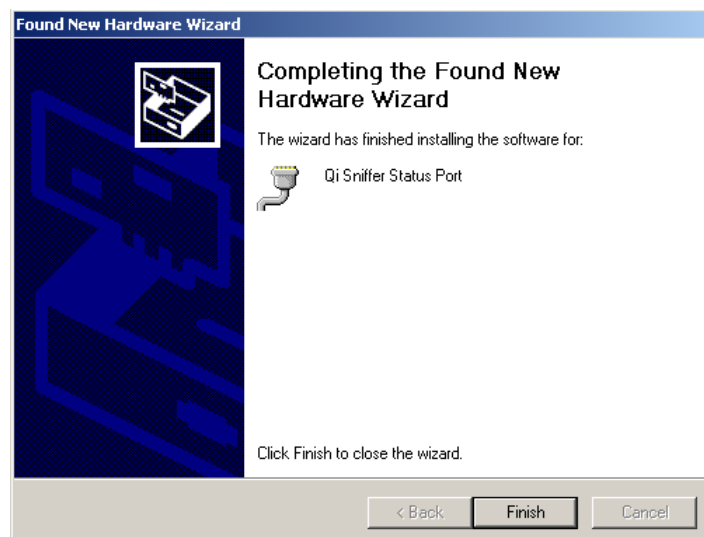The **Qi Sniffer Status Port** will be installed.

The **Qi Development System** uses standard serial port device drivers. These drivers have not been verified by Windows Logo testing.

To continue with the USB device installation click **Continue Anyway.**

To finish the **Qi Sniffer Status Port** installation, click **Finish.**

Congratulations! Your **Qi Sniffer** and **Qi Development System** are now installed and ready to use. Below are some helpful tips and guidelines for using your Qi Sniffer diagnostic tool.

Qi Sniffer Operational Tips

To make sure your Qi Sniffer device is operating properly, check the blue **Status** light on the Sniffer. A steady blue status light means the Qi Sniffer is powered up and ready to capture data. If the status light is off or blinking, check the USB connection and make sure the USB drivers are properly installed.

Place the end of your Sniffer near a Qi transmitter (within 2 inches, or about 50 mm). If the transmitter is powered up, but no receiver device is present, the **Field** light on the Sniffer should flash every few seconds. A short flash of the field light typically means the transmitter is pinging to see if a receiver device is present for charging. The color of the field light indicates the ping signal strength detected by the Sniffer. Green = high ping signal strength, Amber = medium ping signal strength, and Red = low ping signal strength. The Sniffer will generally work best if the field light is green or amber. If the field light is off, solid red, or quickly blinking on and off red, re-position the Sniffer to improve detection. Moving the Sniffer closer to or farther from the transmitter coil or adjusting the orientation of the Sniffer may help. Turning the Sniffer on its side or changing the angle of the sniffer may improve the signal detection.
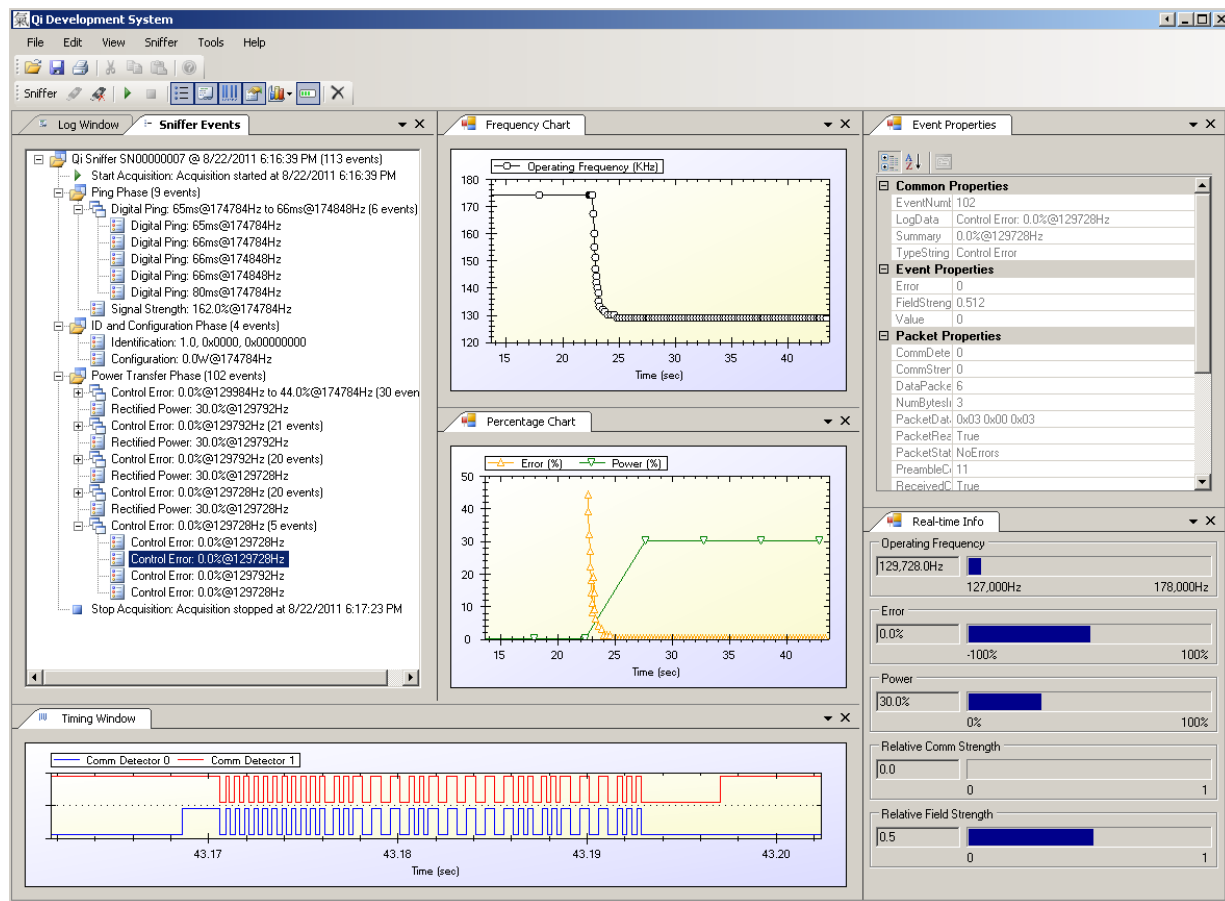
When a Qi receiver is placed on the Qi transmitter and the receiver starts sending communications messages, the Sniffer **Comm** light should illuminate. The color of the comm light indicates the comm signal strength detected by the Sniffer. Green = high comm signal strength, Amber = medium comm signal strength, and Red = low comm signal strength. The Sniffer will generally work best if the comm light is green or amber. If the comm light is off, solid red, or quickly blinking on and off red, re-position the Sniffer to improve detection. Moving the Sniffer closer to or farther from the transmitter coil or adjusting the orientation of the Sniffer may help. Turning the Sniffer on its side or changing the angle of the sniffer may improve the signal detection.

Note: The Sniffer field and comm signal strength measurements will vary depending on the Qi transmitter and Qi receiver being monitored and the position of the Sniffer device. These signal strengths are relative to the Sniffer's internal detectors and do not correlate directly with the Qi transmitter and Qi receiver signal strengths.

Qi Development System Operational Tips

To open the Qi Development System select **Start→Programs→AVID Technologies→Qi Development System.**

By default, two tool bars and six sub-windows appear in the main application window. Each window is described in more detail below. All windows can be re-sized, re-positioned, or closed. To restore the window positions to the default, select **View→Reset Window Layout**. Window snapshots can be printed by selecting the window tab and then clicking the printer icon, typing **CTRL+P**, or by selecting **File→Print**. Data logged during acquisition sequences can be saved to a file and retrieved/displayed/printed later by using **File→Save** or **File→Open**.

AVID Technologies, Inc.

2112 Case Parkway South, Twinsburg, Ohio 44087 • Phone 330.487.0770 • 800.285.AVID • Fax 330.487.0777 • www.avid-tech.com

Sniffer Tool Bar

The Sniffer tool bar includes buttons for
- Connecting and disconnecting to the Sniffer device (USB).
- Starting and stopping Sniffer acquisition sequences.
- Displaying various charts and windows
- Clearing the events buffer

Sniffer Events Window

The Sniffer events window displays general status and event information in a tree/outline format as the data are being collected. Groups of events can be expanded or minimized for readability. When a specific event or group of events is selected, detailed information about the selected events is displayed in the **Event Properties** window and in the **Timing Window.**

Event Properties Window

The Event Properties window displays detailed information including common properties, event properties, and timing properties for events that are selected in the Sniffer Events window. To see details for individual events within a group of events, expand the group and select the individual event of interest.

Frequency Chart and Percentage Chart

The Frequency and Percentage charts are strip chart displays that scroll data in real time. The Frequency Chart displays ping and operating frequency information for the Qi transmitter. The Percentage Chart displays control error and rectified power feedback information from the Qi receiver. To zoom in or out: select the Chart tab, place the mouse cursor somewhere on the chart and move the mouse wheel. Zooming in is also possible by using the mouse to draw a box around the data of interest. To scroll left/right through the data, hold the CTRL key on the keyboard, hold down the left mouse button in the chart, and move the mouse back and forth. To undo zooming/scrolling and return to the originally displayed data, right click in the window and select **undo_all**.

Real Time Info Window

The Real Time Info Window displays gas gauges for various system operational parameters. By default, the system operating frequency, control error feedback, rectified power feedback, relative receiver communications signal strength, and relative transmitter field strength are displayed. The real time data displays are configurable in the View→Application Properties menu.

Timing Window

The timing window displays Qi receiver communications packet information in a "logic analyzer" format. There are two communications detectors in the Sniffer. Data from both detectors are displayed (Red and Blue traces) in the Timing Window. To zoom in or out: select the Timing Window tab, place the mouse cursor in the window and move the mouse wheel. Zooming in is also possible by using the mouse to draw a box around the data of interest. To scroll left/right through the data, hold the CTRL key on the keyboard, hold down the left mouse button in the window, and move the mouse back and forth. To undo zooming/scrolling and return to the originally displayed data, right click in the window and select **undo_all**. Time stamp information for each data edge in the Timing Window can be displayed by placing the mouse cursor near the data edge while the window tab is selected (highlighted).

Log Window

The Log Window displays "raw" event data in a scrolling fashion rather than in a tree view.