



MAX34407 Power Accumulator Windows Driver Installation Guide

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Abstract

The MAX34407 is a current and voltage monitor specialized for determining power consumption. Maxim has developed a MAX34407 driver for systems using Windows® 10 OS. This document provides the necessary steps for installing the driver.

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1. Introduction

1.1 Purpose

The MAX34407 is a current and voltage monitor that is specialized for determining power consumption. The device has a wide dynamic range to allow it to accurately measure power in systems that consume small to large amounts of power. The device automatically collects the current-sense and voltage samples. The samples are then multiplied to obtain a power value and the power values are then accumulated. Upon a command from the host, the device transfers the accumulated power samples as well as the accumulation count to a set of registers that the host can access. This transfer occurs without missing a sample and allows the host to retrieve the data not only in real time, but also at any time interval.

Maxim has developed a driver for the MAX34407 for systems running on Windows® 10 OS. This document provides the necessary steps for installing the driver.

1.2 Scope

The intended users of this document are hardware manufacturers using the MAX34407 with Windows 10 OS. This document gives a step-by-step procedure for installing the driver.

2. Installation Manual

2.1 Preinstallation

The prerequisites needed for installation are listed below:

- Hardware with MAX34407 device and Windows 10 OS
- MAX34407 device driver package

The driver should be saved at a known location.

2.2 Procedure

To install Maxim's MAX34407 device driver, the default **Power Meter** in the system first should be uninstalled. The required steps to accomplish the given purpose, i.e., installation of the Maxim's device driver, is listed below. All the required operations are completed using the **Device Manager** window.

Step 1: Launch the Device Manager

1. To launch the **Device Manager** window, click **Start > Control Panel > Device Manager**.
2. **Device Manager** window is shown in **Figure 1**.

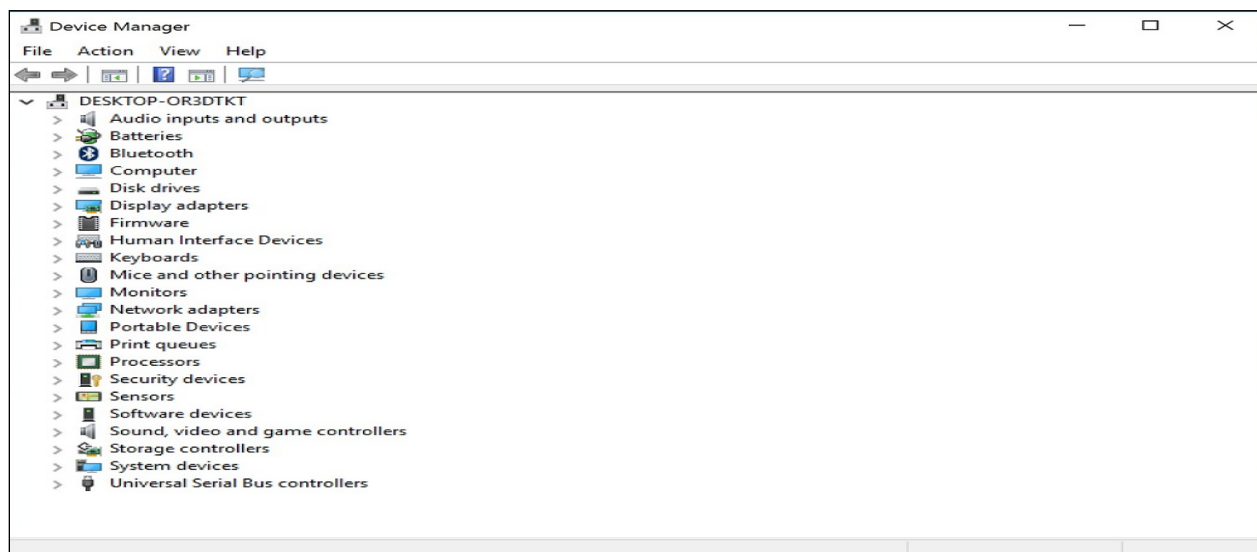


Figure 1. Device Manager window.

Step 2: Uninstall the Power Meter

Once the **Device Manager** window appears, under **System devices**, locate the default **Power Meter** as shown in Figure 2. It is possible that multiple instances of the default **Power Meter** are present in the system. In that case, all such instances of the default **Power Meter** should be uninstalled.



Figure 2. Select Surface Power Meter under System devices.

Right-click on the default **Power Meter** and select the **Uninstall** option. This action pops up a window that asks to confirm the uninstallation, as shown in Figure 3. In the pop-up window, check the **Delete the driver software for this device.** option and click **OK**, then wait for the operation to complete.

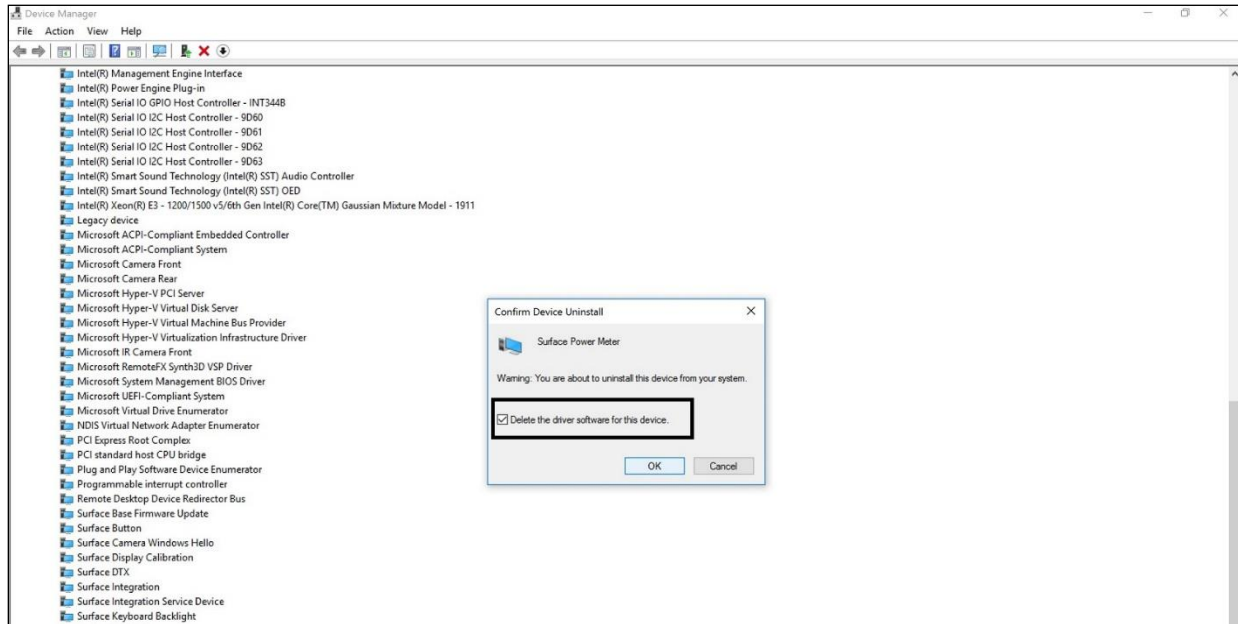


Figure 3. Uninstall Surface Power Meter.

After the uninstallation, click the **Scan for hardware changes** option in the toolbar at the top of the **Device Manager** window. This option is indicated in Figure 4 by a black arrow. After clicking **Scan for hardware changes** option, the Maxim power meter device appears as **Unknown device** under **Other devices**, as shown in Figure 5.

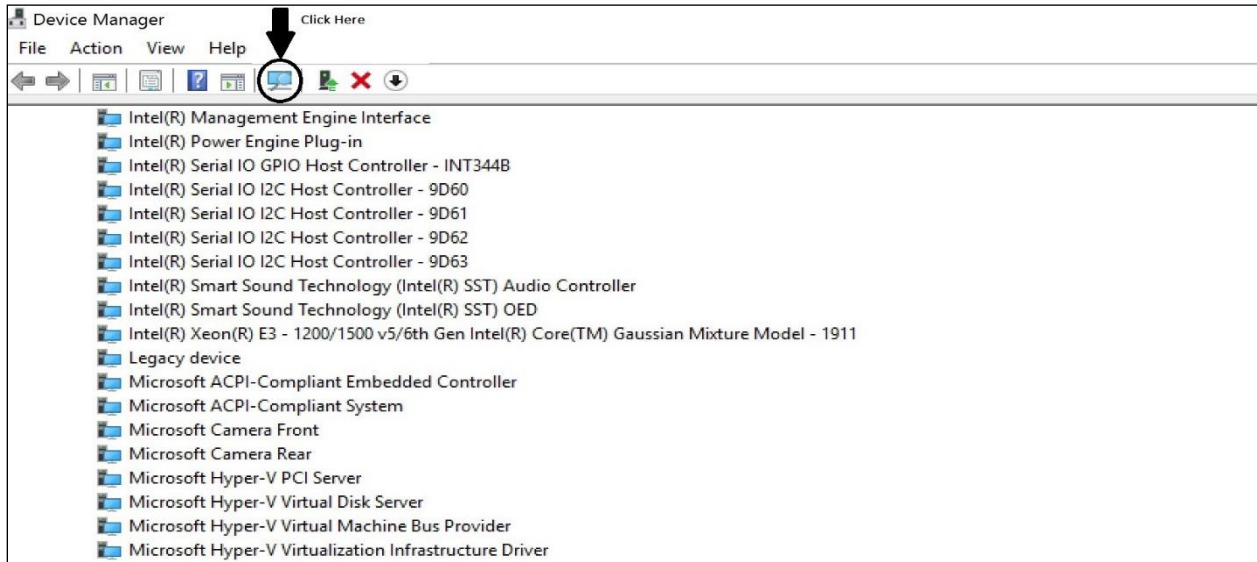


Figure 4. Scan for hardware changes option.

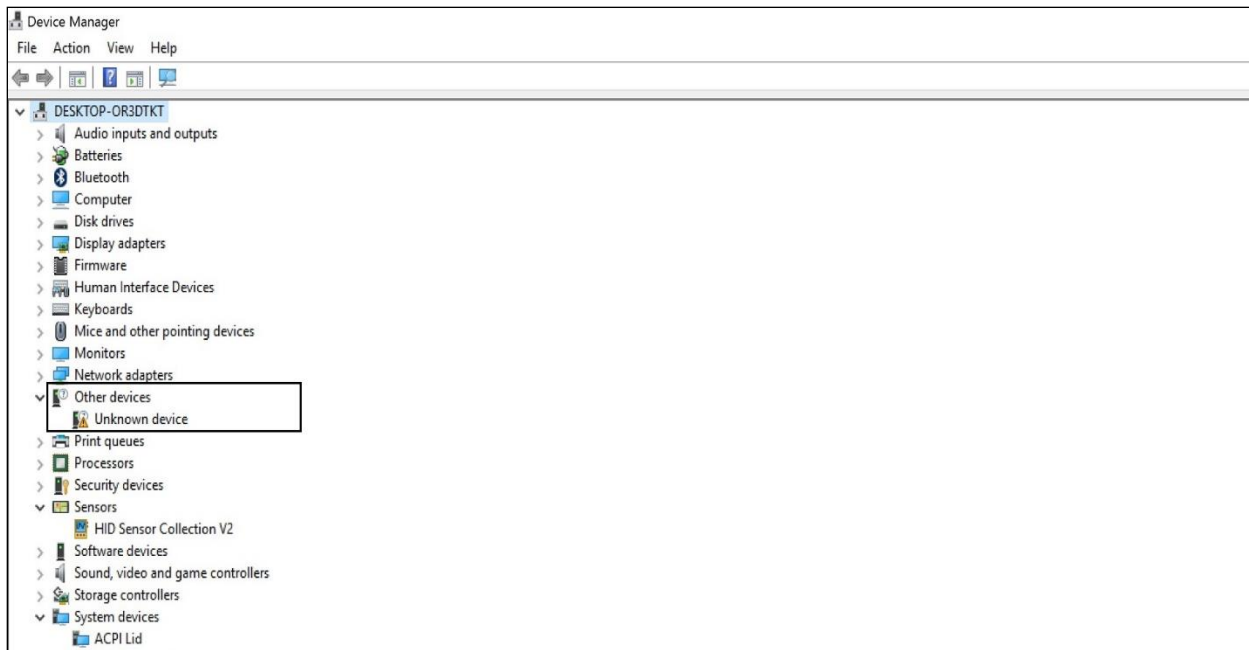


Figure 5. Unknown device.

Step 3: Install Maxim's Driver

To install the driver, right-click on **Unknown device** and select **Update Driver Software**, as shown in Figure 6.

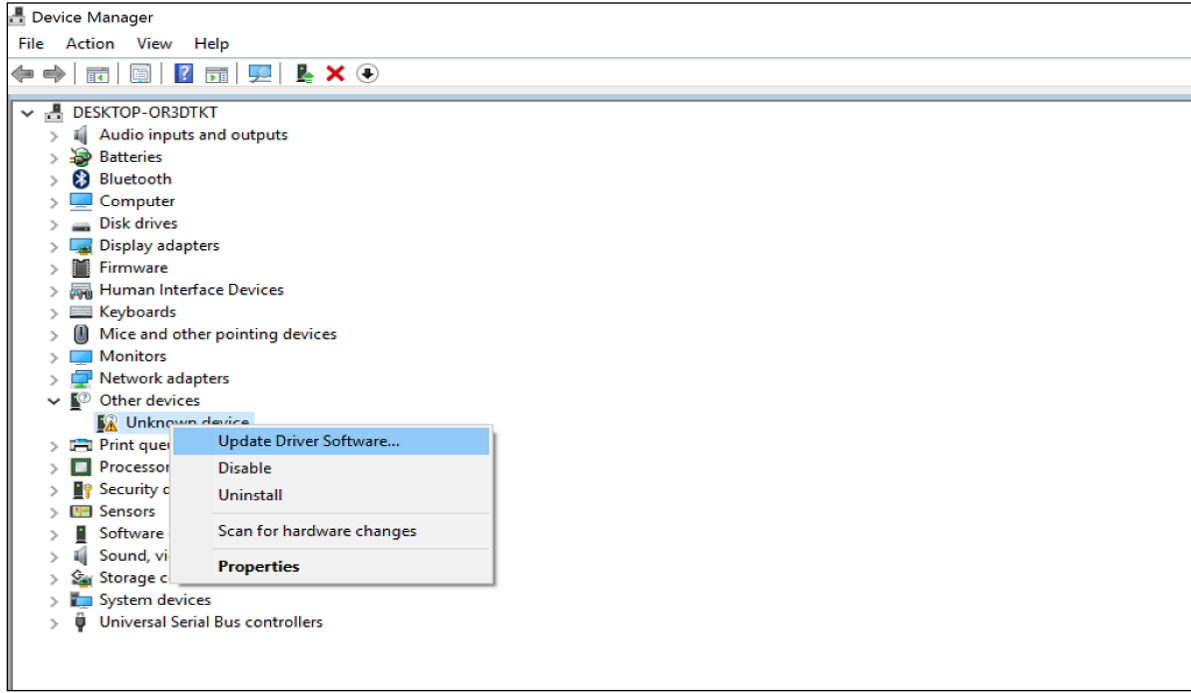


Figure 6. Update Driver Software.

The **Update Driver Software** wizard has two options to locate the driver package: one automatically searches the computer and Internet for the installation of latest driver software and the other allows the user to manually select the driver file stored in the computer, as shown in Figure 7.

Select the second option: → **Browse my computer for driver software** (manual search).

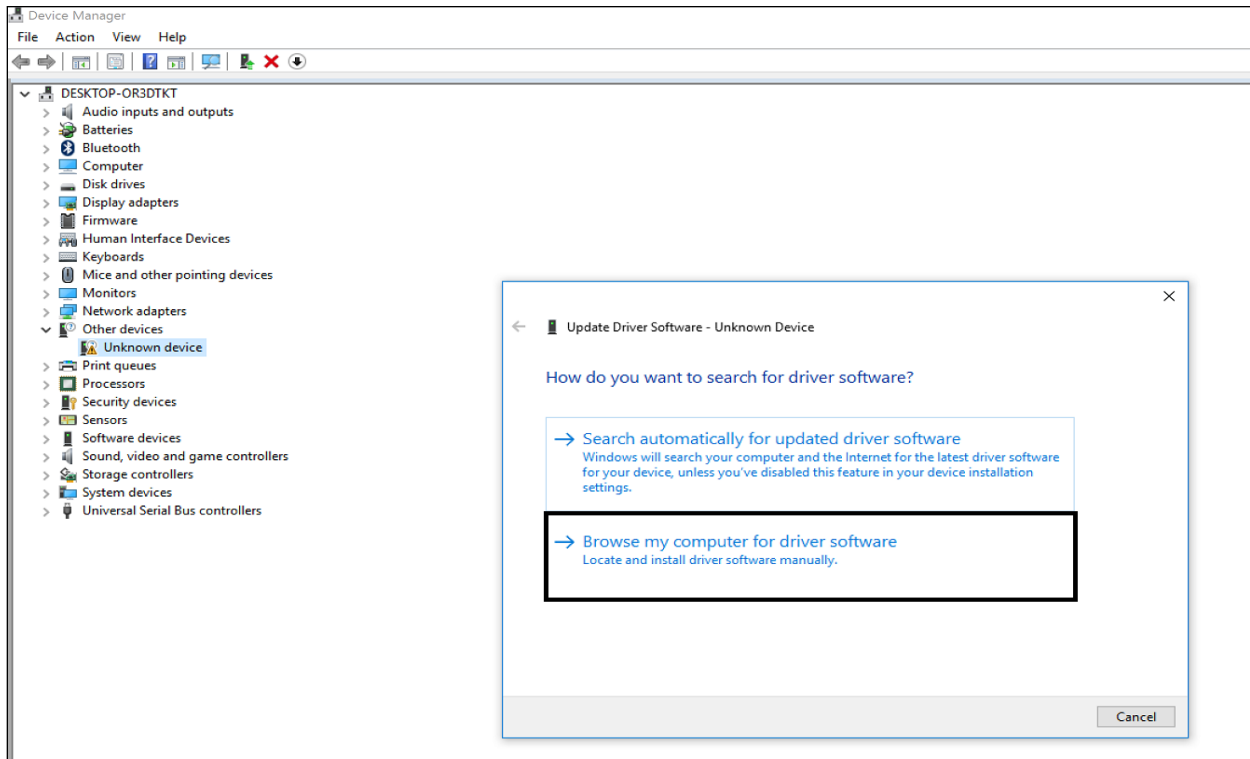


Figure 7. Update Driver Software window.

The **Update Driver Software** wizard asks you to provide the path for the driver, as shown in Figure 8. Provide the path where you had saved the driver, and click **Next**.

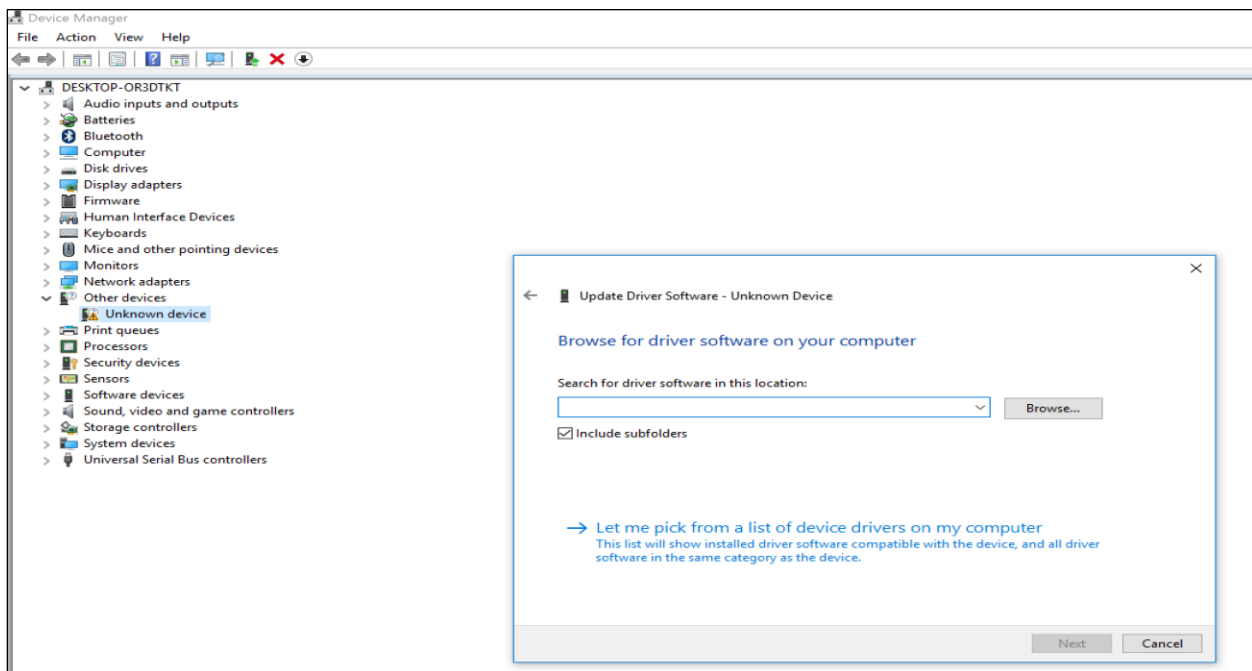


Figure 8. Provide path for the driver software.

This step installs the driver software in the system. After the installation, the **Update Driver Software** wizard displays the message "Windows has successfully updated your driver software," as shown in Figure 9. Click **Close**.

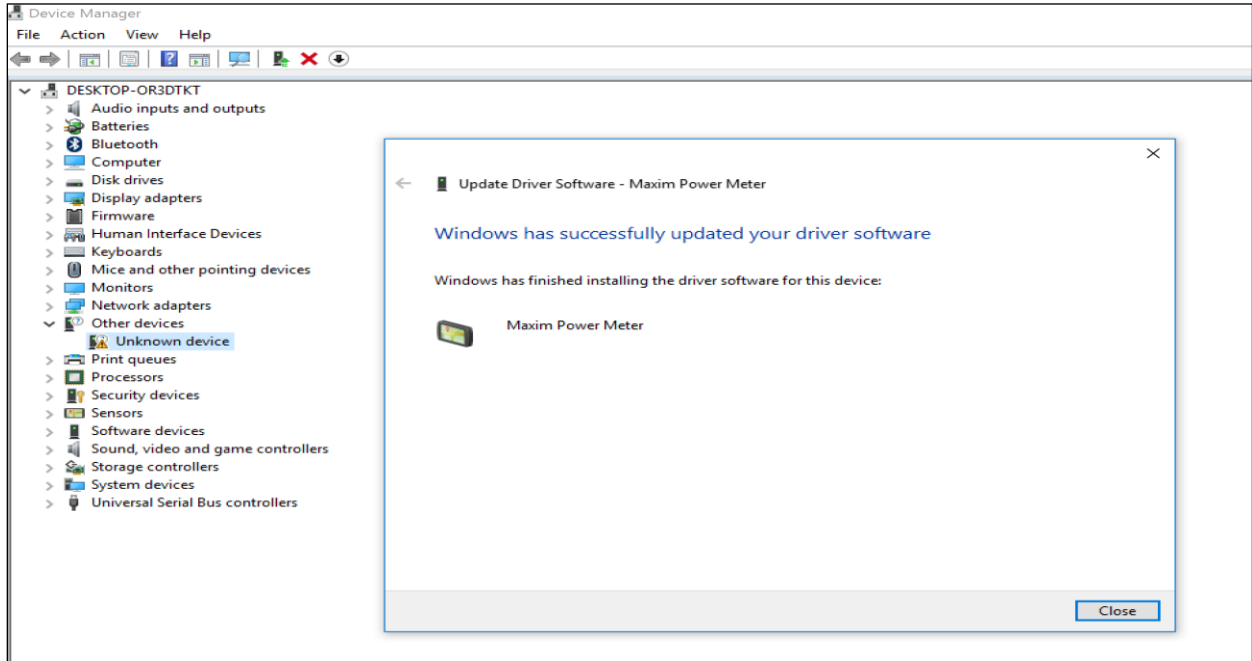


Figure 9. Windows has successfully installed the driver software.

Now, you should be able to see the **Maxim Power Meter** driver installed under **Sensors**, as shown in Figure 10.

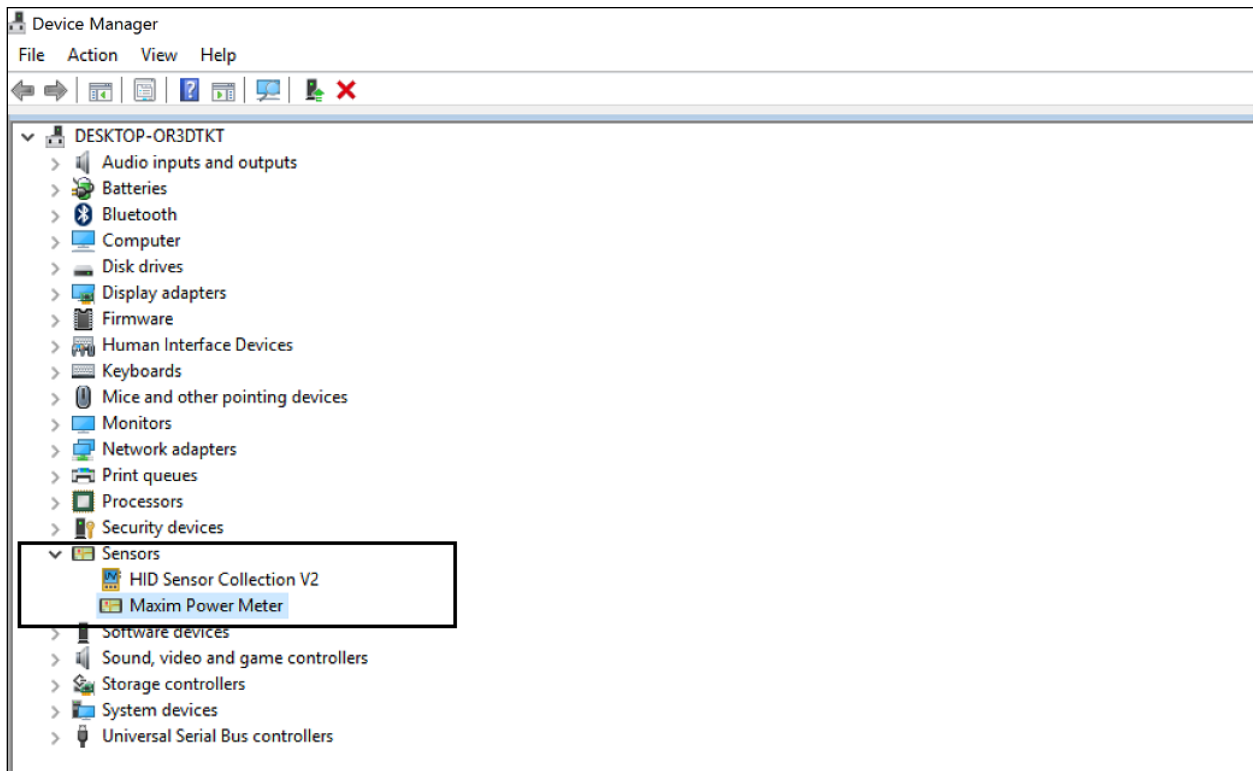


Figure 10. Maxim Power Meter driver shows as installed under Sensors.

2.3 Driver Installation Verification

To verify whether the device driver is installed properly, right-click on the installed **Maxim Power Meter** and select the **Properties** option. The **Maxim Power Meter Properties** window is displayed. Select the **General** tab from the properties window, and observe the **Device status**. If the driver is properly installed, then “The device is working properly” message is shown as in Figure 11.

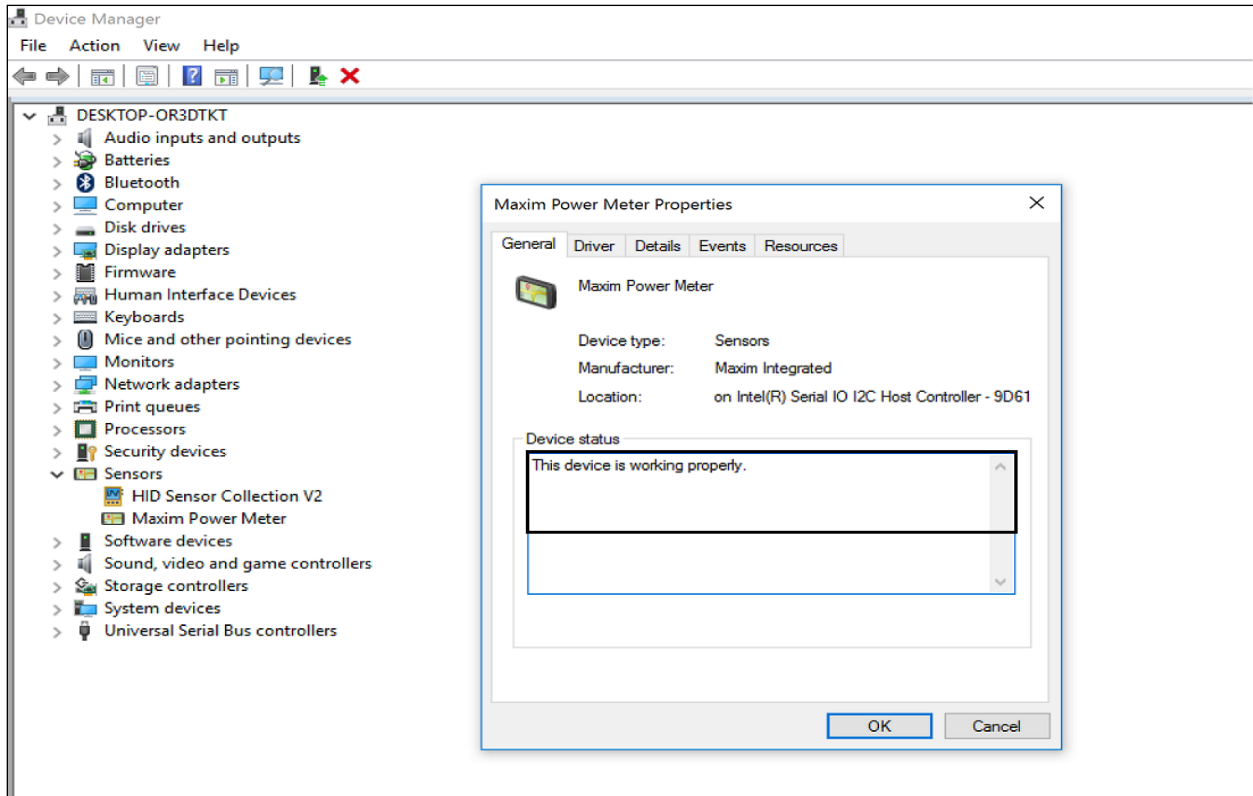


Figure 11. Device status shows whether the device is working properly.

All these steps should be repeated for all instances of the default Power Meter found.

3. MAX34407 Access

Once the driver has been successfully installed, the user can read the values using the following tools developed by Maxim:

- PaTest.exe
- MAX34407 Power Accumulator Application Software

PaTest.exe is a command line interface and the **MAX34407 Power Accumulator Application Software** is a graphical user interface (GUI) that provide the user with an easy-to-use interface to access the device. This section introduces and describes the **PaTest.exe** tool for accessing the driver after it is installed.

3.1 Downloading the Tool

The tool **PaTest.exe** can be downloaded from the Maxim website at:

www.maximintegrated.com

On downloading the **PaTest.exe**, save the executable file in a known location.

The tool **Maxim Power Accumulator Application Software** can be downloaded from the Maxim website at:

www.maximintegrated.com/evkitsoftware

3.2 Running PaTest.exe

Run **Command Prompt** as an Administrator.

Change the location to where the **PaTest.exe** is located.

Type **PaTest.exe** and click **Enter**.

When the driver and the device is installed successfully, **PaTest.exe** will read from the device and displays the values as shown in Figure 12.

```
Maxim Power Accumulator Test Program, v1.1
(c)Copyright Maximum Integrated
[ GPU_TOP] [ CPU_CORES] [ BATTERY_TOP] [ WLAN_BT]
[P=00052-mW] [P=01469-mW] [P=00038-mW] [P=00319-mW]
[P=00002-mW] [P=03943-mW] [P=00062-mW] [P=00337-mW]
[P=00004-mW] [P=05084-mW] [P=00062-mW] [P=00389-mW]
[P=00000-mW] [P=03938-mW] [P=00066-mW] [P=00410-mW]
[P=00000-mW] [P=05547-mW] [P=00063-mW] [P=00298-mW]
[P=00001-mW] [P=06594-mW] [P=00061-mW] [P=00348-mW]
[P=00001-mW] [P=03051-mW] [P=00061-mW] [P=00385-mW]
[P=00066-mW] [P=03347-mW] [P=00065-mW] [P=00382-mW]
[P=00673-mW] [P=01173-mW] [P=00062-mW] [P=00374-mW]
[P=00020-mW] [P=00448-mW] [P=00063-mW] [P=00402-mW]
[P=00000-mW] [P=00331-mW] [P=00059-mW] [P=00386-mW]
[P=00001-mW] [P=00535-mW] [P=00061-mW] [P=00382-mW]
[P=00003-mW] [P=00421-mW] [P=00066-mW] [P=00391-mW]
[P=00278-mW] [P=01600-mW] [P=00066-mW] [P=00381-mW]
[P=01178-mW] [P=02267-mW] [P=00064-mW] [P=00351-mW]
[P=01497-mW] [P=08688-mW] [P=00063-mW] [P=00319-mW]
[P=00191-mW] [P=07366-mW] [P=00063-mW] [P=00388-mW]
[P=00020-mW] [P=06852-mW] [P=00064-mW] [P=00361-mW]
[P=00017-mW] [P=07404-mW] [P=00065-mW] [P=00384-mW]
[P=00043-mW] [P=07985-mW] [P=00062-mW] [P=00412-mW]
```

Figure 12. Reading from the device.

In the case where the device is not available, it displays No EMI Devices (0) as shown in Figure 13.

```
Maxim Power Accumulator Test Program, v1.1
(c)Copyright Maximum Integrated
No EMI Devices (0)

C:\Windows\system32>_
```

Figure 13. No EMI Devices found.

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