

GENERAL DESCRIPTION

Some customers have reported problems connecting to their MagAlpha Evaluation Kit (EVMAxx-Q-00A). This Troubleshooting Quick Reference Sheet provides software and hardware settings assistance to address common connection issues.

The hardware configuration of the MagAlpha Evaluation Kit is a Lattice ICestick FPGA evaluation kit, loaded with Sensima software, which connects to the MagAlpha sensor for register programming and sensor data readout. On the Lattice ICestick board, the USB interface is handled via a FTDI FT2232HL USB-SPI bridge, which is connected with a Lattice FPGA. Typically, the FTDI driver is the root of most connection problems.

1. Troubleshooting Software

The following software and drivers are needed to diagnose the connection problem:

1. FTDI D2XX drivers.

<http://www.ftdichip.com/Drivers/CDM/CDM%20v2.12.00%20WHQL%20Certified.exe>

2. MagAlpha Command Line Utility.

http://www.sensimatech.com/fileadmin/user_upload/mautil.2.2.0.zip

To troubleshoot the connection, please follow the steps below:

Step One: Installation

1. Right click on the FTDI D2XX driver installer file.
2. Select "Run as administrator."
3. Install software.
4. Unzip MagAlpha Command Line Utility into C:\sensima\mautils.

Step Two: Check Connection

1. Press "WinKey+R."
2. Type in "cmd."
3. Hit "Enter" to bring up the command line.
4. Plug the ICEstick into a USB 2.0 port on the computer (without going through a USB hub).
5. Type "C:" into the command line.
6. Hit "Enter."
7. Type "cd C:\sensima\mautils" into the command line.
8. Hit "Enter."
9. Type "mread -l" into the command line.
10. Hit "Enter."

If you see "Number of available SPI channels = 2," then your EVMA has connected successfully. However, if you see "Number of available SPI channels = 0," then there is a problem with the ICEstick driver.

Step Three: Troubleshooting for the ICEstick driver

1. Press "WinKey+R."
2. Type in "devmgmt.msc."
3. Hit "Enter" to bring up the Device Manager.
4. Under "Universal Serial Bus controllers," look for "USB Serial Converter A" and "USB Serial Converter B."
 - ***If these two options do not appear, try unplugging and re-plugging the ICEstick to see if a new device appears on the list. Look in either "Ports (COM & LPT)" or "Universal Serial Bus controllers"***
5. Once the appropriate device appears, Click on the device.
6. Select "Update Driver Software."
7. Select "Browse my computer for driver software."
8. Browse through the driver files extracted during the installation progress.
9. Click "OK."
10. Repeat the steps in the "Check Connection" section to verify the connection.

If the problem is still not resolved, try another USB port. Sometimes only the USB port with the highest priority will work.

If the problem persists, please try using a different computer.

2. Known Issues

The ICEstick cannot connect to a USB 3.0 port using Windows 7 (or earlier).

FTDI has issued the following warning:

“Some users of FTDI silicon have reported that an FTDI device will not install if connected to a USB 3.0 port. (...) USB 3.0 issues are largely confined to Windows 7 (or earlier) machines and the problems experienced go away with Windows 8.”

http://www.ftdichip.com/Support/Documents/TechnicalNotes/TN_152_USB_3.0_Compatibility_Issues_Explained.pdf