

Freedom Sensor Toolbox-Community Edition shows only zeroes in the plot data-how to fix it

The Freedom Sensor Toolbox-Community Edition GUI (Graphic User Interface) offers quick and easy demonstration and evaluation of the NXP sensors.

The GUI can be downloaded from this link: <https://www.nxp.com/design/software/development-software/sensor-toolbox-sensor-development-ecosystem/freedom-sensor-toolbox-community-edition-sensor-evaluation-and-visualization-software:SENSOR-TOOLBOX-CE>

NXP sensor demonstration kits compatible with the GUI are available at this link: <https://www.nxp.com/design/sensor-developer-resources/sensor-toolbox-sensor-development-ecosystem/evaluation-boards:SNSTOOLBOX?tid=vanSENSOREVALUATIONBOARDS>

There is an User Guide available, for the Freedom Sensor Toolbox-Community Edition GUI, describing installation, running and also troubleshooting of some common problems with the GUI. Please find the User Guide at this link: <https://www.nxp.com/docs/en/user-guide/STBCEUG.pdf>

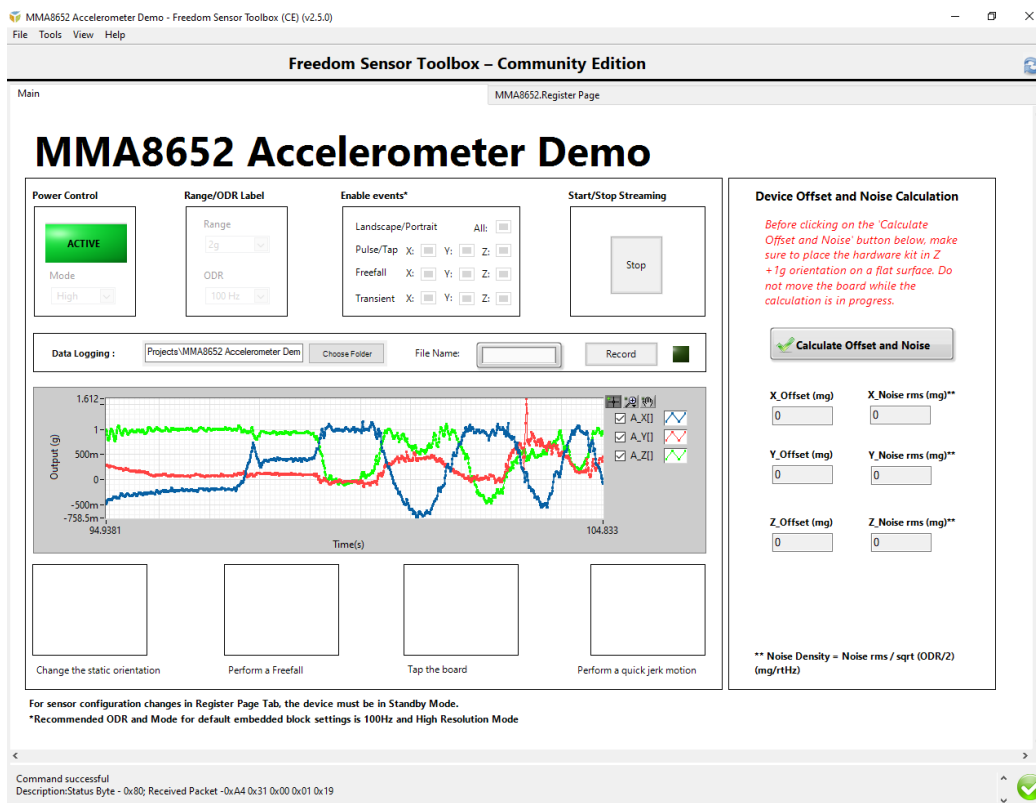


Figure 1. The Freedom Sensor Toolbox GUI is running correctly, Main Page

When the toolbox is running correctly, after pressing the Stat button, user can observe change in individual axis in the plot, according to the change of the individual axis on the sensor evaluated. See Figure 1. for an example with the MMA8652 accelerometer. Note the green mark in the right down corner

indicating, that the GUI and kit is working correctly. User can also observe change in Parameter Details in the Register page. See Figure 2.

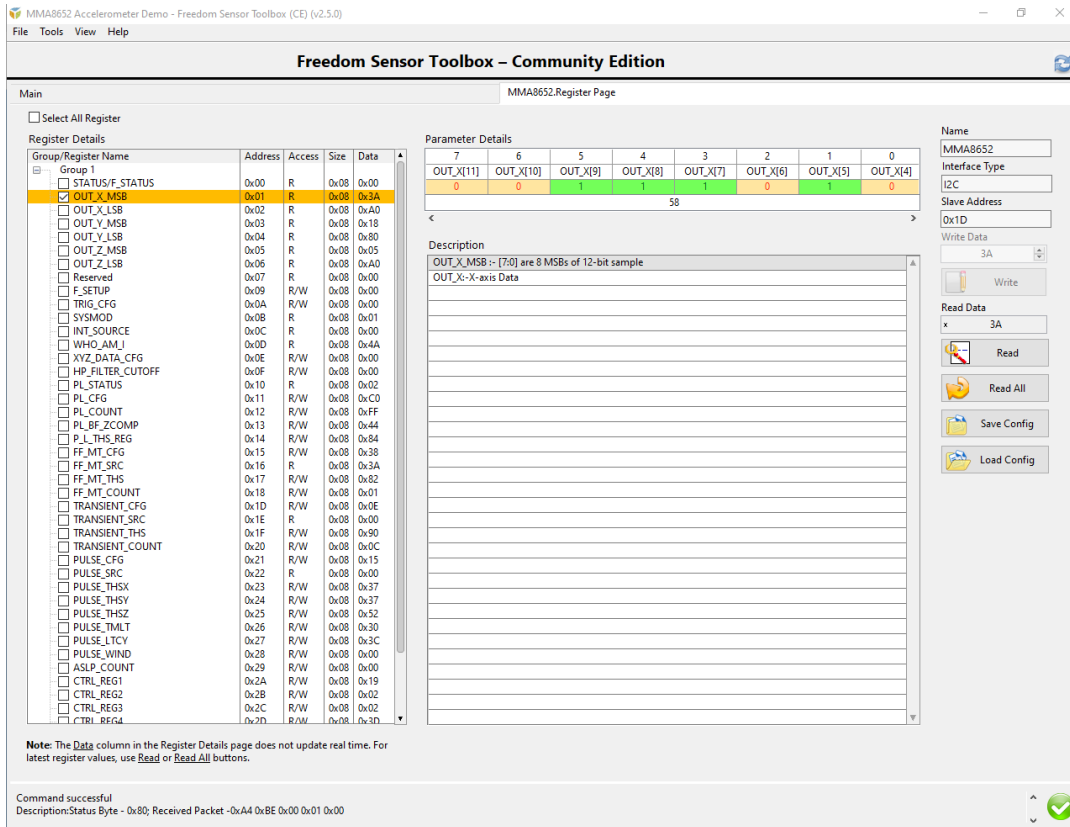


Figure 2. The Freedom Sensor Toolbox GUI is running correctly, Register Page

Some users might come across an issue, where after pressing the start button, the plot in the Main Page of the Toolbox shows only zeroes for all three axis, no matter how the tilt for any of the axis, of the evaluated sensor changes. See Figure 3. Note the red exclamation mark in the right down corner, indicating an issue with the GUI. Although the Parameter Details in the Register Page shows correct values according the change of individual axis on the evaluated sensor. See Figure 4.

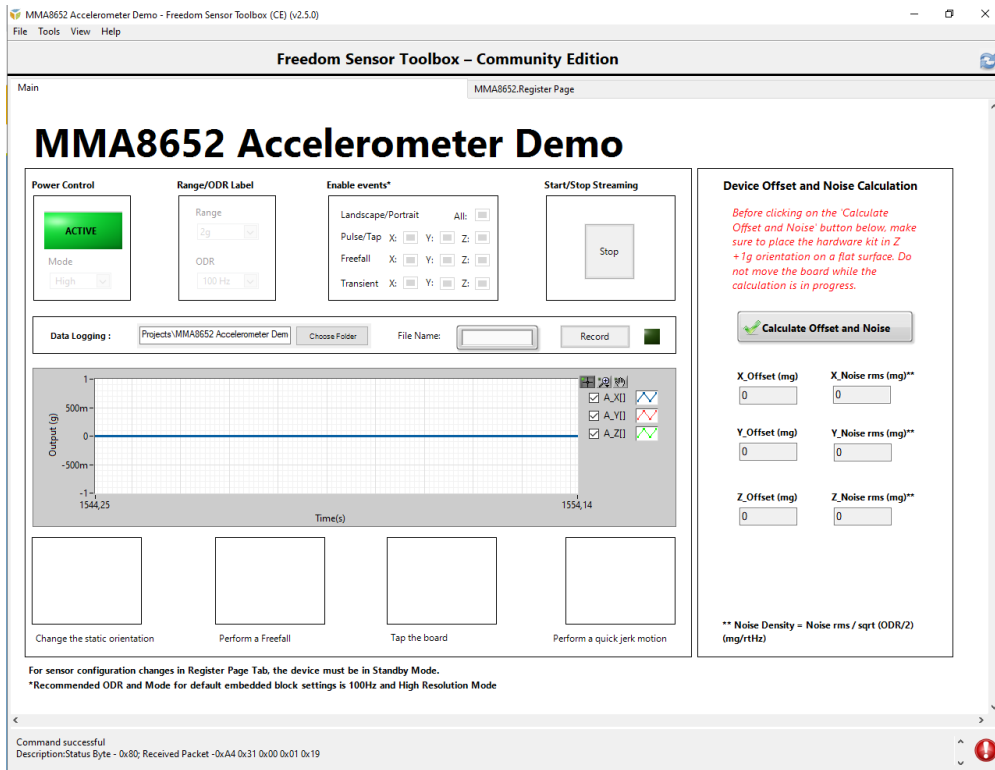


Figure 3. Plot in the Main Page of the GUI shows only zeroes for all three axis

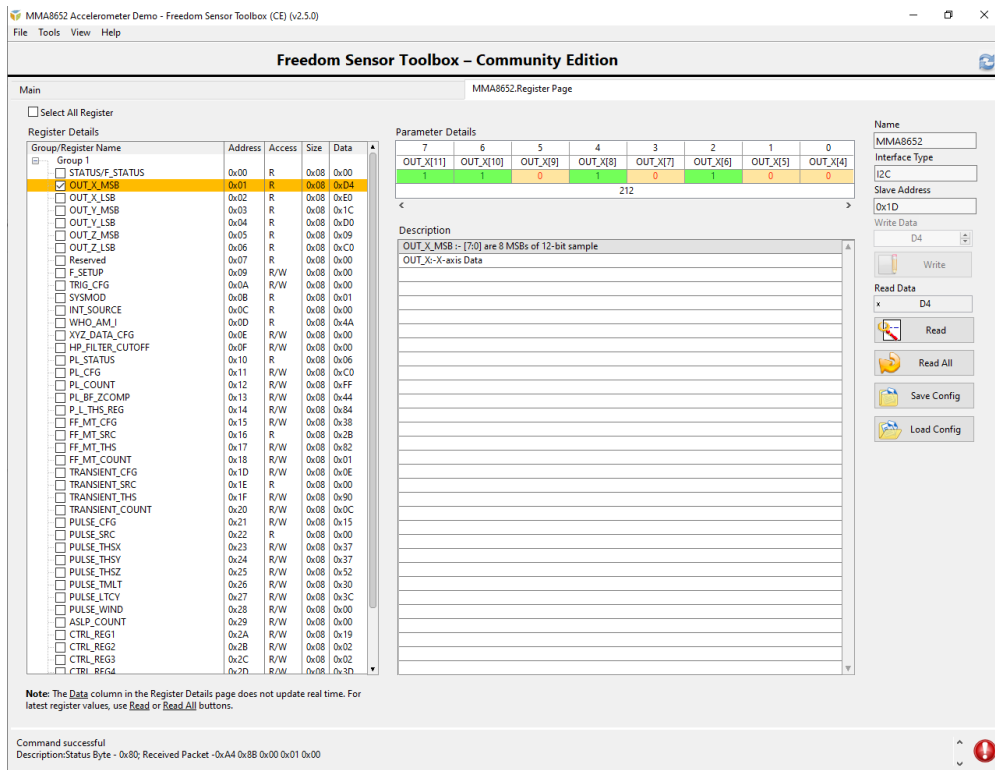


Figure 4. Parameter Details in the Register Page of the GUI

The issue with the wrong scaling in the Freedom Sensor Toolbox-Community Edition GUI is linked to the local preference and format on the computer.

The GUIs have been designed in Chandler/USA where decimal symbol is a simple point.

In Europe and in some Asian countries, it is usually a comma, hence this can cause issue with the plot.

The workaround to fix the issue with the unresponsive plot in the Main Page of the GUI is to change the decimal point in Windows operational system from comma to point. Follow the instructions according the following Figures.

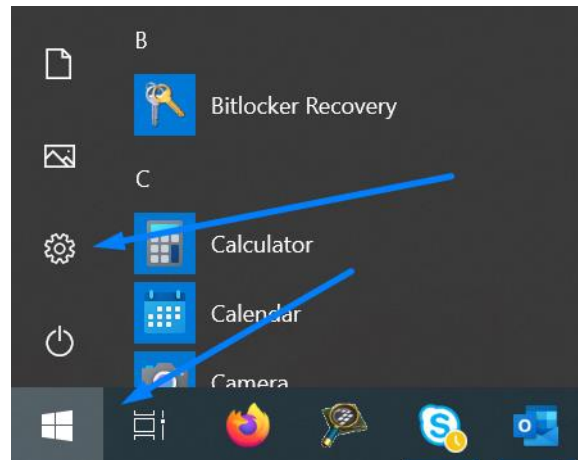


Figure 5. In Start menu press the Settings button

Settings

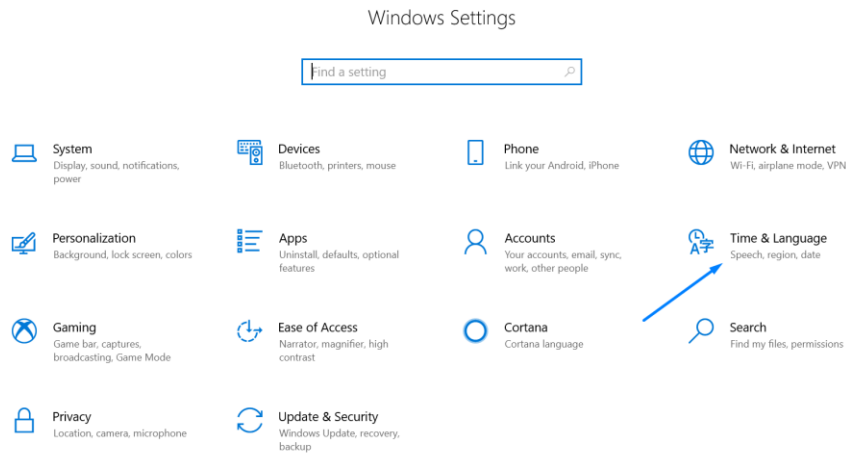


Figure 6. In the Windows Settings choose Time & Language

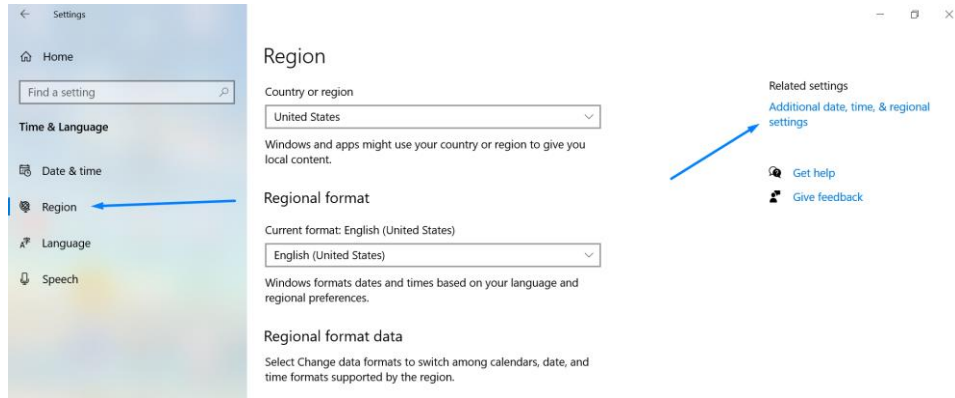


Figure 7. In the Time & Language window choose Region following with Additional date, time & regional settings

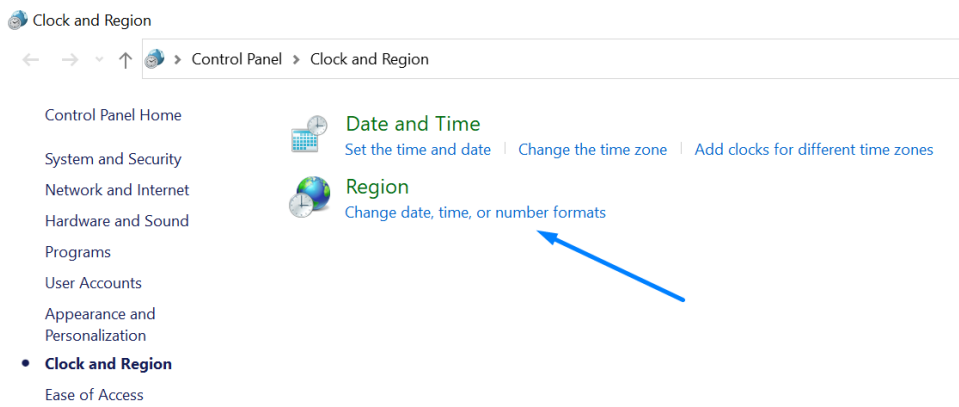


Figure 8. In the Clock and Region choose Change date, time or number formats

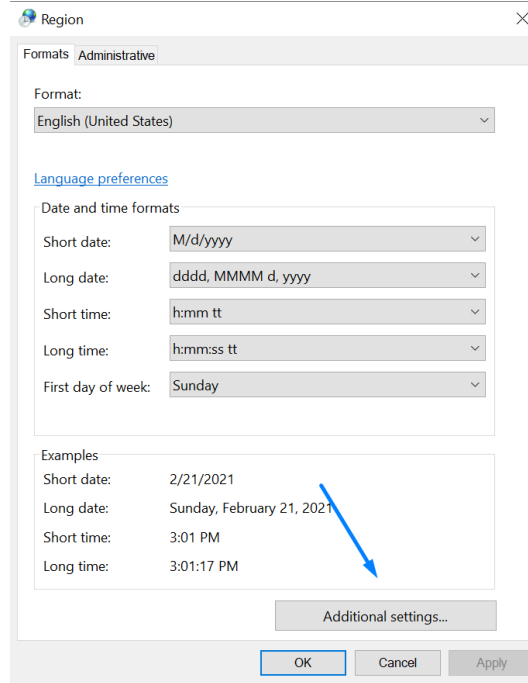


Figure 9. In Region window press Additional settings

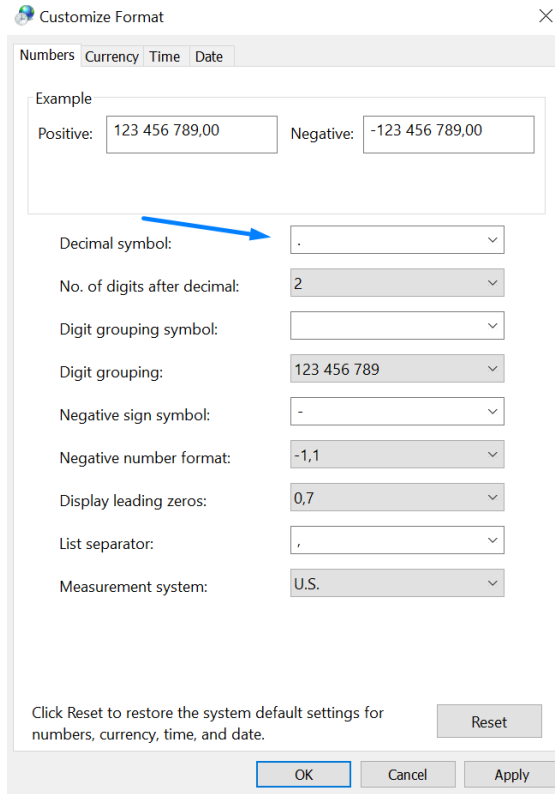


Figure 10. In the Customize Format window change the Decimal symbol to point

After changing the Decimal symbol to point, simply turn on the Freedom Sensor Toolbox GUI and the plot will show changes in the individual axis according to the change in tilt of the sensor for individual axis.