

# PCE-MM200 User Manual

## Welcome

Thank you for choosing PCE-MM200 digital microscope!

The PCE-MM200 digital microscope is an exciting new device that let's you view clear many micro- objects with it, and has a wide scope of applications, such as,

- Industrial Inspection
- Computer Parts inspection
- Telecom module inspection
- Scientific teaching tool
- Medical analysis
- School Research tool
- Insect dissection / examination
- Plant dissection / examination
- Skin examination
- Textile Inspection
- Collections / Coin/ Jewelry Inspection
- Printing Inspection
- And more.....

Please read this manual carefully before using PCE-MM200 digital microscope!!!

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# System Requirement

- I    MAC OS X 10.5 or later version
- I    QuickTime 7.0 or later version

## PCE-MM200.app Software Installation

To install “PCE-MM200.app” application, Please double-click “PCE-MM200.mpkg”(as below)inside “CD-ROM->Mac Software”. The PCE-MM200 installer will display the current release notes and guide you through the installation process to until finish installed. The PCE-MM200.app application is installed in “Go->Applications”.



After the PCE-MM200 applicat is finished installed, please plug the microscope into an available USB port on your Mac OSX PC, and power on. The system will automatically search and install the driver. The software installat ion is now completed, and you can use the microscope with PCE-MM200.app application ion.

**Option:** If the above installation method is not feasible, please directly drag the “PCE-MM200” folder from “CD-ROM->Mac Software” to “Go->Applications”.

## PCE-MM200 Application Software

Note: Before starting the PCE-MM200.app Application Software, please make sure the microscope has been connected to PC via USB cable and power on.

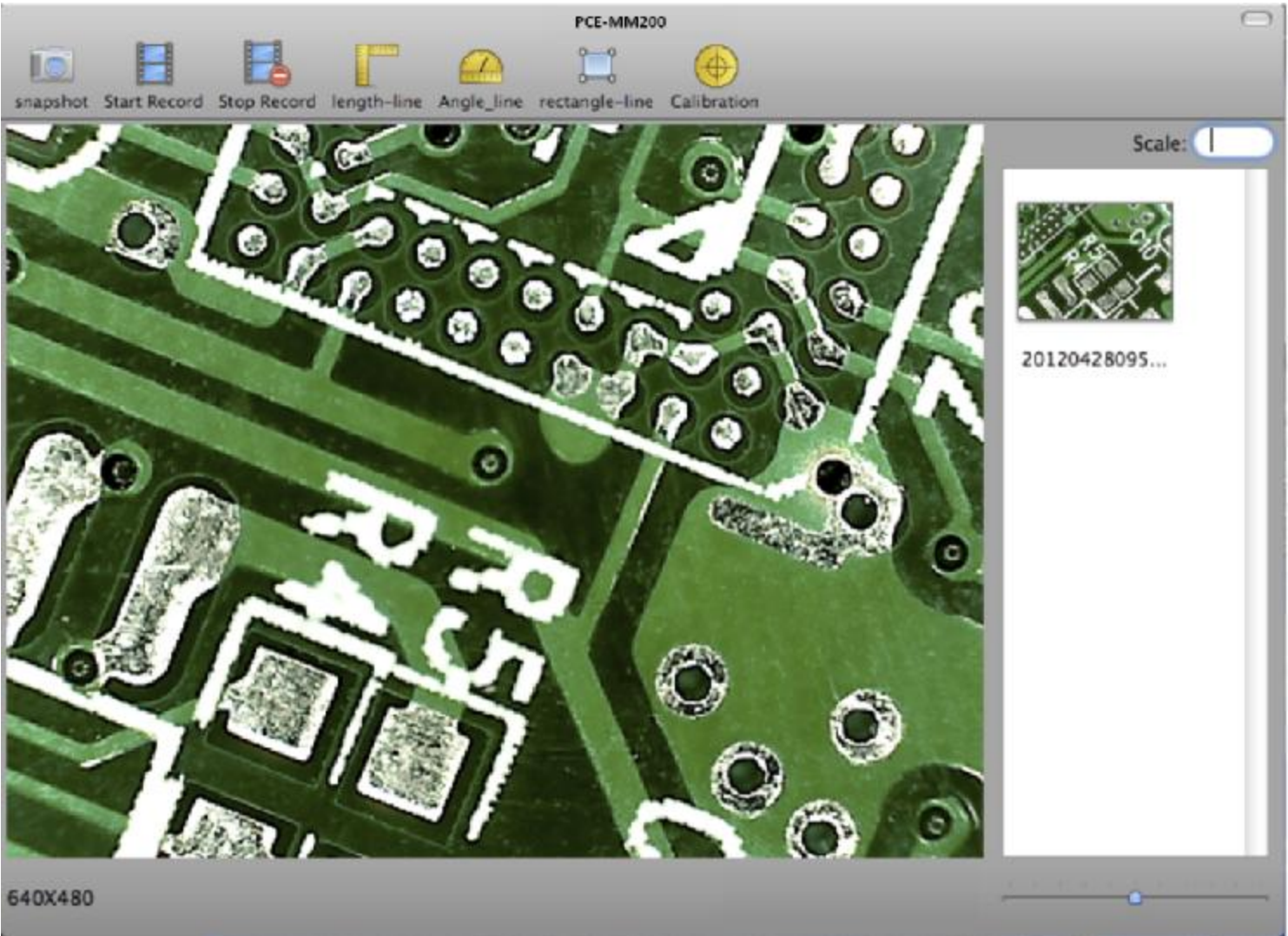


Double-Click PCE-MM200

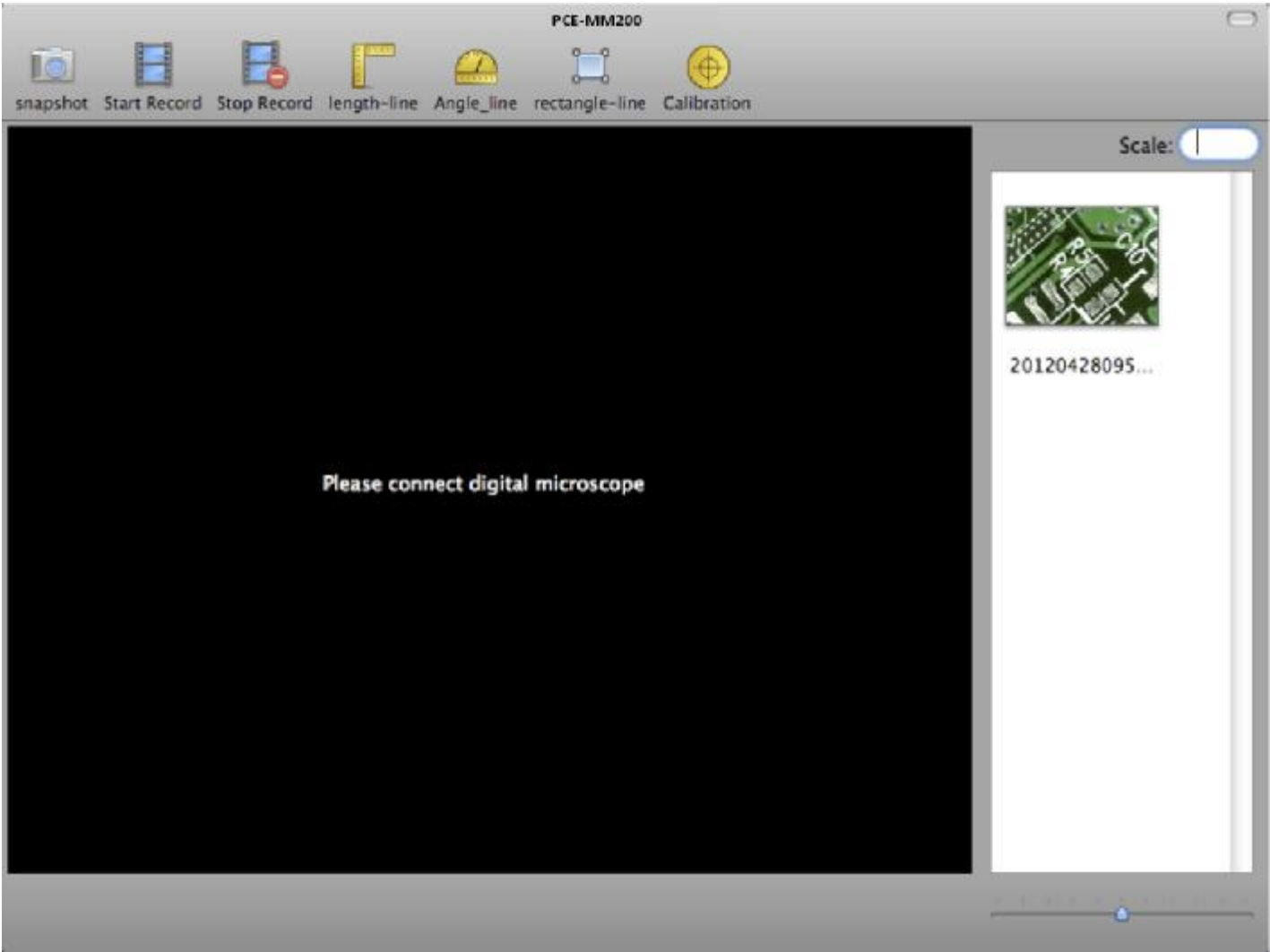
icon on desktop, the PCE-MM200 main screen will be shown as below:



**Option:** If there is not the PCE-MM200 icon on desktop, please click in “Go->Applications->PCE-MM200”.

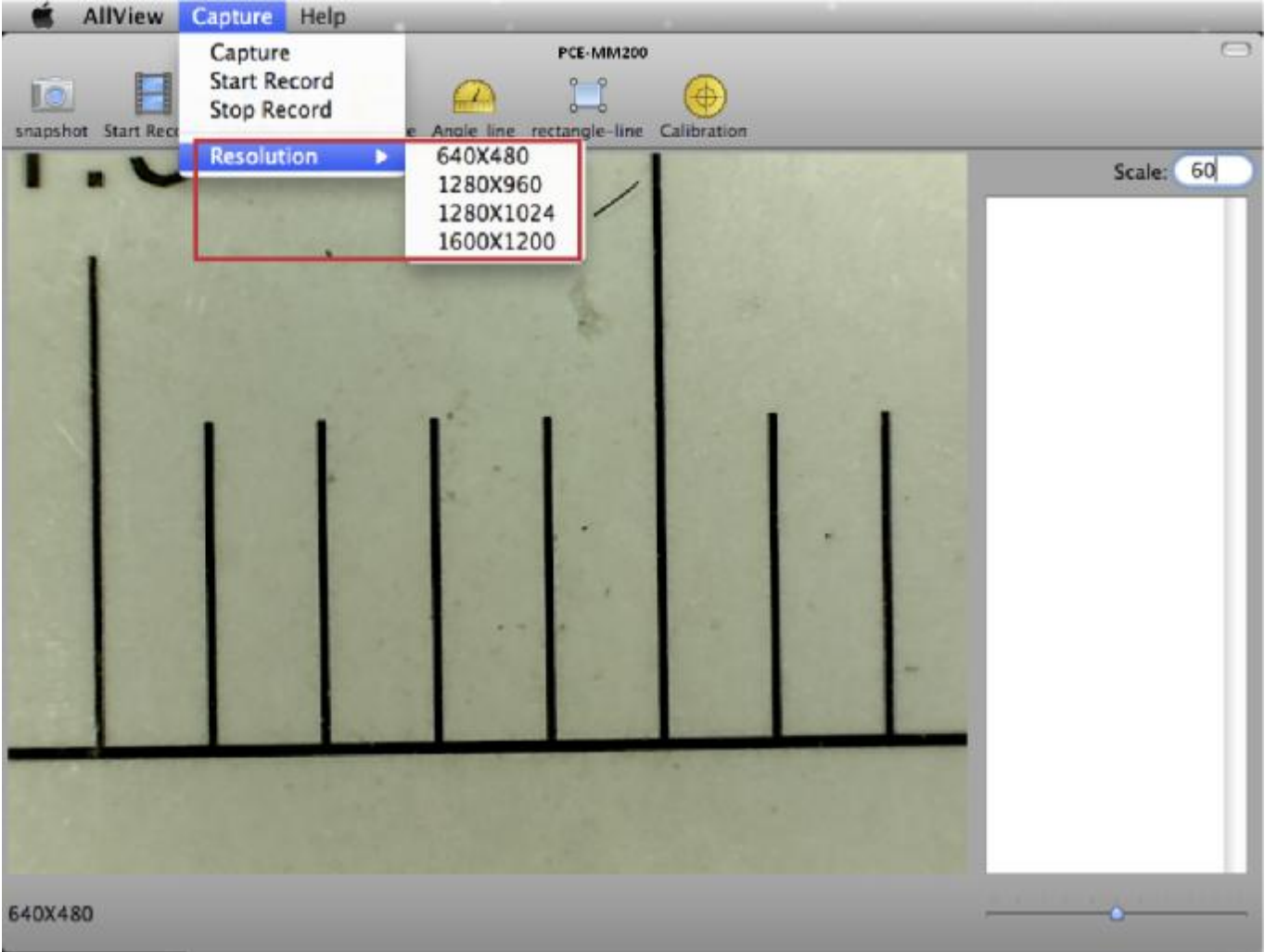


If the Microscope has not been connected or doesn't be finished the driver installed while opening the PCE-MM200 Application, the message will be shown as below:




### Video Resolution Setting

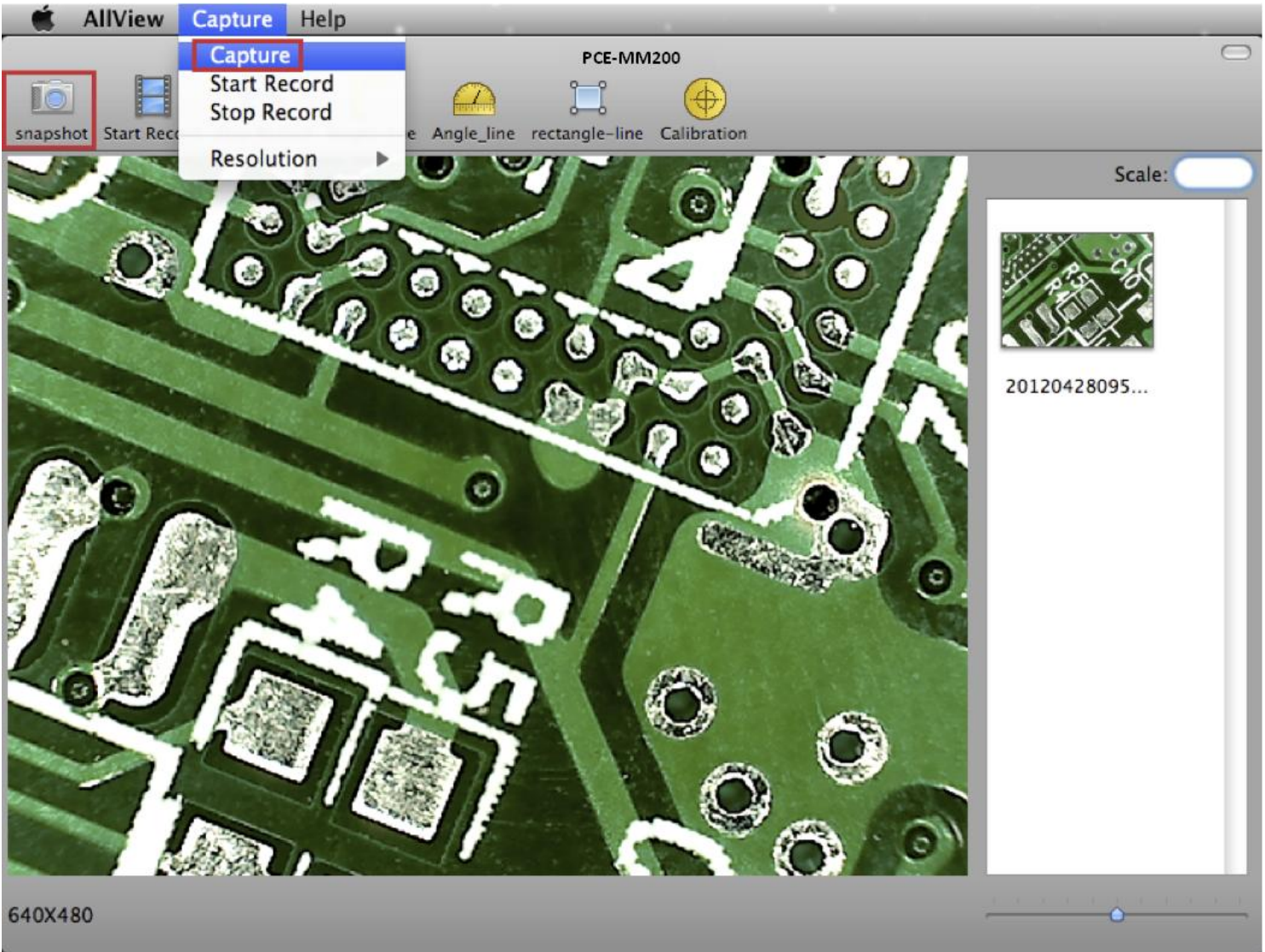
Click “Captrue->Resolution” to select your desired resolution as below screen. The default resolution is 640 x 480.





### Capturing Image

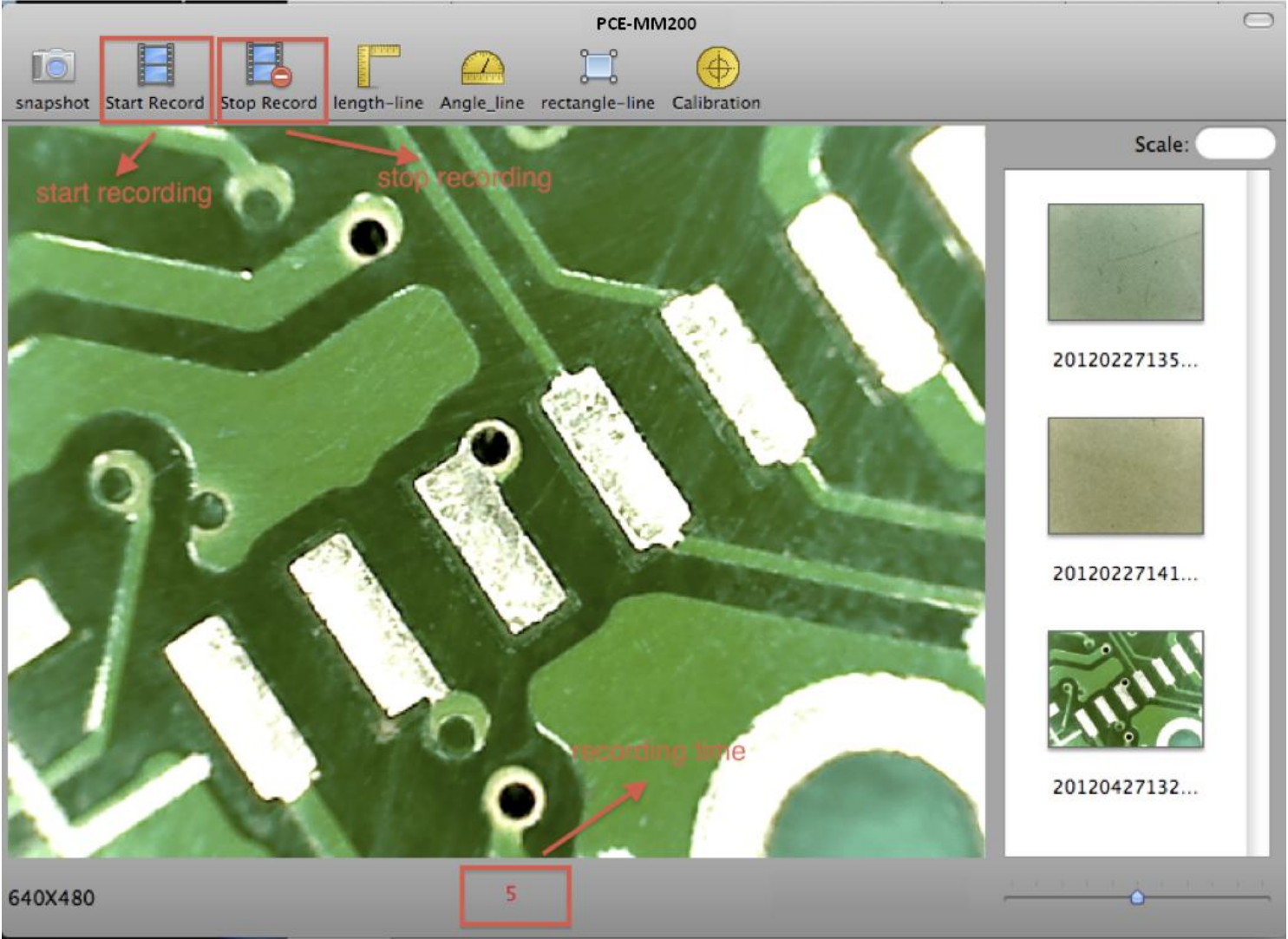
Click the  icon button on the Tool bar of the main screen or “Capture” on System Menu bar as below to capture an image. The Captured image will be save in the folder (./users/local user name/PCE-MM200/Image). The filename of the captured image is a unique time stamp with .jpg file. The format of the time stamp filename is: YYYYMMDDhhmmss.jpg : YYYY is the year, MM is month, DD is date, hh is hour, mm is minutes, and ss is second. Each captured image will be added to the image scroll list. Double-click a selected image thumbnail in the image scroll list to open the image for measurement features.

**Delete a Captured image:** Select the captured image in the image scroll list -> press “Del” Key of keyboard to delete it.



Creating Video

Click the  icon button to start recording video and the  icon button to stop recording video on the Tool bar of the main screen as below. Or click "Start Record" and "Stop Record" on the System capture menu. The Video filename of the time stamp is YYYYMMDDhhmmss.mov: YYYY is Year, MM is Month, DD is Date, hh is Hour, mm is Minutes, and ss is Second.




The Created Video is saved in the folder (./users/local user name/PCE-MM200/Video). Double-click a selected Video for display or press "Del" key to delete it.

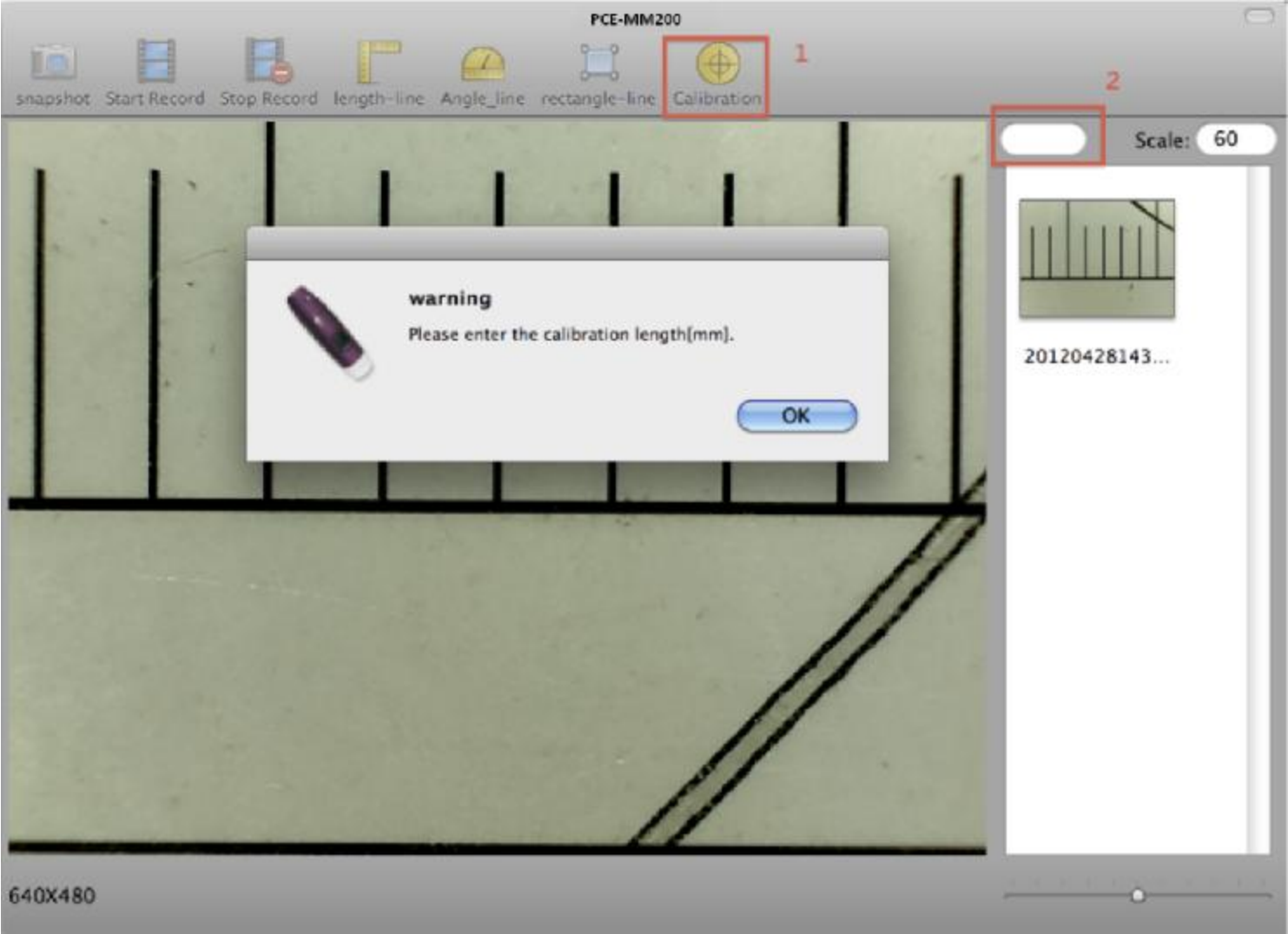
# Measurement On Video

To obtain more accurate the measurement data, please make firstly calibration before any measurement functions.

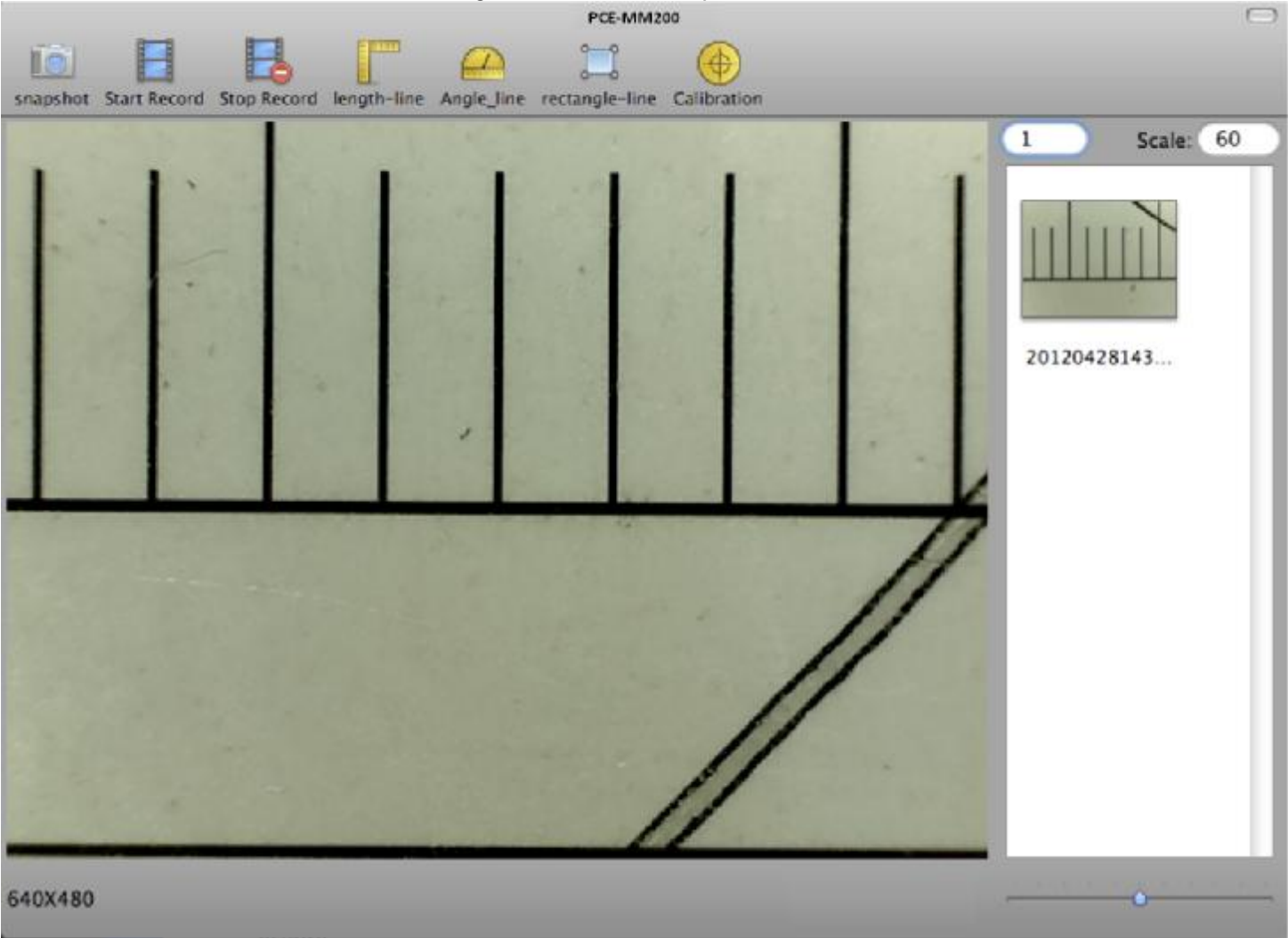
## Calibration on Video


1. Select a known measurement standard as the target object, such as a ruler, to be used for calibration. Bring the image of the selected ruler into focus by turning the "Focus & Magnificat ion adjustment wheel", and determine the magnification by taking a reading from the scale on the focus dial. Enter the scale value (The below example is 60) below in the "Scale" box in

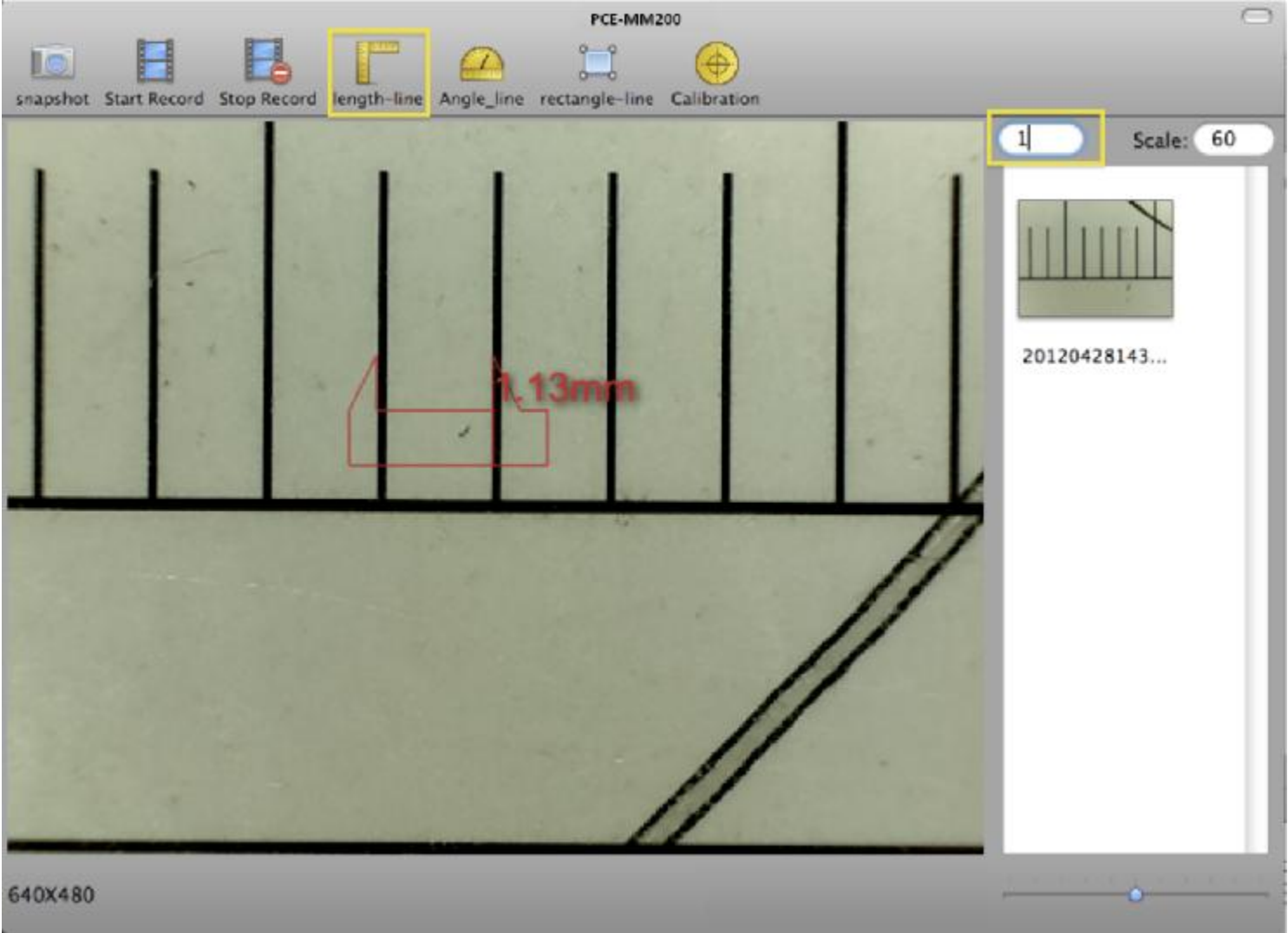
the upper right of the screen. Click  icon button, pop-up a warning message screen, and appears a blank box (2) in the right-upper of the main window.




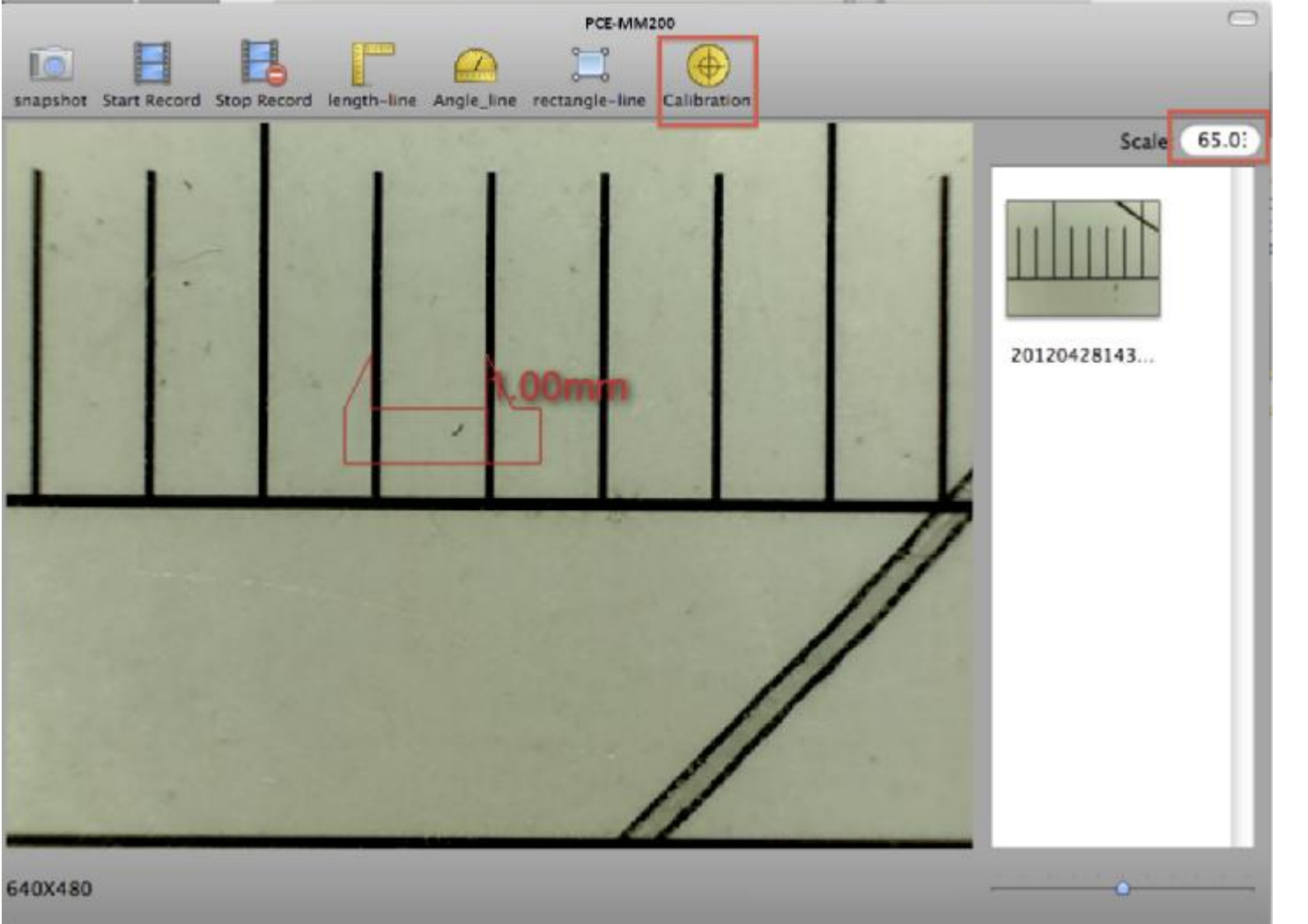
2. Please click "OK" and enter the actual length (1mm as the example) into the blank box as below:



3. And then click  icon button. Move and adjust the line to 1mm on the video preview window (such as below).




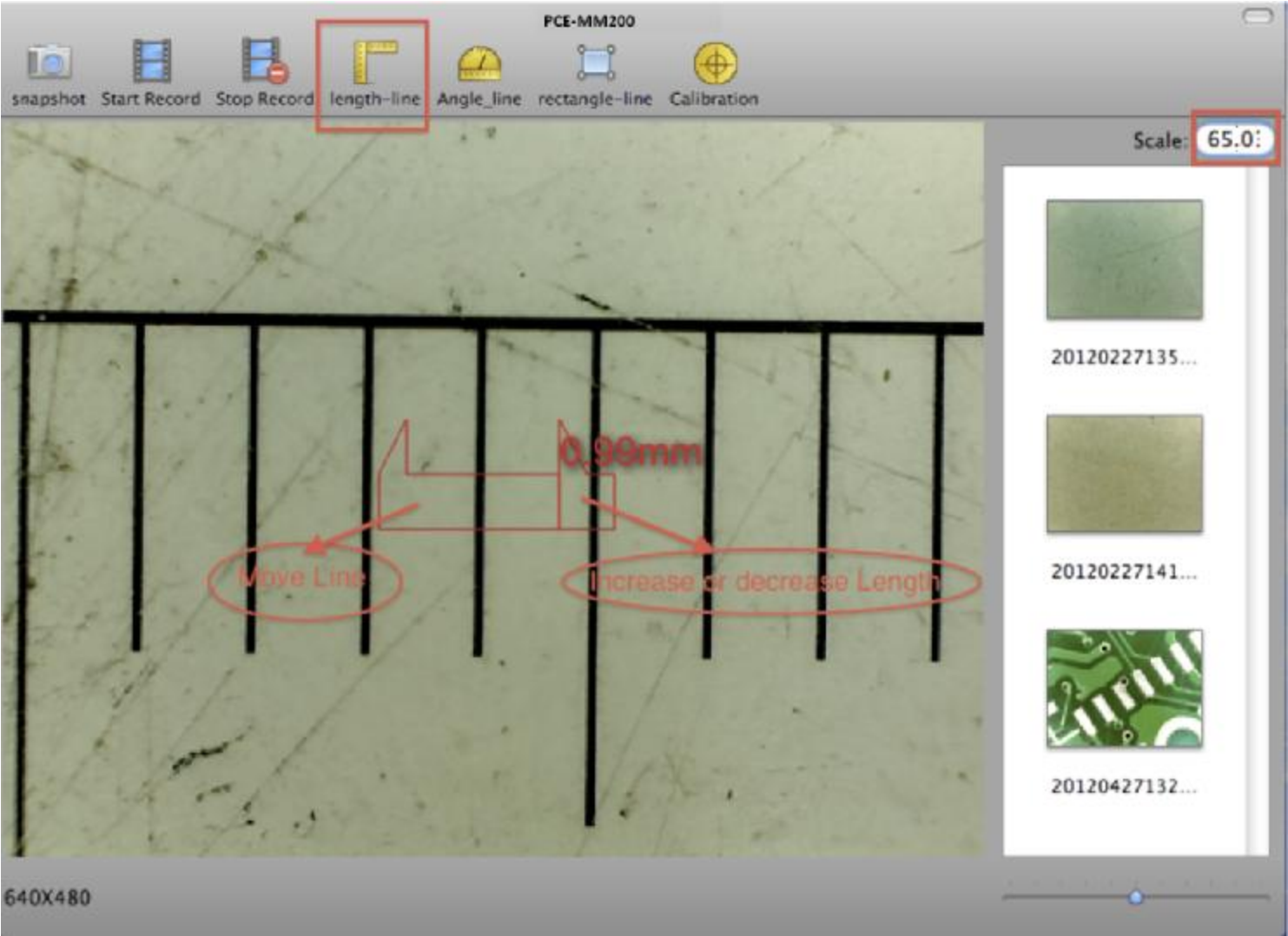
4. Click  icon button to complete calibration function. The software will automatically calibrate the scale of magnification and will show the calibrated scale of magnification at the right-hand box of the calibration button. It will also automatically adjust the scale of main program on this focus point. The calibration magnification will be displayed in the upper-right corner of the main window (such as below).




5. Now the PCE-MM200 application software is ready for new targets Video measurement with the calibrated magnification at this focus point (Don't adjust the "Focus & Magnification adjustment wheel"). The measurement for new target's Video or these captured images after magnification calibration will be very accurate and the error rate of measurement will be under 2%.

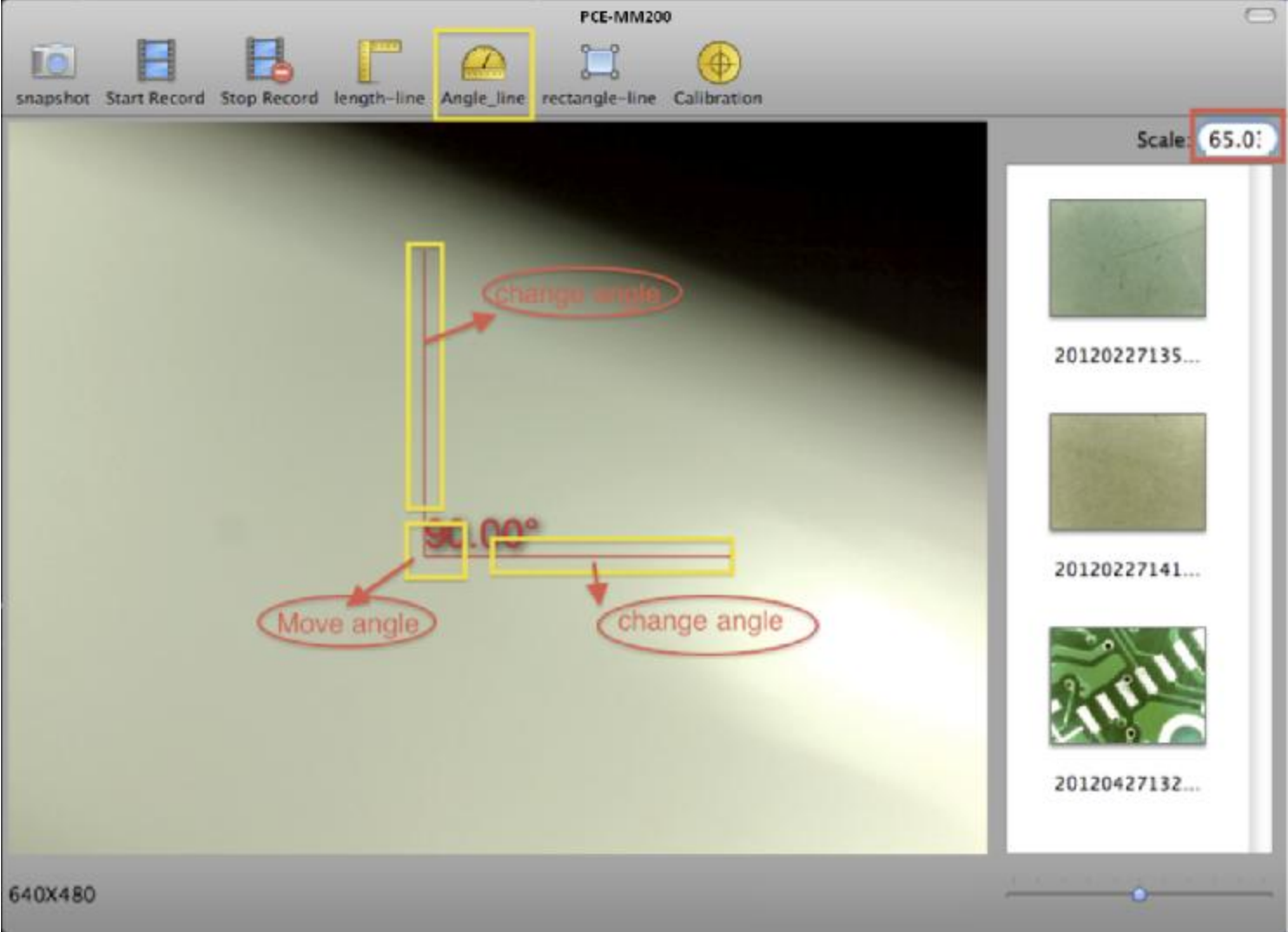
# Line Measurement On Video

Click the  icon button; you will see one line on the video preview window. If you select the left of the line and drag the mouse, you can move the line. Select the right of the line and drag the mouse, you can increase or decrease the length of the line.




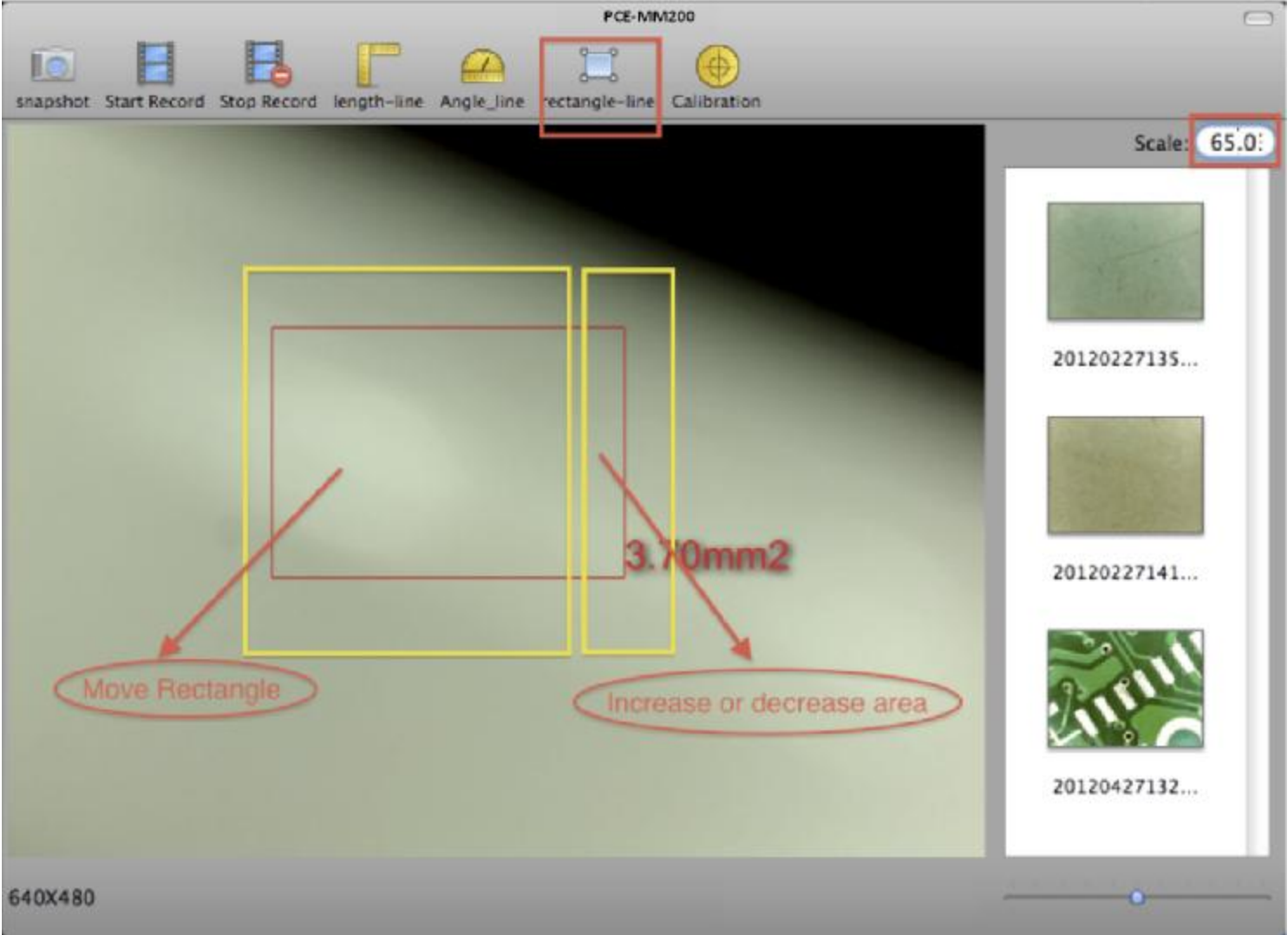
# Angle Measurement On Video

Click  icon button, the angle will display in the video preview window. Select region 1 and drag the mouse, you can change the angle (the region 2 is same to line 1). Select bottom-right region 3 of the angle and drag the mouse, you can move the angle.



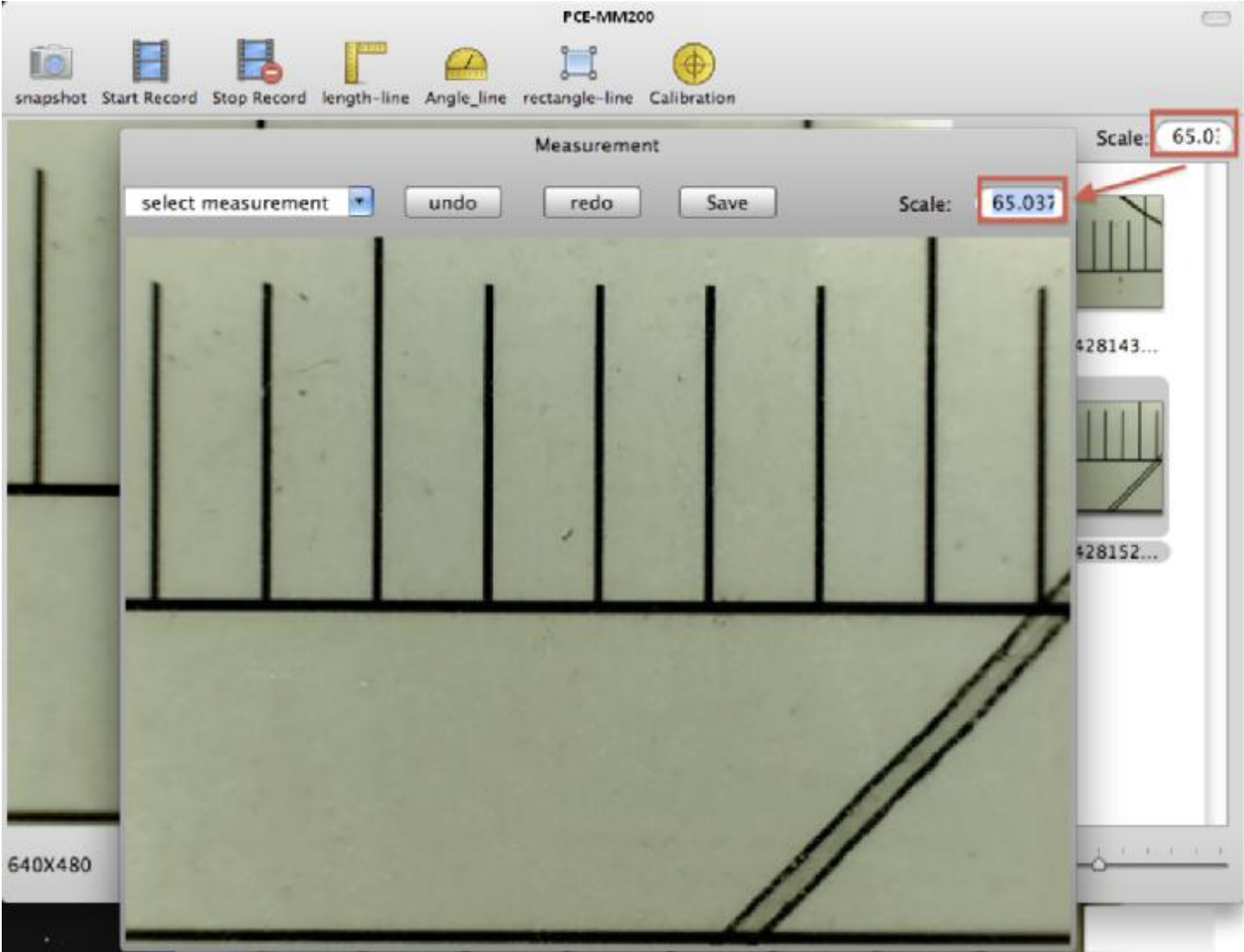
# Area Measurement On Video

Click  icon button, the rectangle will display in the video preview window. Select left region (region 1) of the rectangle and drag the mouse, you can move the rectangle. Select right region (region 2) of the rectangle and drag the mouse, you can change the area of the rectangle.

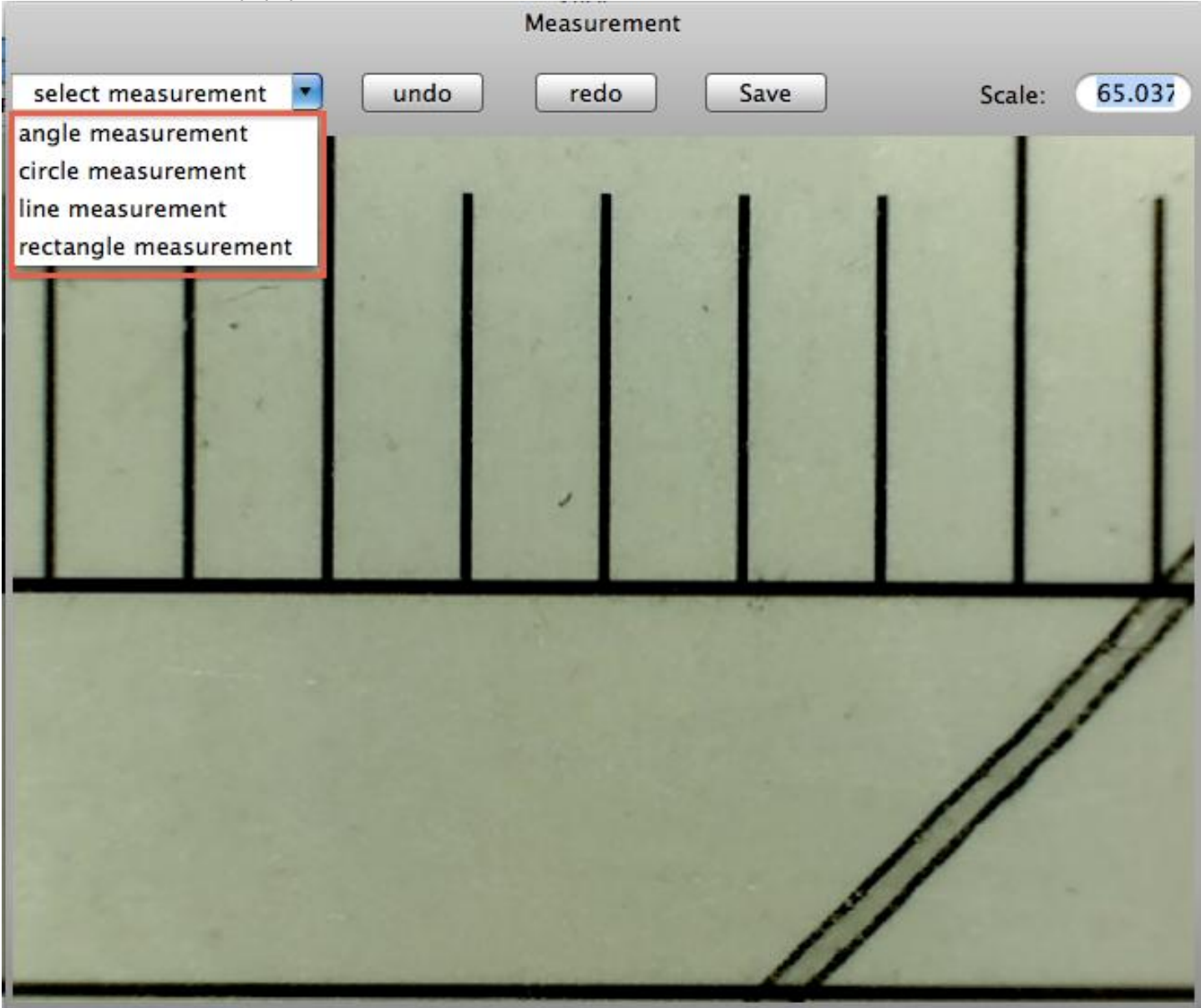


# Measurement On Image

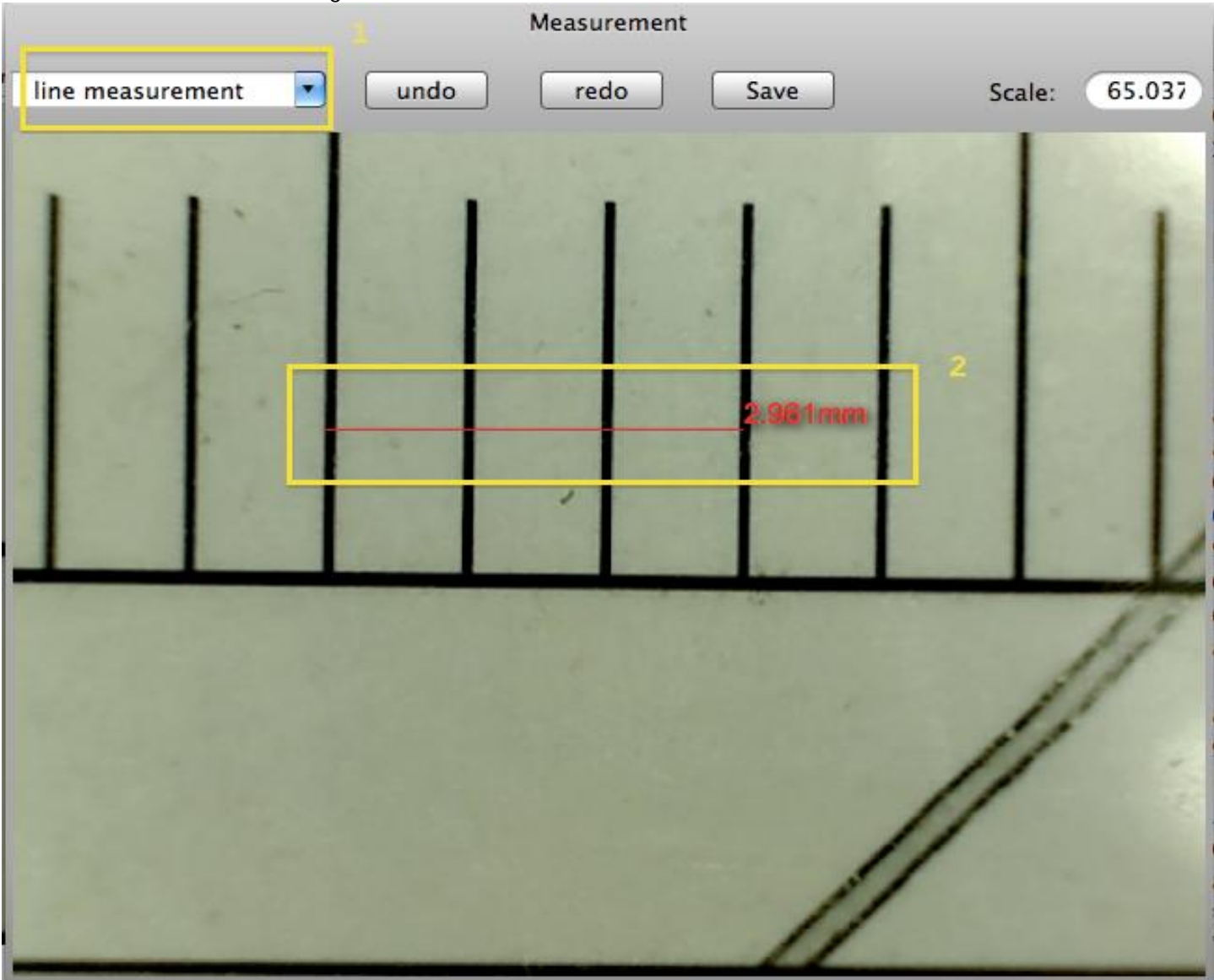
If these images were taken after you finished Calibration on Video, please double-click an image in the image scroll list to obtain the below measurement screen. Or to obtain more accurate the measurement data, please make firstly calibration on Video before any measurement functions.



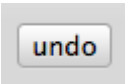
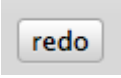
In the measurement screen, please select “Line-measurement \ rectangle measurement \ circle-measurement \ angle-measurement” from the popup menu.




Line-Measurement: click and drag the mouse across the desired area to be measured.



Angle-Measurement: click and drag the mouse to draw the first line of the angle, then click and drag again to draw the second line.  
Circle-measurement: click and drag the mouse to draw a circle showing the radius, circumference, and area of the draw circle.  
Rectangle-Measurement: click and drag the mouse across the desired area to be measured.

The previous measurement or the entire measurements can be deleted or undelete by clicking  icon button and  icon button.

Your changes to the image can be saved by clicking the  icon button.

## Legal Information

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