

# Um Viewer MAC

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## Microscope AP Operation Manual

2024/8/14 Update Version 1.1

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# 1. Application Program Interface Introduction

After the user launches the microscope application, the screen displayed is as shown in Figure 1-1. The screen is divided from top to bottom into the main menu, toolbar, central display, and status bar. In the toolbar, the connection button indicates whether the microscope USB camera device is connected. If it's not connected, the connection button will appear grayed out, as shown in Figure 1-2. Once connected, the functional blocks will be activated, as illustrated in Figure 1-3.

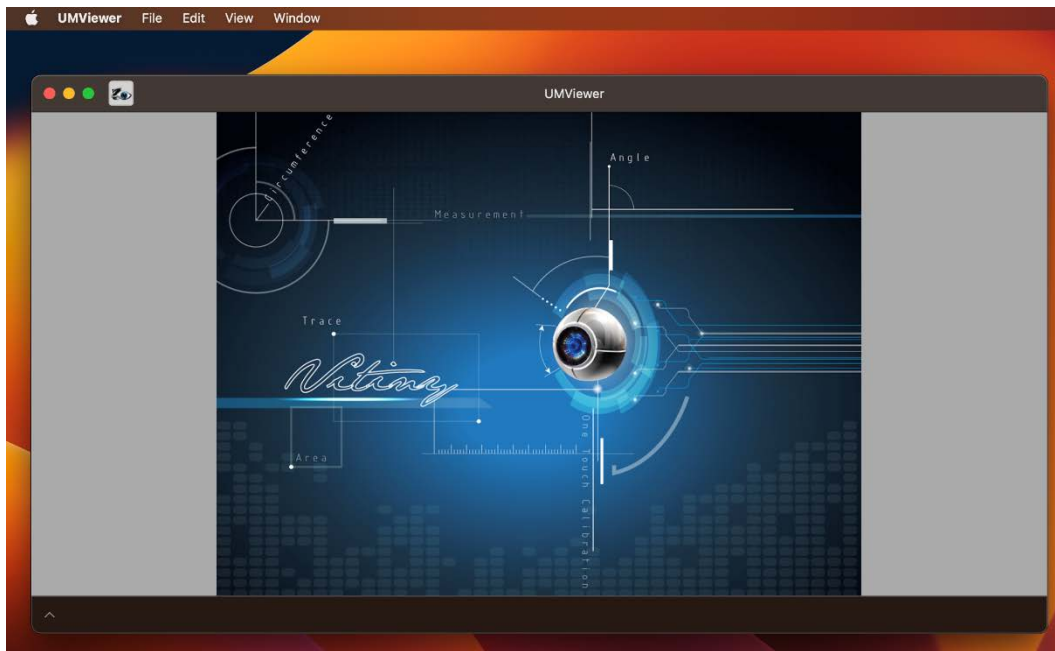


Figure 1-1 Main Window Screen (Not Connected)



Figure 1-2 Connection Button Greyed out

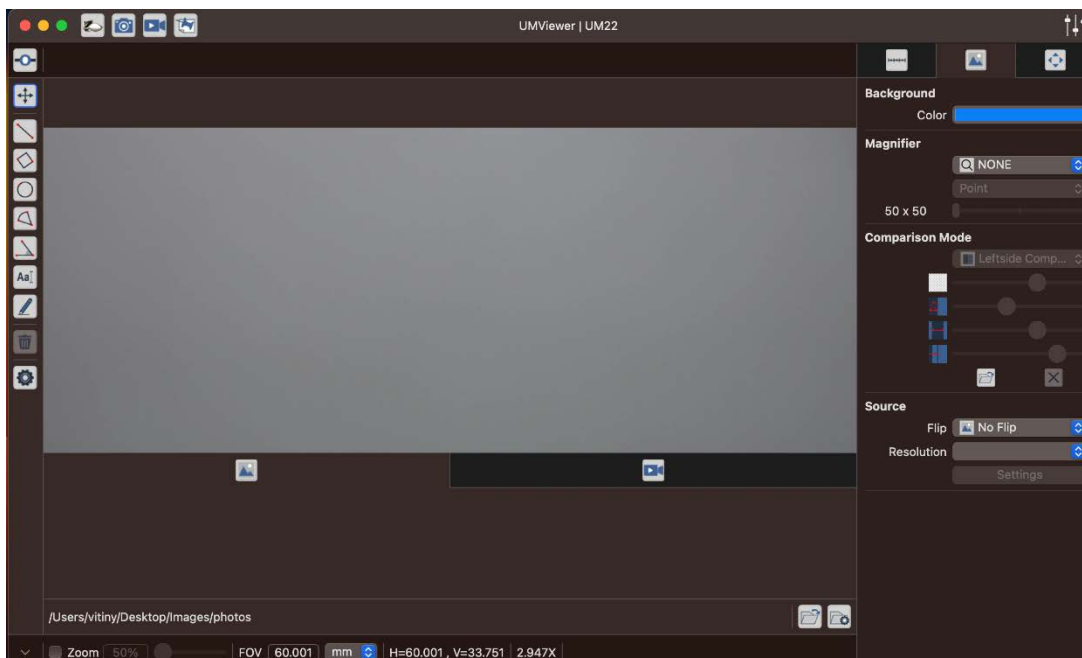


Figure 1-3

For easier explanation, Figure 1-3 is divided into five main sections for clarification. One of these sections will only be displayed after the connection is established, as shown in Figure 1-6. The five main sections are as follows:

### 1. Main Toolbar

Figure 1-4 shows the main menu section of this application, which includes five major options: App Menu, File, Edit, Display, and Window.



Figure 1-4 Main Toolbar

### 2. Main Function Button

Figure 1-5 depicts the primary button section of the application, featuring frequently used functions or mode functionalities. These include Connection, Capture, Record, Image Freeze, and Device Connection.

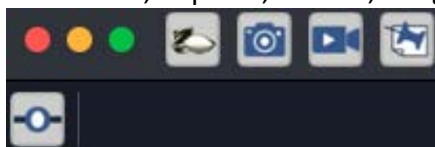


Figure 1-5 Main Function Button

### 3. File List/ Folder

File List/Folder shows the current saved files in the picture (JPG) and video (AVI) folder. Choose different Tabs to enter folder, see Fig 1-6.

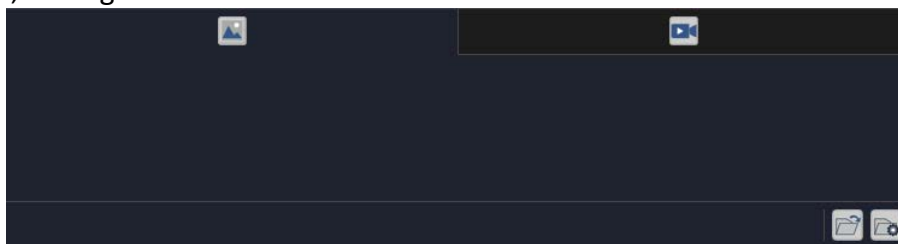


Figure 1-6 File List/ Folder

### 4. Function Area

After opening the application and establishing a connection, as shown in Figure 1-7, a block will appear on the right side, which is the function area. Selecting different function tabs will also switch the page within this area accordingly.

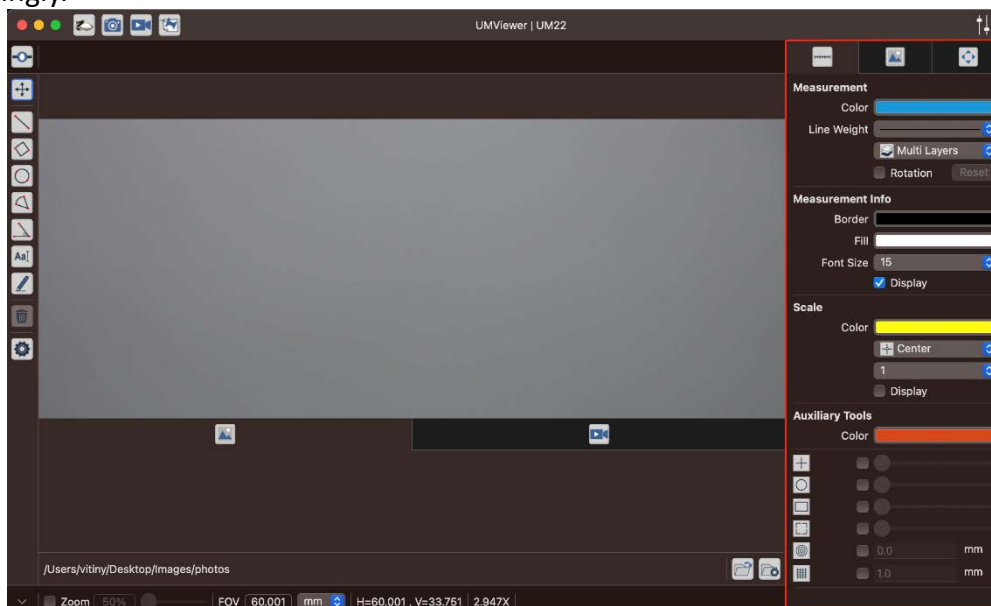


Figure 1-7 Application Function Area

## 5. Information Status

In Figure 1-8, the area outlined by the red box on the bottom left consists of the following elements from left to right: the file list button, which opens or displays the file list when clicked; the image zoom area, where checking the checkbox enables zooming via the slider, while unchecking it adjusts the image to fit the window size.

The area marked by the red box on the bottom right in Figure 1-8 indicates the current FOV (Field of View) in terms of horizontal (H) and vertical (V) values. These values represent the numerical measurements of the FOV's horizontal and vertical dimensions, which change with adjustments to the FOV and magnification. Changes in the machine's focus position or recalibration will result in corresponding alterations in the FOV and magnification.

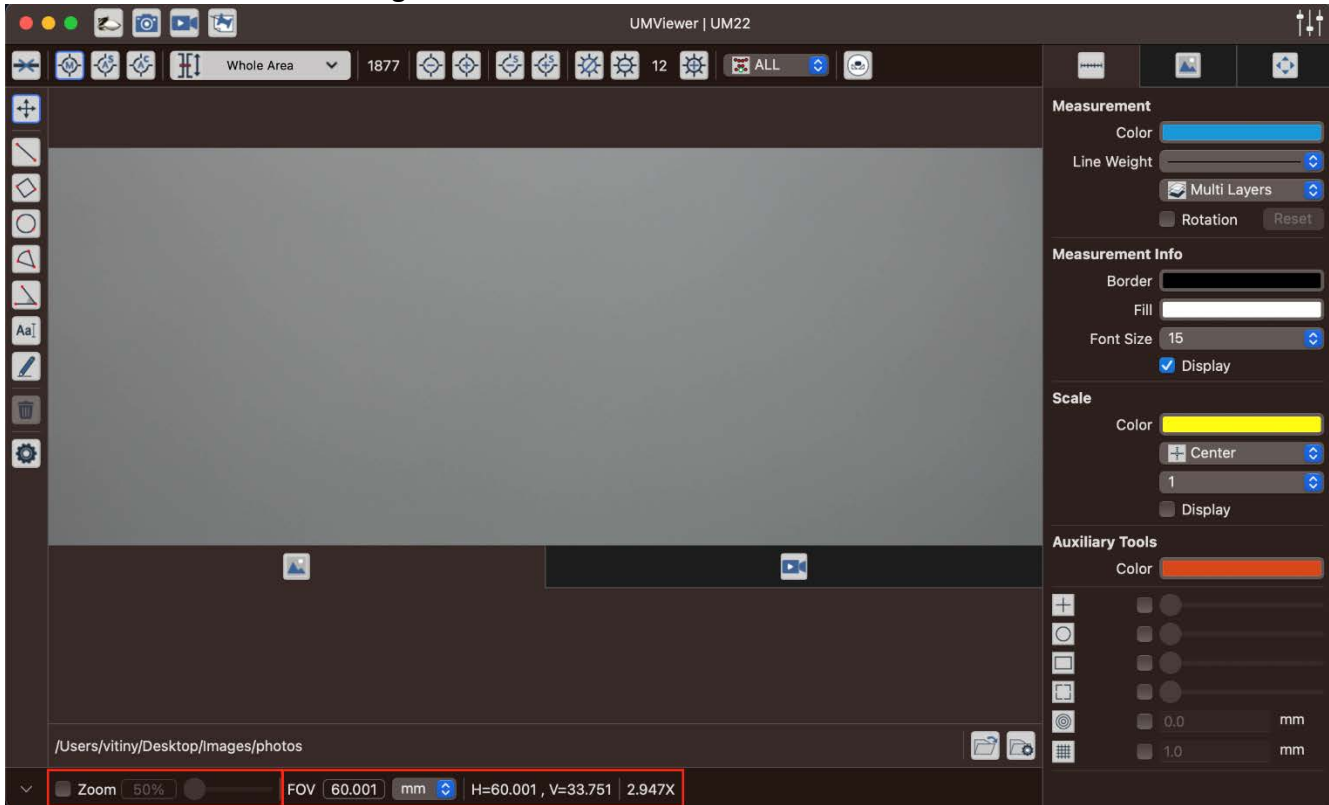


Figure 1-8 Status Information

## 2. Main Toolbar

The main toolbar module, as shown in the diagram, includes five major options: App Menu, File, Edit, Display, and Window.

### 1. App Menu

Let's start by introducing the 'App' option in the main menu, which primarily includes 'About' and 'Preferences' settings, as shown in Figure 2-1.

Under 'About' in the microscope information, users can access the version of this application and its copyright information.



Figure 2-1 File Option



Figure 2-2 About

### 2. File

The 'Import File' option is only functional after device connection. It allows importing image files as image sources for measurement purposes.

The 'Close' option closes the application window."

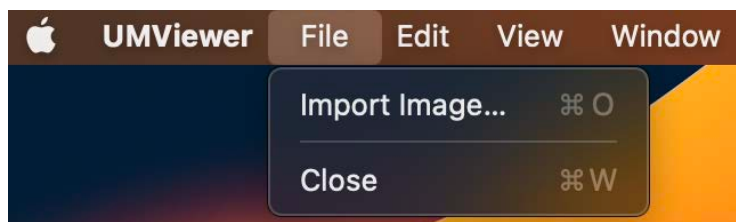


Figure 2-3 File Option

### 3. Edit

The Edit Menu provides functions such as undo, redo for measurements, as well as options to cut, copy, and paste measurement objects, as shown in Figure 2-4.

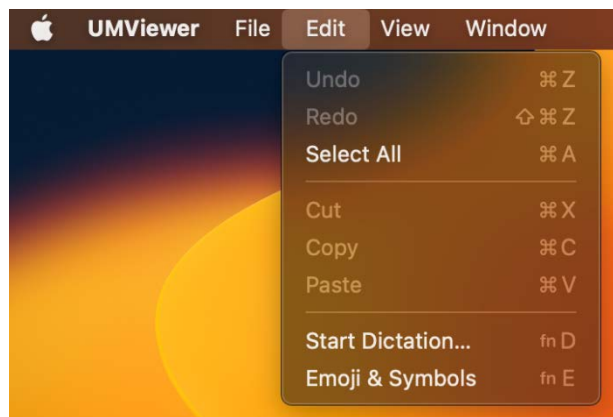


Figure 2-4 Edit Menu

### 4. Display Options

The Display Options menu includes two submenus: Tabs and Gallery, as illustrated in Figures 2-5 and 2-6. The Tabs submenu allows for switching between various pages within the function area, as shown in Figure 2-5.

The Gallery tab primarily offers options for toggling the gallery display. Selecting the 'Show Gallery' option opens/closes the file list. Images and videos can be toggled between in the file list's 'Images' and 'Videos' tabs, as shown in Figure 2-6.



Figure 2-5 Function Tab Menu



Figure 2-6: Gallery Menu

### 5. Window

The Window menu primarily offers operations related to the application window, as shown in Figure 2-7.

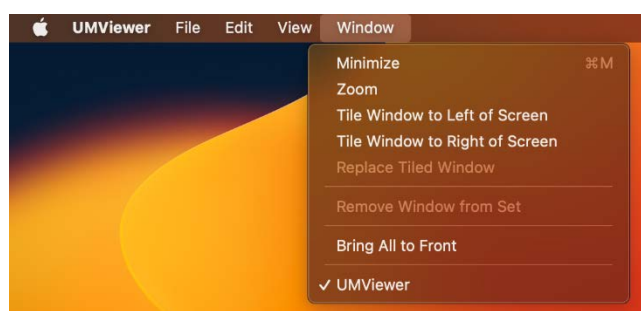


Figure 2-7 Window Menu

### 3. Main Function Button

Figure 1-5 shows the main function button of the application, featuring commonly used or fundamental functions. It includes nine button functionalities such as Connection, Device Connection, Capture, Record, etc.

#### 1. Connect/ Disconnect

##### 1. Connect

Click button to start preview. If the connection failed, please re-plug microscope or change another USB port. See Fig 3-1.

##### 2. Disconnect

Click button to stop preview. See Fig 3-2.



#### 2. Device Control Mode / Disconnect Control Mode

##### 1. Device Control Mode

Click the Device Control Mode button (Fig 3-3) to enable control from PC. If connection is failed, please re-plug the microscope or change another USB port.

##### 2. Disconnect Control Mode

Click to disconnect Device Control Mode. See Fig 3-4.



##### 3. Device Control Mode

After the device is connected, the device control menu button will appear as shown in Figure 3-5. Device control menu descriptions are as follows.



Figure 3-5 Device control menu button icon

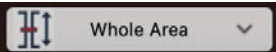


Figure 3-5-1 UM22 Device control menu button icon

- (1) Focus mode menu: Figure 3-6 shows the focus mode options. The single focus mode will only be done once, while the continuous autofocus will be done again if the image becomes blurry after the focus is clear.





Figure 3-6 Focus mode menu

- (2) Field of View (FOV) menu : Figure 3-7 and Figure 3-8 show the FOV (field of view) and WD (working distance) options of 4X and 10X respectively. According to different focus



modes, different actions will be performed when selecting different FOV. For example, when the focus mode is manual mode, if a different FOV is selected, the device will move to the corresponding focus position. In this mode, area focus [AF] and global focus [AF] are inoperable. When selecting single or continuous autofocus mode, if you select a different FOV again, the device will go to the corresponding focus position and perform autofocus.

- Current Section [AF]  : Search the section based on current position. The focus time is shorter.
- Whole Area [AF]  : Search focus in whole area. The focus time is longer.

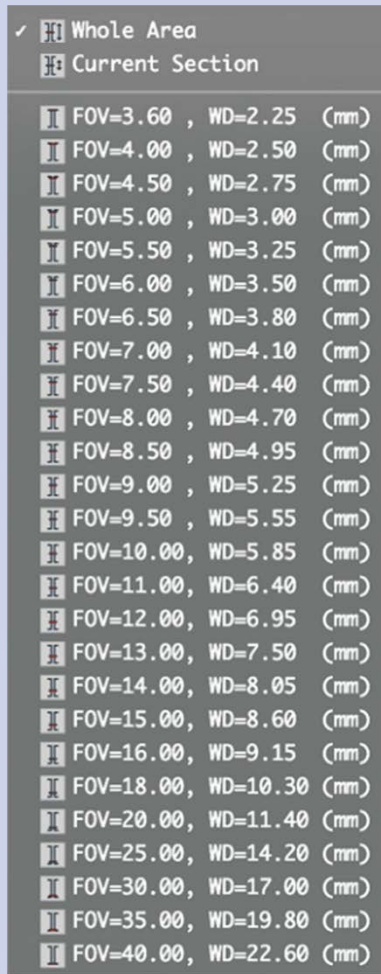


Figure 3-7 4X FOV menu

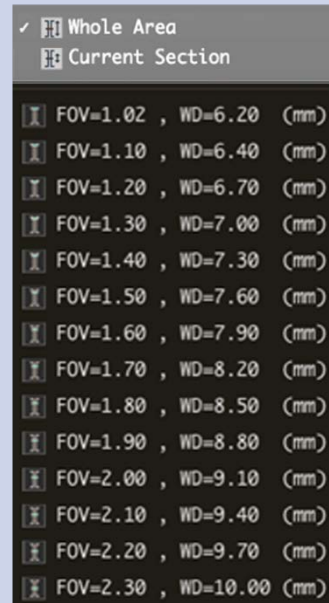











Figure 3-7-1 10X FOV menu

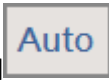


Fig 3-8 UM22 FOV menu

- (3) Current Position  : To show the lens position when focus.
- (4) Zoom out  : Ascending speed when press zoom out, magnification becomes smaller.
- (5) Zoom in  : Ascending speed when press zoom, magnification becomes higher.
- (6) Step zoom out  : Step zoom out, magnification becomes smaller.
- (7) Step zoom in  : Step zoom in, magnification becomes higher.
- (8) LED On  /Off  : When “off”, all LEDs turn off. When “on”, the LED will turn on and the brightness is the same as last time before turn off.
- (9) LED Decrease  : Decrease the brightness.
- (10) LED Level  : Show the current brightness level.

(11) LED Increase  : Increase the brightness.  
#Function for UM20-Series


(12) EV Decrease  : Decrease the brightness.

(13) EV Level  : Show the current exposure level, Fig 3-5 shows current exposure is AUTO.

(14) EV Increase  : Increase the brightness.

#### #Function for UM22.

(15) LED Mode (UM22):  There are 7 segments of LED direction to meet different working distance.

(16) Auto White Balance(UM22)  : Calibrate the image color based on the seen white color. Recommend to use the AWB card from package.

### 3. Capture

Snapshot icon is as Fig 3-10, image size depends on Video Format source. Captured image will save to default image folder. Users can choose “Auto-Saved” from Capture Setting. Refer to Section 3-9 instruction.



Fig 3-10 Snapshot

### 4. Record

Video Record icon is as Fig 3-11. Video resolution depends on Video Format Source. Recorded Video will save to default video folder.



Fig 3-11 Start and Stop Record

### 5. Freeze/ Unfreeze

Freeze/Unfreeze icon is as Fig 3-12. Click to freeze the current image, users can do Sub Program or edit image, click again to unfreeze.



Fig 3-12 Freeze/Unfreeze icon

## 4. File List/ Folder

The file list/folder tabs are shown in Figure 1-6. In the file list module, the file list mainly lists the files in the current file folder, including two tabs: image folder and video folder.

### 1. The File List Tab

Figure 4-1 shows the tab of the file list module. From left to right are pictures and videos. Pictures include JPG and PNG files, and videos are MOV files. The tabs can be switched between each other, and the files will be listed after switching.



Figure 4-1 Picture and video file list tab




### 2. File list operation and display panel

The file list operation and display panel is shown in Figure 4-2.



Figure 4-2 File list operation and display panel

#### 1. File Path

The lower left corner of Figure 4-3 shows the icon of opening a folder , which can open the folder of the current archive path.  icon to open the folder of the current archive path. The lower right corner is the change folder. Icon, you can change the archive path (the path of the files listed). Clicking the button  will open a dialog box for selecting the folder location, as shown in Figure 4-3. You can change the archive path (the path of the files listed) through this dialog box path)

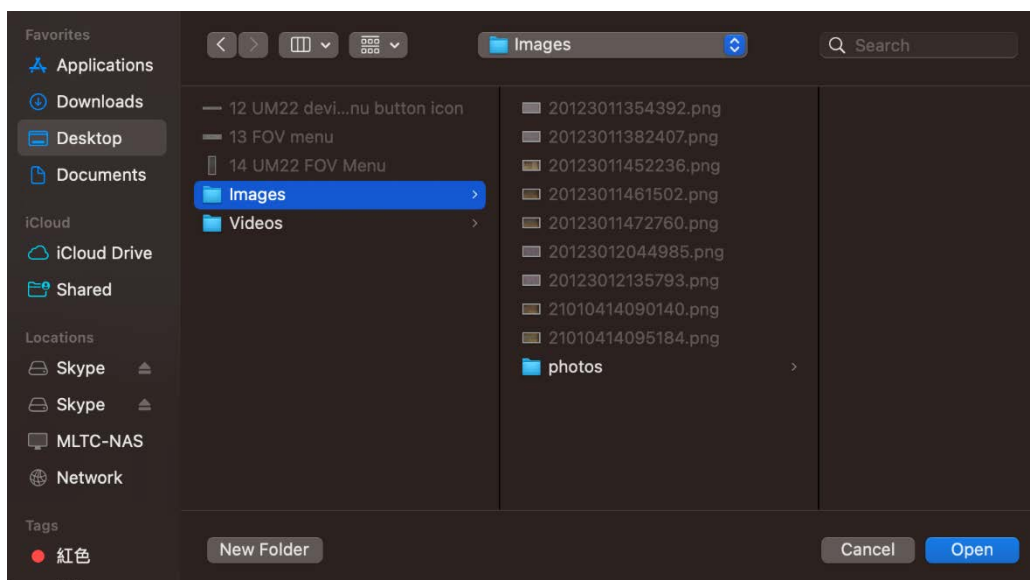


Figure 4-3 File list module

## 2. Pop-up menu of file list

Double-click the left button on the thumbnail screen listed in the file list to open the file. If you right-click the mouse, a file list menu as shown in Figure 4-4 will pop up. If the image tag is selected in the file list at this time, the menu will have two more options as shown in the red block in Figure 4-4. The Import Image option can replace the current image source with the selected image; the Compare Mode option can enter comparison mode.

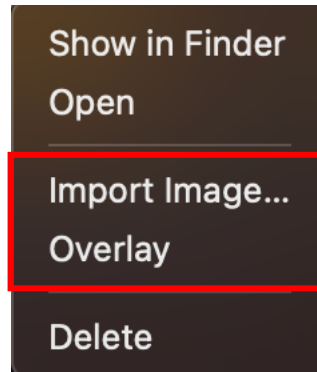


Figure 4-4 Pop-up menu of file list

## 5. Sub Program

After opening the application and connecting, two blocks will be displayed in Figure 5-1, the measurement toolbar on the left and the functional area on the right. The right area is a switchable page, which can switch: measurement settings, image settings and advanced options pages.

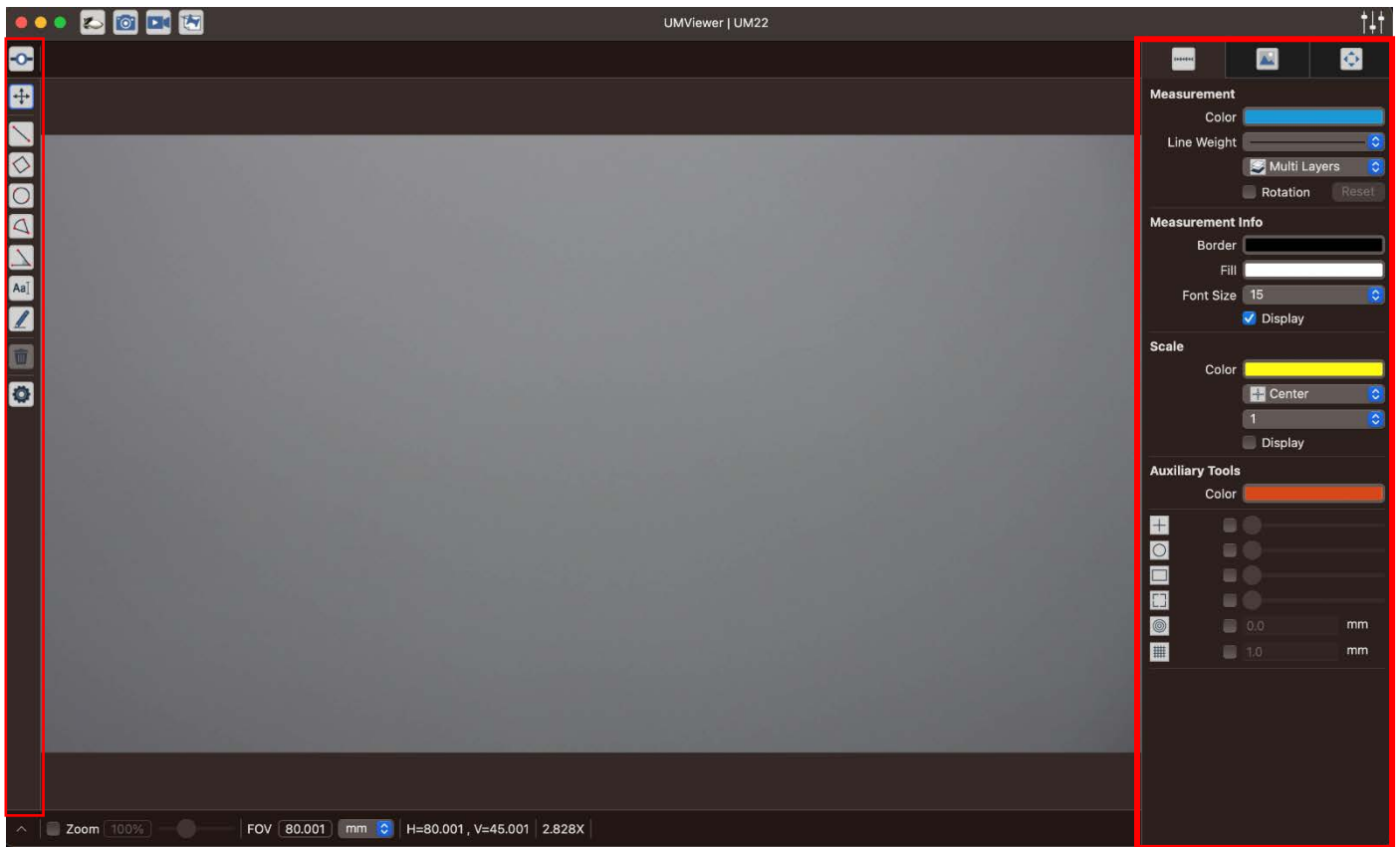


Figure 5-1

### 1. Measuring Mode


When connected, you can use the measurement tools on the left as shown in Figure 5-2.



Figure 5-2

## 1. Measurement Tools

Measurement tools include line, rectangle, square, 2-point circle, 3-point circle, 4-point circle, angle, etc., as shown in Figure 5-2. Use different measurement tools according to different needs.

- (1) Line: This tool  can be used when the length of an object to be observed is simply measured. To measure the width of the rectangle on the PCB board, you can select the straight line mode on the right and draw the straight line length (L: Length). The resulting line length is  $L=1.00\text{mm}$ , as shown in Figure 5-3 .

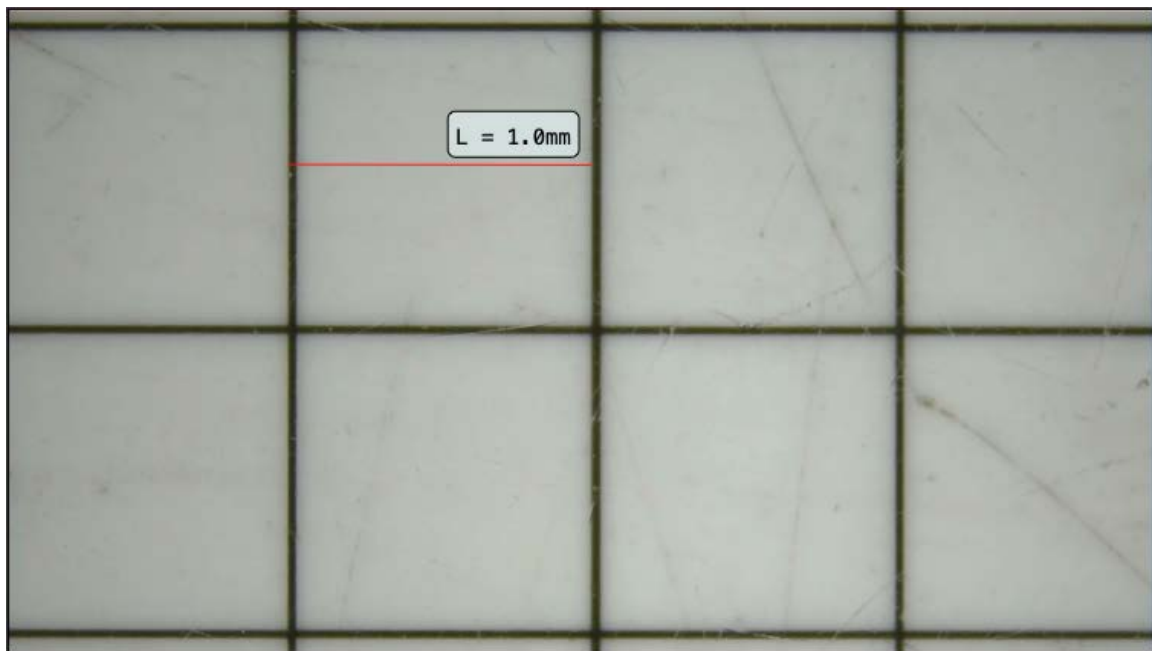



Figure 5-3 Line measurement example

- (2) Rectangle: This tool  can be used when the observation object is a quadrilateral. Using tools, in Figure 5-4, the width and height of the rectangle are  $W=2.00\text{mm}$ ,  $H=1.00\text{mm}$ , and the area is  $A=2.00\text{mm}^2$ .

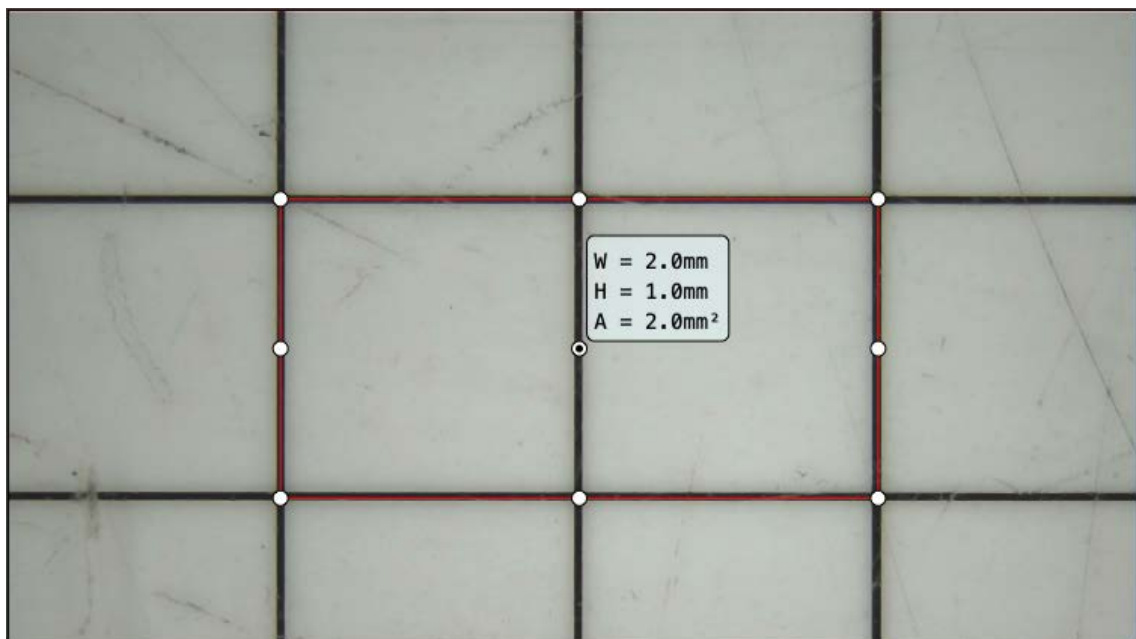



Figure 5-4 Example of rectangular measurement

(3) Square: When the observation object is a regular quadrilateral, the tool  can be used.

Draw a box diagonally from any corner of the object to be measured. In Figure 5-5, the side length of the square is  $L=1.00\text{mm}$  and the area is  $A=1.00\text{mm}^2$ .

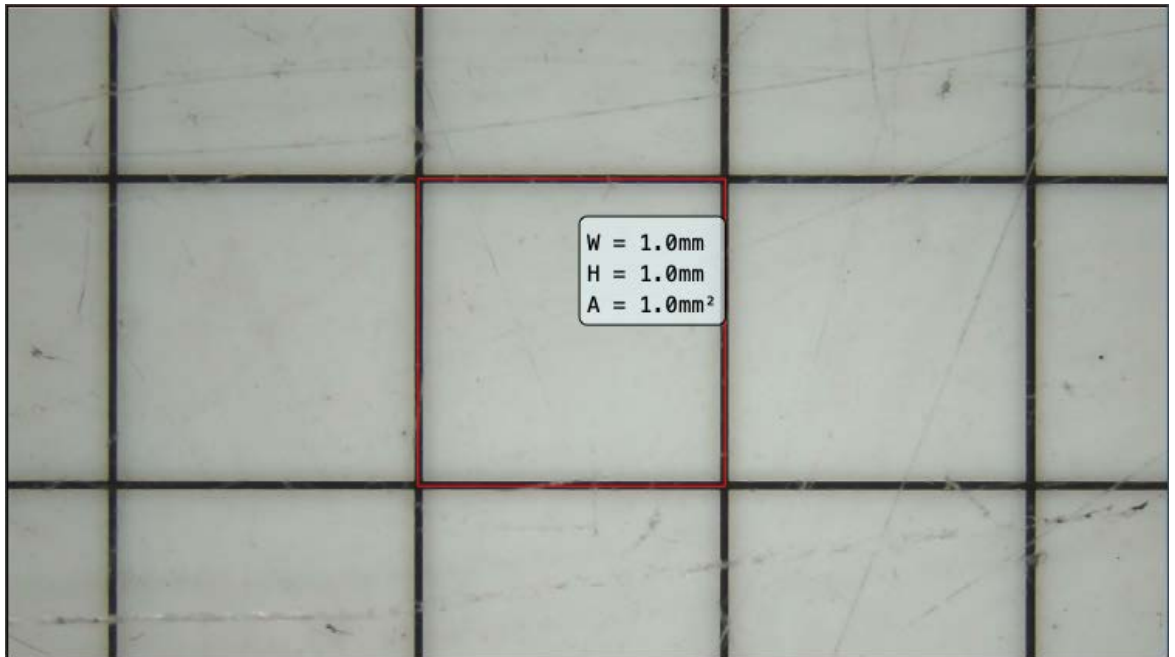



Figure 5-5 Example of square measurement

(4) Arc: When you want to measure the arc, you can use the tool . Drag three points in sequence along the edge of the graphic to complete the arc measurement. From Figure 5-6, you can see the relevant measurement information of the arc. The measured angle is  $200^\circ$ , the radius is  $0.583\text{mm}$ , and the bow length is  $2.034$ , perimeter is  $3.199\text{mm}$ , area is  $0.593\text{mm}^2$ .

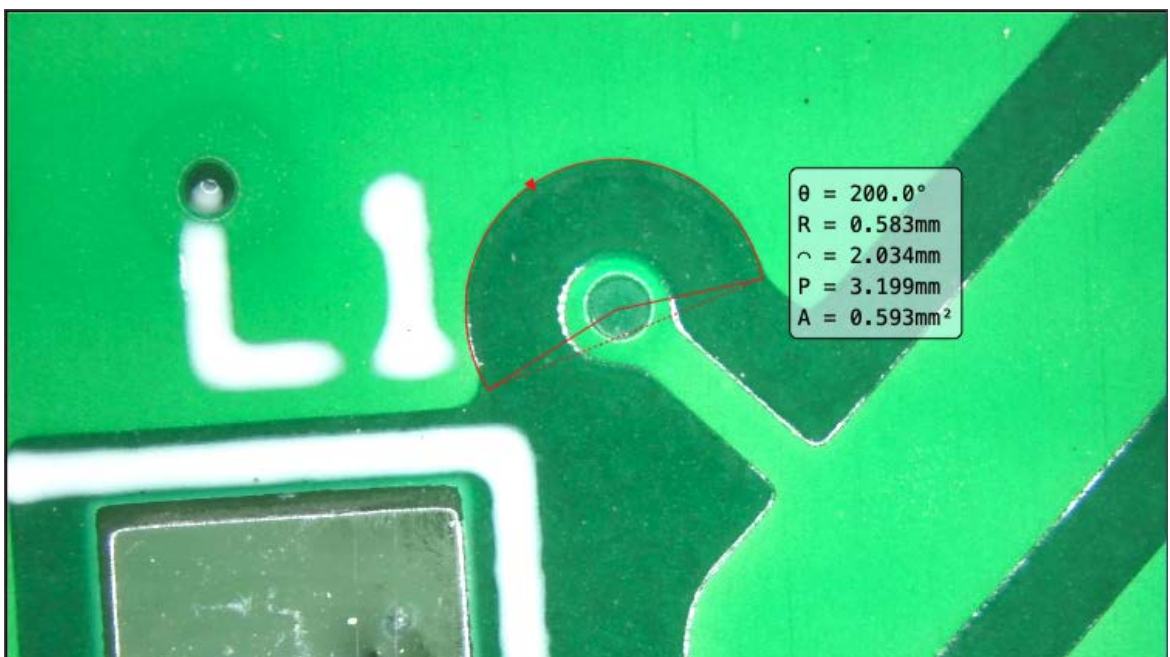



Figure 5-6 Arc measurement example



- (5) Arch: When you want to measure the arch  shape, you can use the tool, as shown in Figure 5-7. First press the first point on one side of the side you want to measure, then press the second point on the other side, and then move the slider. Press the mouse until the measurement pattern matches the observation object and press the third point to fix it. The pattern will extend from the first point to the second point in the counterclockwise direction. You can know the relevant measurement information of the arc and the measured radius. The string length is 0.59mm, the string length is 1.172mm, the bow length is 1.983mm, and the circumference is 3.155mm.

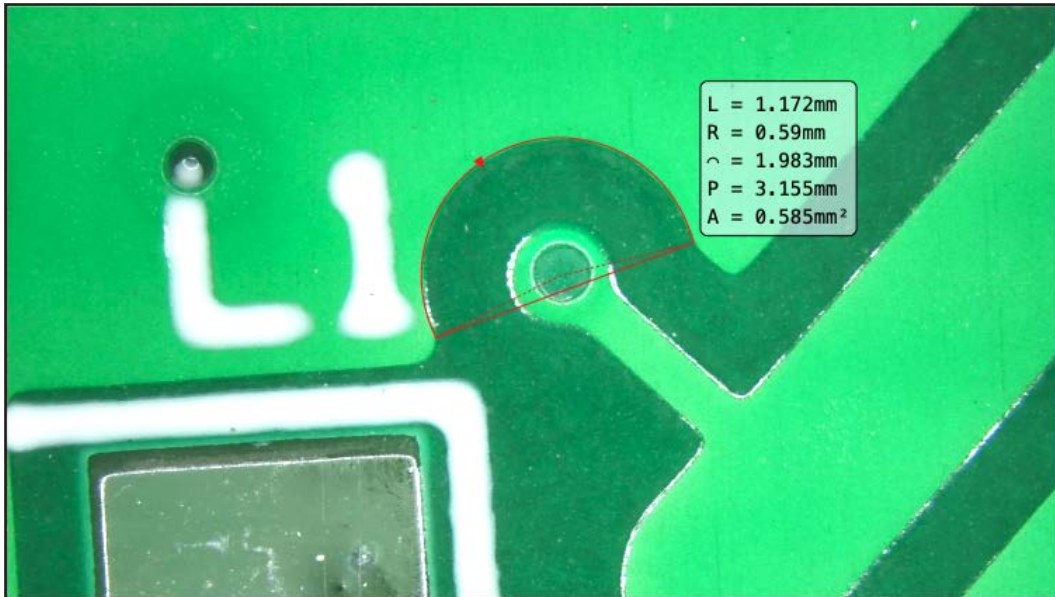



Figure 5-7 Example of arch measurement

- (6) 2 points circle: This tool  can be used when the object to be observed is a circular object. Tool, select the first point on the edge of the circular object you want to observe, hold down the left button of the mouse, and move to the second point on the edge of the circular object to automatically draw a circle. In Figure 5-8, the radius of the circle is  $R=0.5\text{mm}$ , the diameter is  $D=1.00\text{mm}$ , the circumference is  $P=3.142\text{mm}$ , and the area is  $A=0.785\text{mm}^2$ .

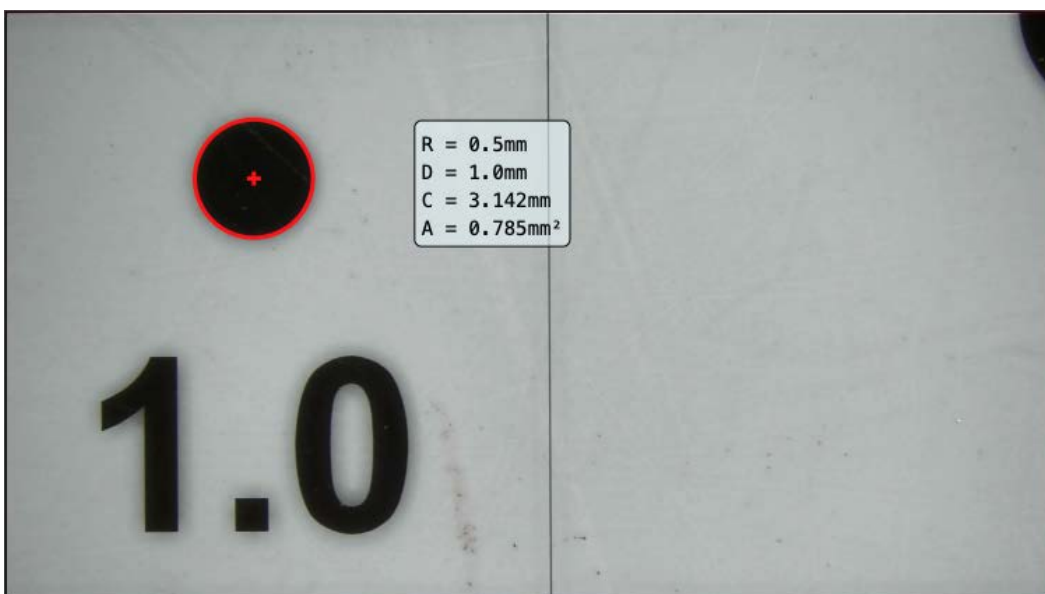


Figure 5-8 Example of circular measurement with 2 points forming a circle



(7) 3 Points Circle: When the object is Circle or just an Arc that can apply  tool to measure. Select the first point on the edge of the object you want to observe, then select the second point, and draw a circle to the third point to automatically draw a circle. In Figure 5-9, the radius of the circle is  $R=0.50\text{mm}$ , the diameter is  $D=1.00\text{mm}$ , the circumference is  $P=3.14\text{mm}$ , and the area is  $A=0.79\text{mm}^2$ .



Figure 5-9 3 points circle measurement

(8) Parallel Line: When you want to measure the distance of parallel lines, you can use the tool . As shown in Figure 5-10, first draw the first straight line on the first parallel line to be measured, and then a preview parallel line will be drawn at the mouse pointer. When aligning with the parallel line to be measured, Press the left mouse button to measure the distance between parallel lines, and set in the lower area whether to measure the distance with the first parallel line or to measure continuously, as shown in Figure 5-10. Press the right button to cancel the current measurement action.

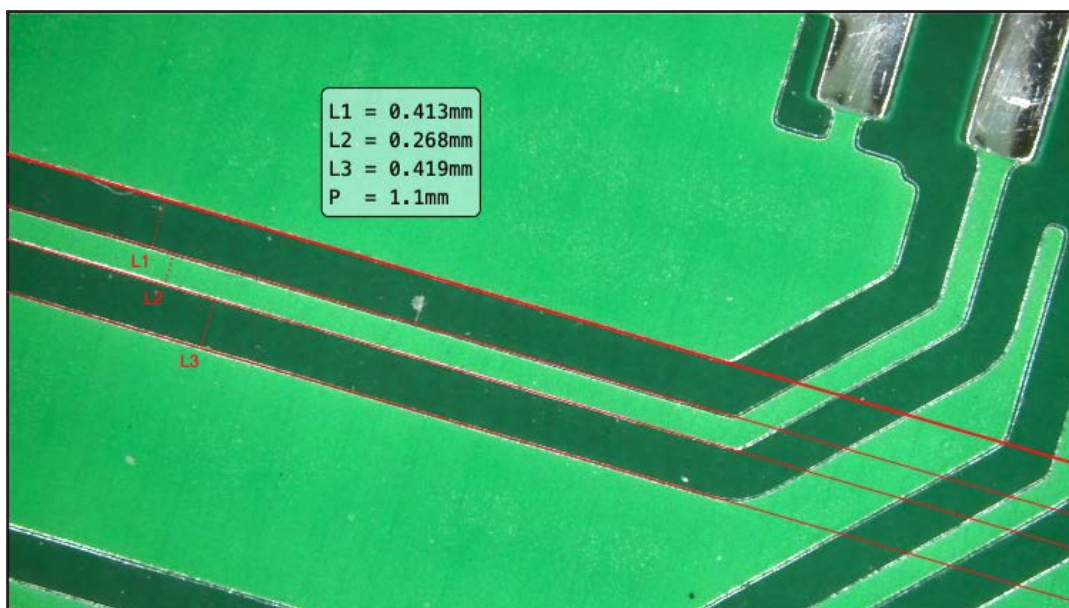



Figure 5-10 Parallel line measurement

(9) Perpendicular Line : Apply  to measure perpendicular, as shown in Figure 5-11, first draw the first straight line on the baseline to be measured, and then the user will draw a preview vertical line at the mouse pointer, aiming at the target object to be measured. Then, press the left button of the mouse to measure the perpendicular length of the target object and the reference line. Press the right button to cancel the current measurement action.

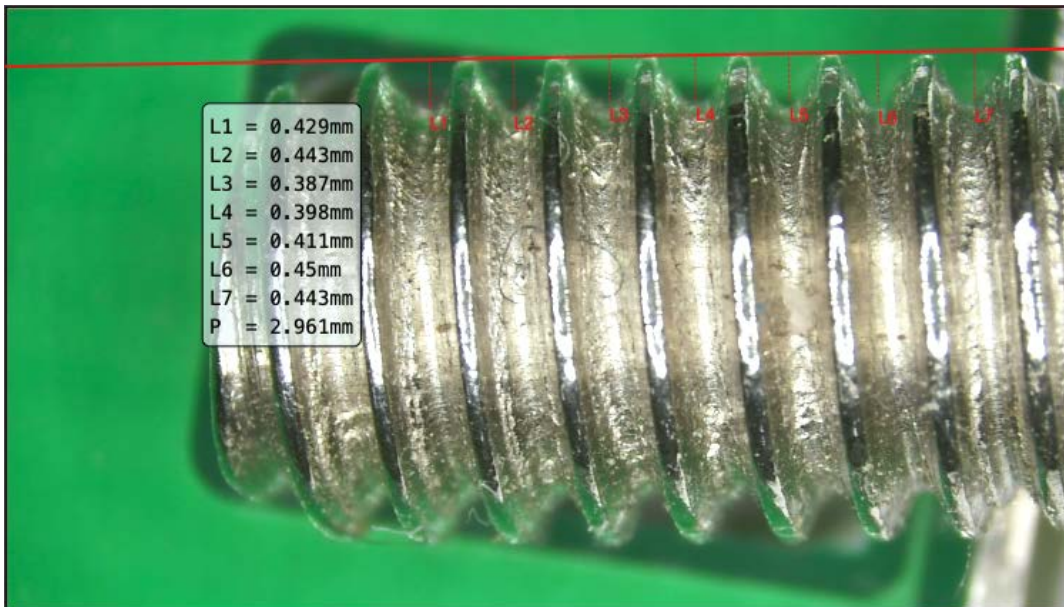



Figure 5-11 Example of perpendicular line measurement

(10) 4 Point Angle : When measuring the angle that can apply  too. As shown in Figure 5-12, first draw the first line segment on one side of the angle you want to measure, and draw the second line segment on the other side of the angle to get the angle. The angles are 135° and 45° respectively, where the "dashed arc line" is the currently measured angle position.

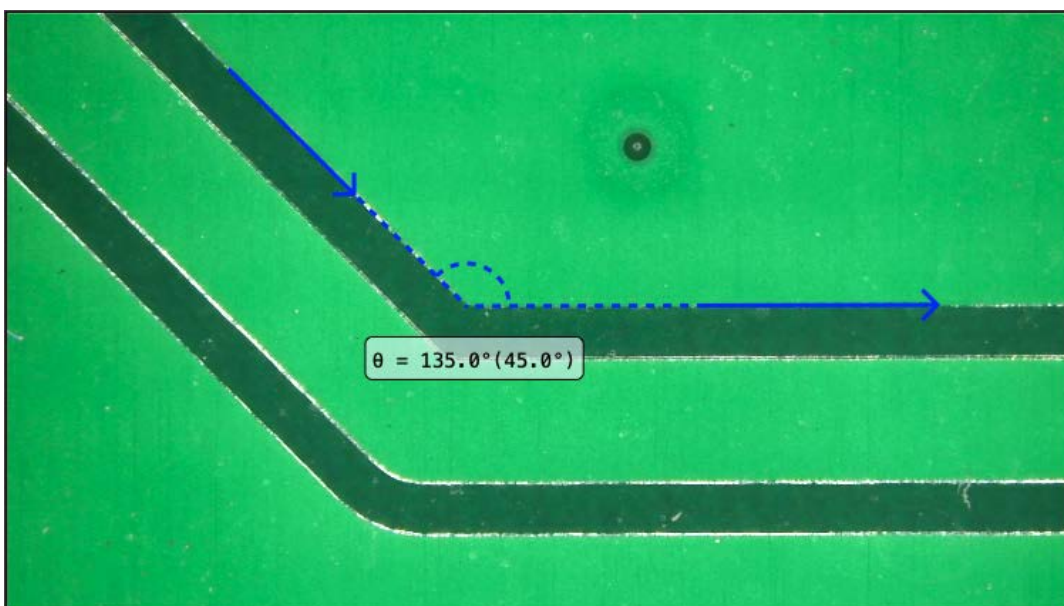


Figure 5-12 Example of four-point angle measurement

(11) Polyline: Measure lengths from lines. Measure total lengths by using Polylines .

Drag each polyline as shown in the figure to pull out a continuous polyline. If you want to end it, right-click to end the measurement of the polyline, as shown in Figure 5-13.

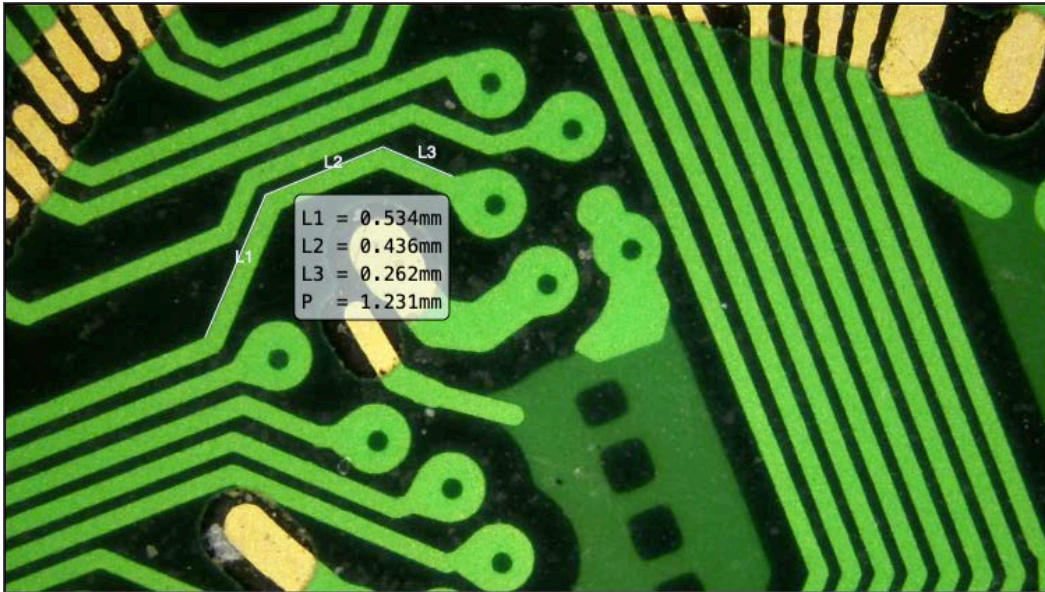



Figure 5-13 Example of Polyline measurement

(12) Polygon : A polygon  is a shape that is made up of many sides and has only line segment. As shown in the figure, click on each polyline point to pull out the polygon, and right-click to end the graphic measurement, as shown in Figure 5-14.

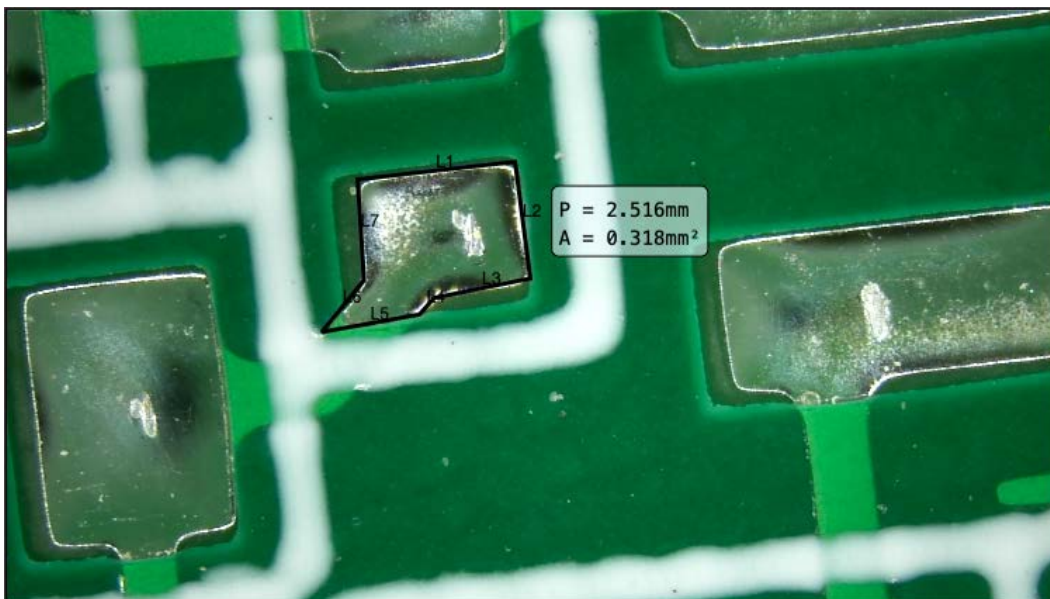



Figure 5-14 Example of polygon measurement

(13) Move: When you need to move or adjust the measurement object, you can use the tool



to adjust and move the measurement object. At the same time, the ESC key on the keyboard can also quickly switch to the movement mode. When you want to delete

the selected object, you can use the tool  to delete the object, or you can press the Delete key on the keyboard to quickly delete the selected object.


(14) Insert text: When you need text for annotation, you can use to insert text , and follow the steps of inserting a rectangle to draw a text square. To insert text, follow the steps of inserting a rectangle to draw a text square, as shown in Figure 5-15. If you need to perform detailed text editing and style changes, you can use the mobile tool to click on the text to perform more advanced text operations. Clicking the font panel button will bring up the system font panel, where you can set the font style; Click Edit and the text editor will pop up, as shown in Figure 5-17.



Figure 5-15 Example of inserting text

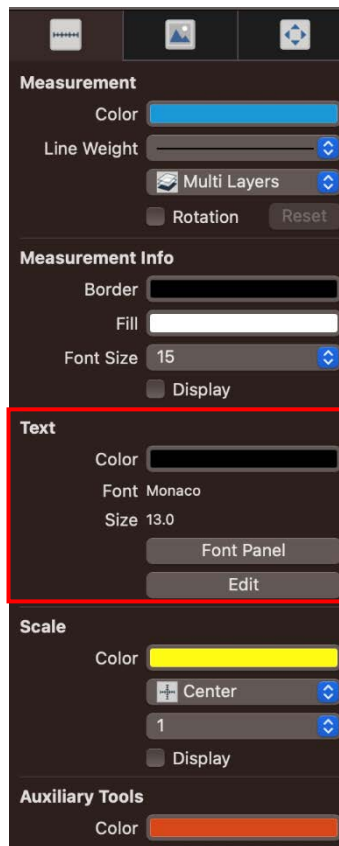


Figure 5-16 Text setting block

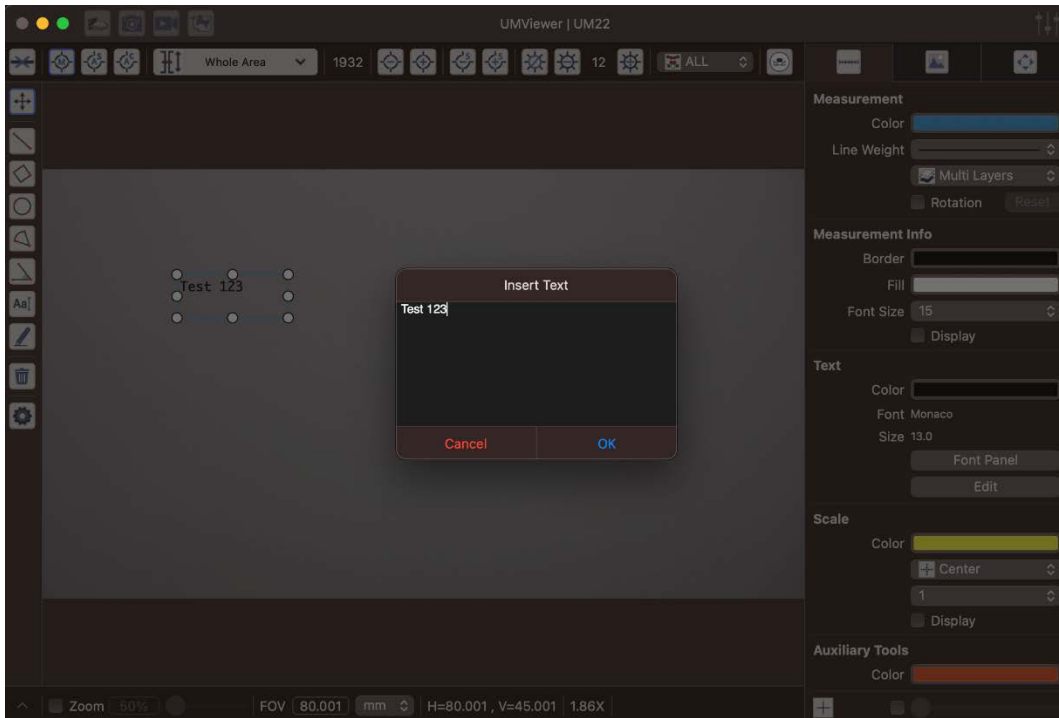


Figure 5-17 Text editor

(15) Measurement setting: When the measurement object does not require all the information, you can open the preferences and select the measurement tab to change the information that needs to be displayed, as shown in Figure 5-18. Figure 5-19 is before the change, and Figure 5-20 is after the change.

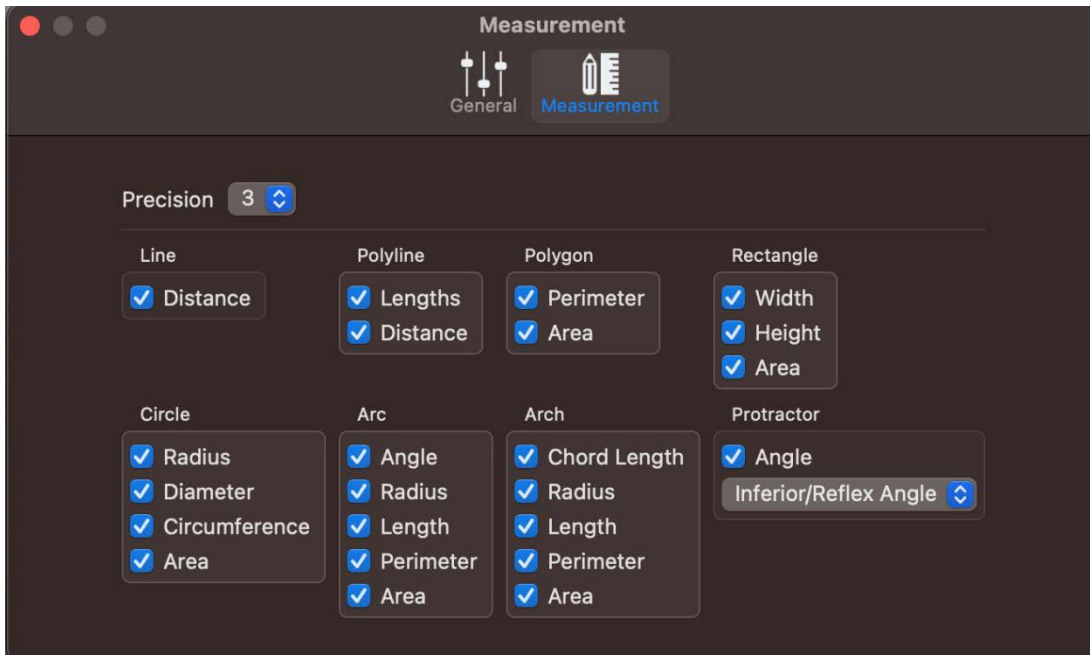


Figure 5-18 Measurement information setting page

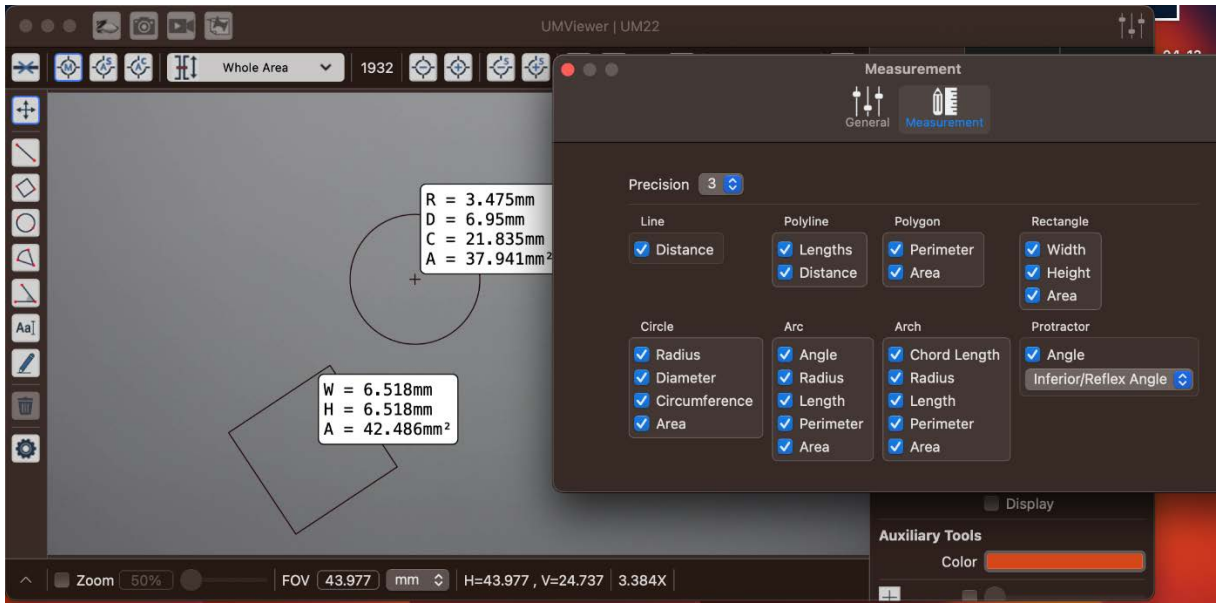


Figure 5-19 Example before measurement information changes

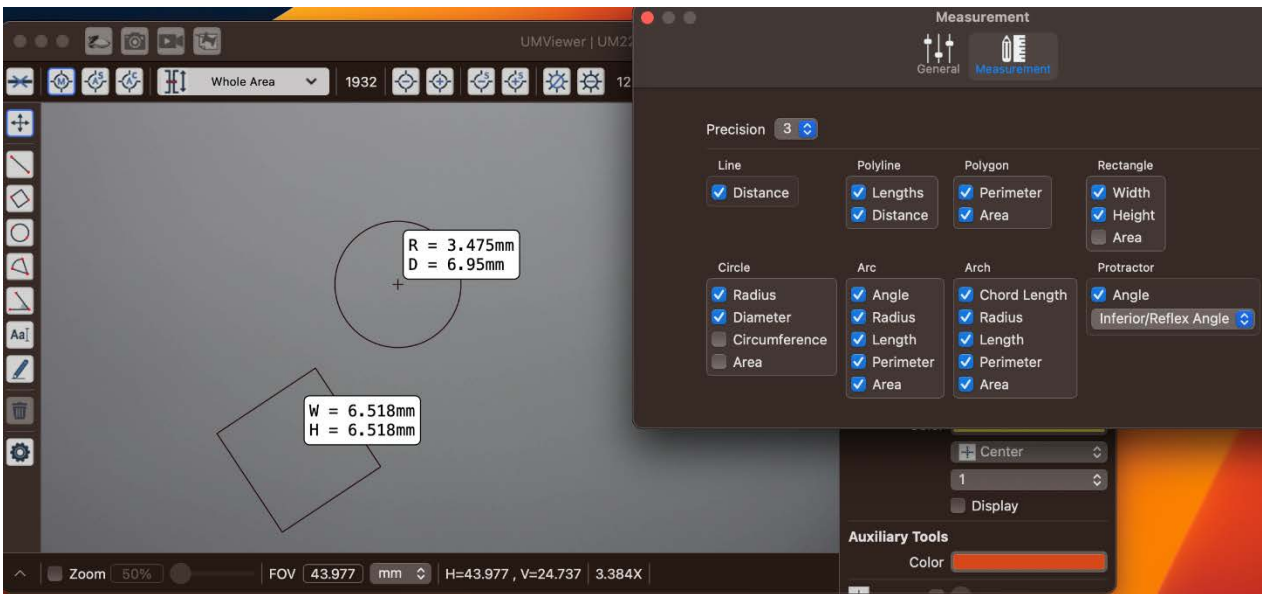




Figure 5-20 Example after measurement information changes

## 2. Calibration Tool

The calibration mode menu button is located below the measurement toolbar, as shown in Figure 5-21.



Figure 5-21 Calibration mode menu button

- (1) Manual calibration tool: When more accurate measurements are required, calibration is required. After clicking the menu button, the program will pop up a menu and list all available modes (Figure 5-22). After selecting the calibration mode, the center screen will display the calibration setting bar marked by the red box in Figure 5-24, and then put Calibrate the ruler, confirm the actual size to be corrected, and click the button marked in the red box in Figure 5-25 to enter the actual length (Figure 5-26). For example, if the actual size is 5mm, just enter 5. Then draw a line segment (or circle) with the same length as the actual size in the picture, and finally, After pressing the confirmation button , the correction is completed; at this time, the horizontal and vertical FOV and MAG data will be adjusted accordingly, and the FOV data will be brought into the relevant fields of "Ruler Settings". In the same way, you can also directly draw a line segment with the same length as the actual size, then enter the data in the correction size field, and then press the confirm button. The more the corrected line segment can fill the horizontal range of the screen, the more accurate the correction result will be. To cancel the calibration action, press the button  to exit the ruler calibration mode.

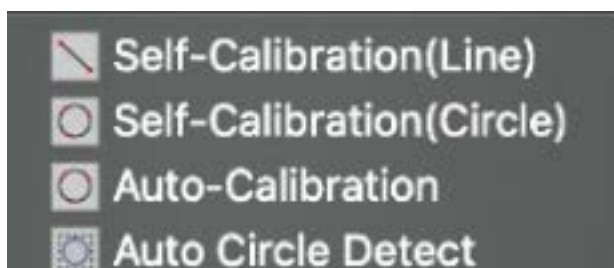


Figure 5-22 Calibration mode menu



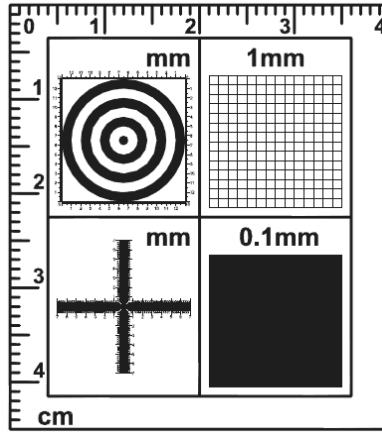


Figure 5-23 Standard calibration ruler

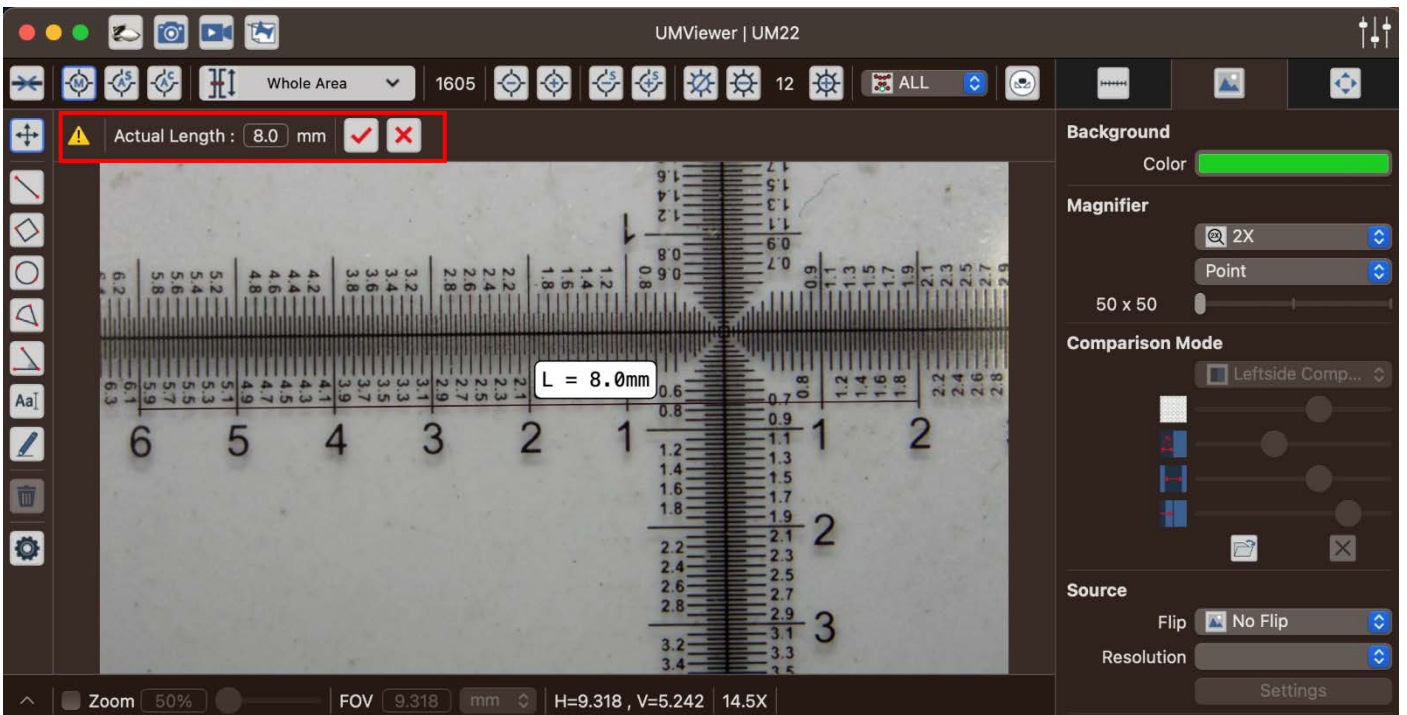


Figure 5-24 Calibration mode

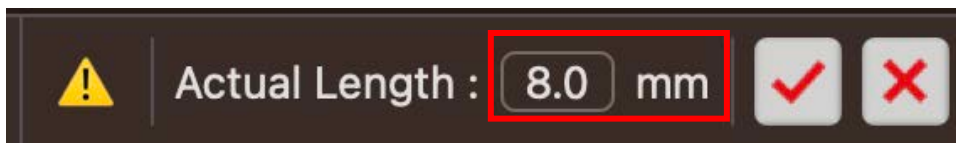


Figure 5-25 Actual length button

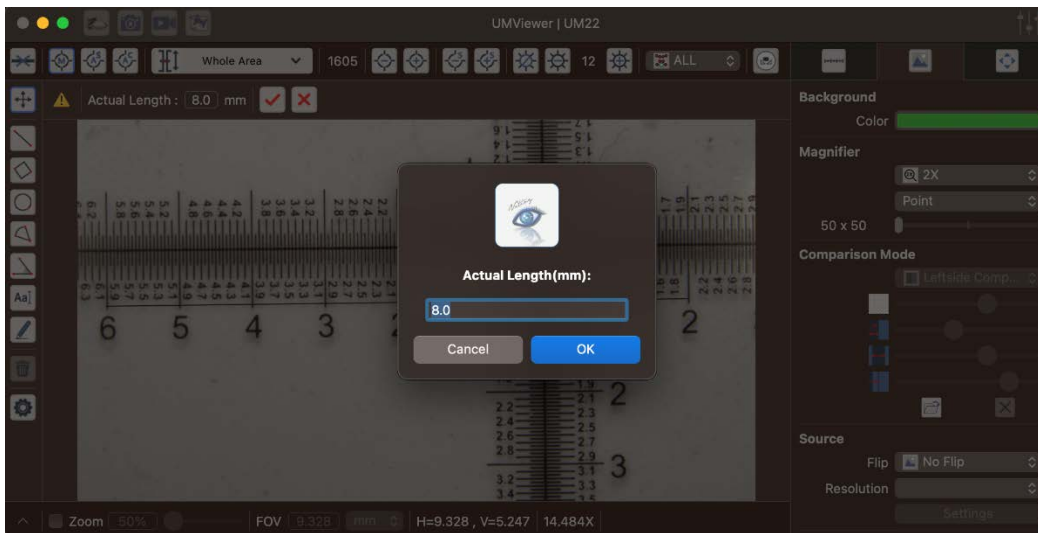




Figure 5-26 Enter the actual length

(2) Automatic calibration tool: When more accurate measurements are required, calibration is required. First, please place the solid circle correction ruler so that the preview screen can include the entire solid circle. Then press the automatic correction tool option, and a circle will be drawn on the edge of the solid circle, as shown in Figure 5-27. Confirm the actual size to be corrected, and click the button marked in the red box in Figure 5-25 to enter the actual length (Figure 5-26). For example, if the actual size is

5mm, just enter 5. Press  to complete the correction. At this time, the horizontal and vertical FOV and MAG data will be adjusted accordingly, and the FOV data will be brought into the relevant fields of "Ruler Settings". To cancel the calibration, press  to exit the ruler calibration mode.

Note: The more the corrected solid circle fills the screen, the more accurate the correction result will be.

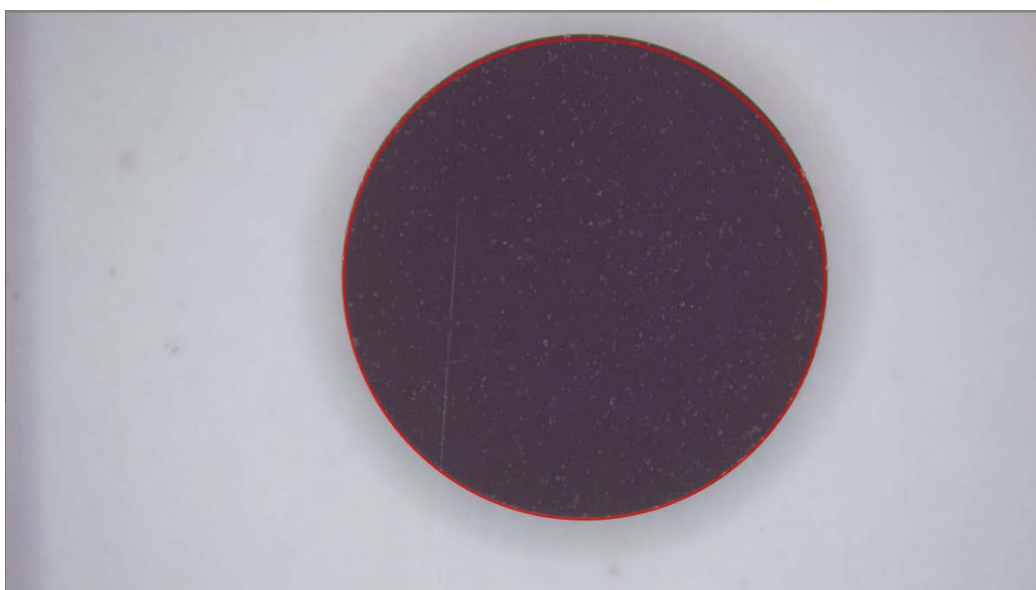



Figure 5-27 Example of automatic calibration completed

### 3. Measurement settings

After pressing the function area label , the measurement setting page will appear, as shown in Figure 5-28.

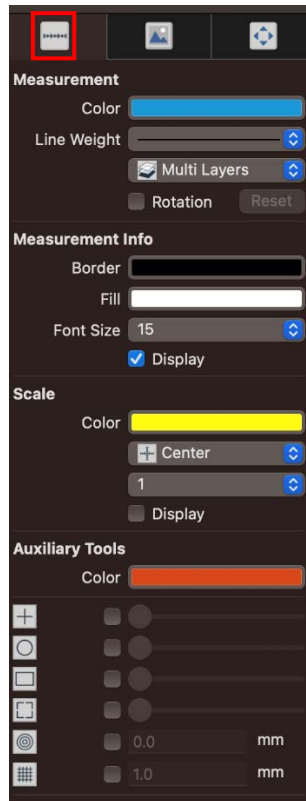


Figure 5-28 Measurement area setting

#### 1. Measurement tool block, as shown in Figure 5-29:

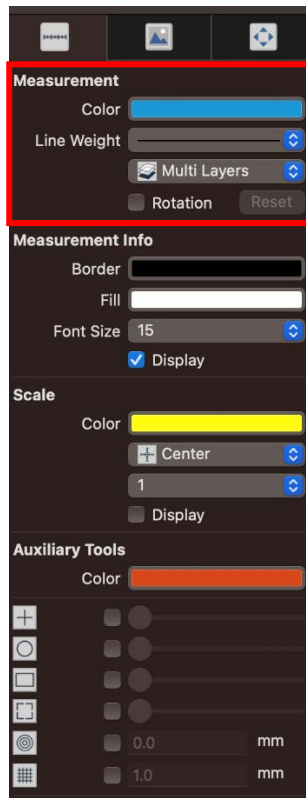


Figure 5-29 Measurement tool block

- (1) Color: Adjust the color displayed by the measurement tool.

- (2) Line width: adjust the line width of the measurement tool.
- (3) Multi-layer measurement: When multi-layer measurement is required, you can open the


tool  and measure multiple objects on the screen, as shown in Figure 5-30.



Figure 5-30 Layer setting menu

- 2. Measurement information block, as shown in Figure 5-31:

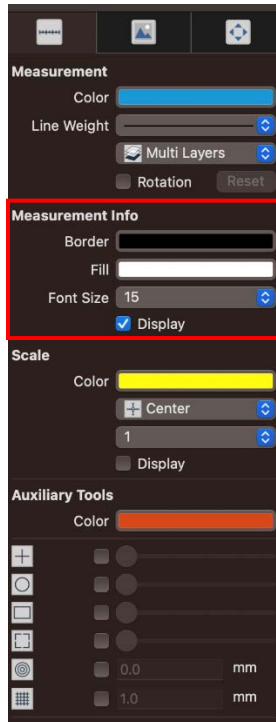


Figure 5-31 Measurement information block

- (1) Border: Adjust the border color of the measurement information.
  - (2) Fill: Adjust the fill color of measurement information.
  - (3) Font size: adjust the font size of measurement information.
  - (4) Display: Check to display the measurement information, otherwise hide it.
- 3. Scale bar: Settings for the appearance of the scale bar, as shown in Figure 5-32.
    - (1) Color: Adjust the color displayed by the scale.
    - (2) Cross menu: Adjust the origin position of the scale, with five options: cross (center), upper left, lower left, upper right and lower right.
    - (3) Interval menu: adjust the scale interval.
      - (4) Display: Check to display the scale bar, otherwise it will be hidden.

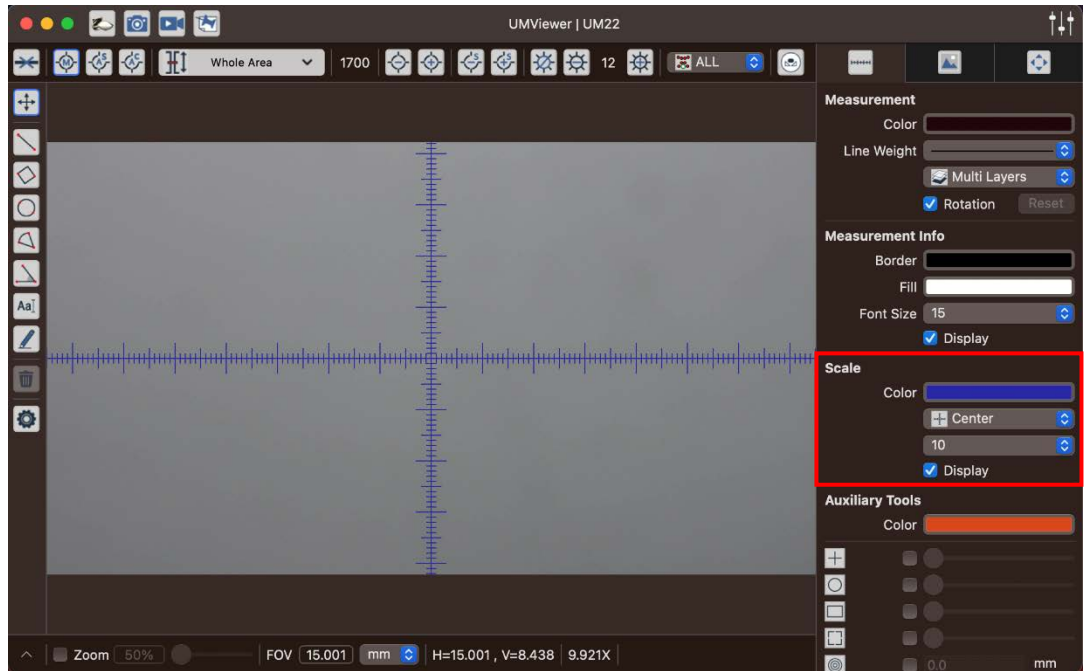


Figure 5-32 Scale setting block

4. Auxiliary tools:

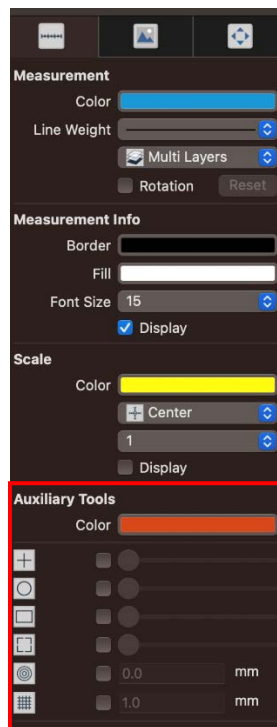


Figure 5-33 Auxiliary tool block

- (1) Auxiliary line function: There are 4 forms of auxiliary lines. The center point of each form is adjusted according to the center of the drawing. The size of the auxiliary line can be adjusted through the slider, as shown below.

- Center Crosshair  The control bar for Center Crosshair mode includes a plus sign icon, a checked checkbox, and a slider.

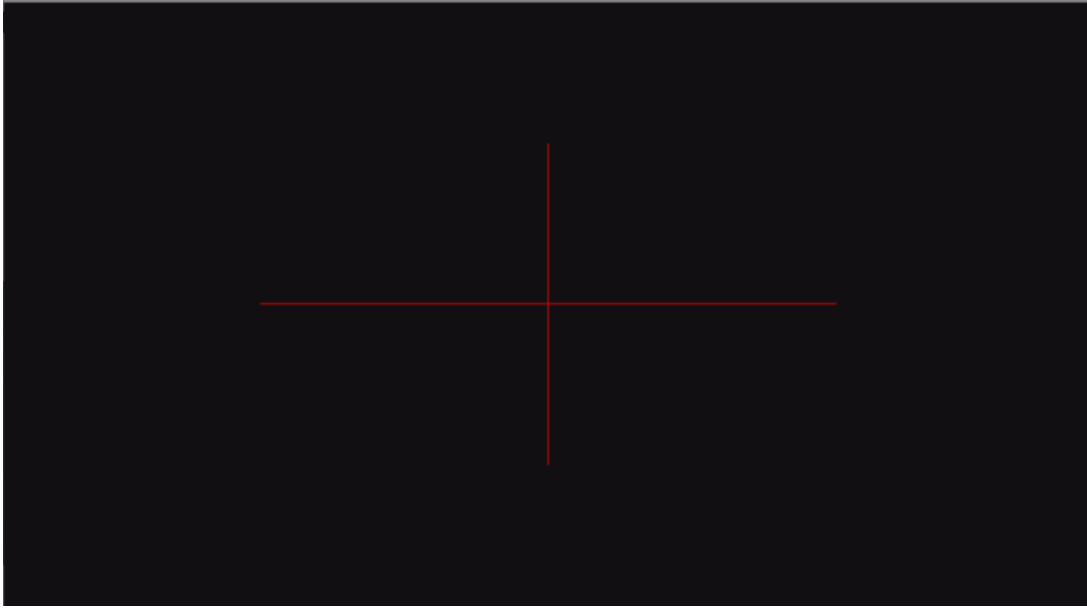


Figure 5-34 Example of Center Crosshair Aiming Mode

- Center Circle  The control bar for Center Circle mode includes a circle icon, a checked checkbox, and a slider.

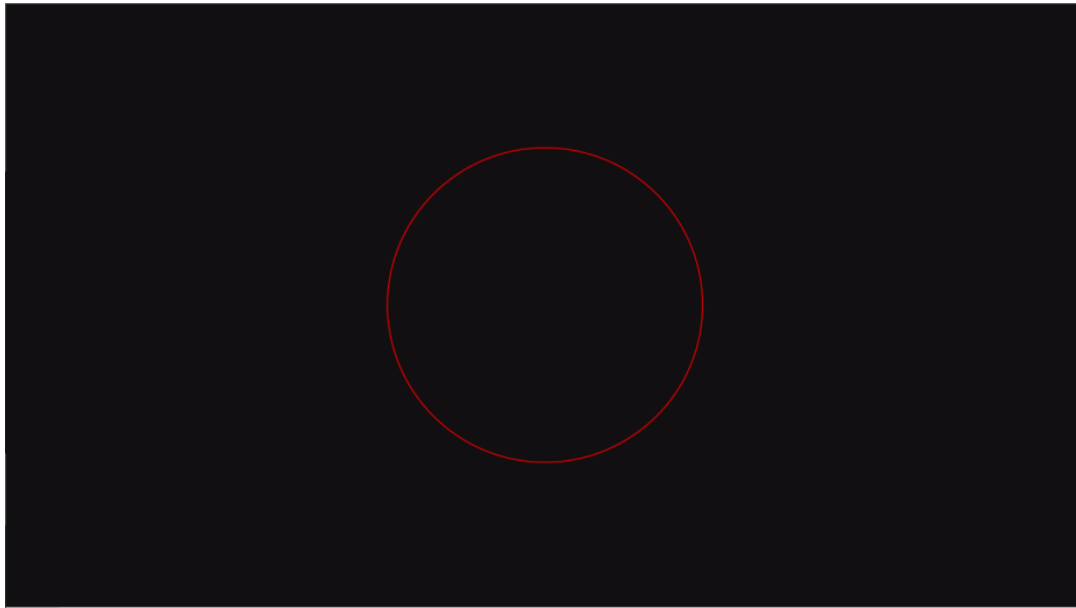


Figure 5-35 Example of Center Circle Aiming Mode

- Center Rectangle  The control bar for Center Rectangle mode includes a rectangle icon, a checked checkbox, and a slider.

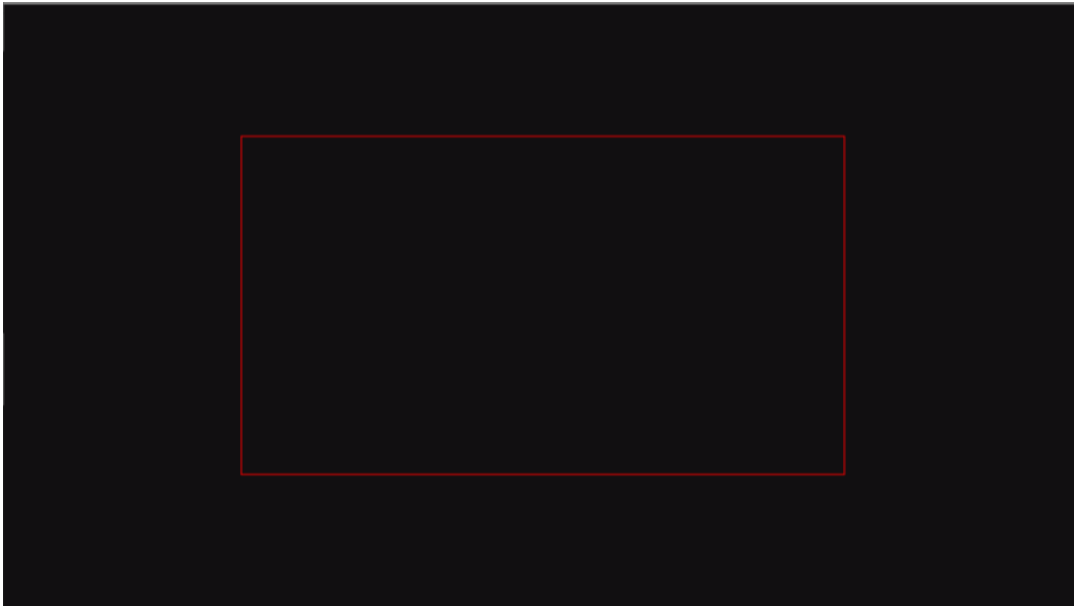


Figure 5-36 Example of Center Rectangle Aiming Mode

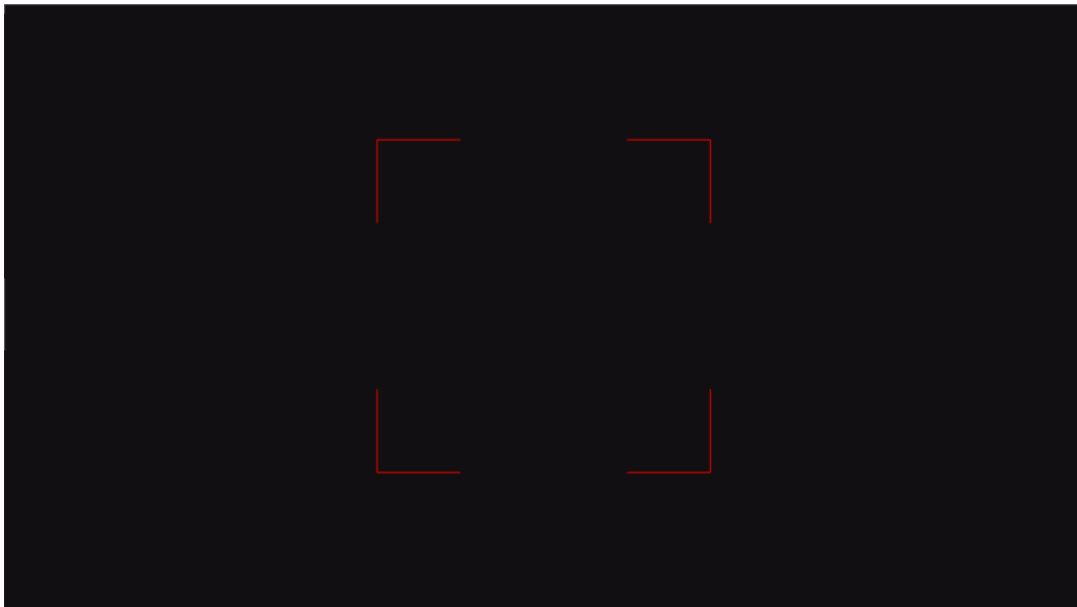
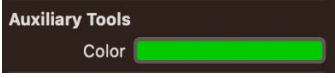


Figure 5-37 Example of Center Square Aiming Mode

- (3) Choose Color  : Select the color of the auxiliary line and change the auxiliary line to green as shown in Figure 5-38.

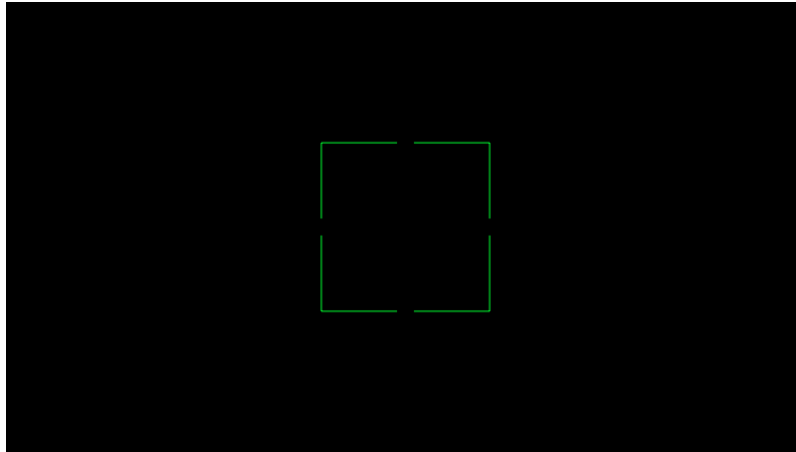



Figure 5-38 Example of changing color to green

- (4) Crosshair ruler : A bar-shaped ruler marking the interval of the input values on the screen, as shown in Figure 5-39.

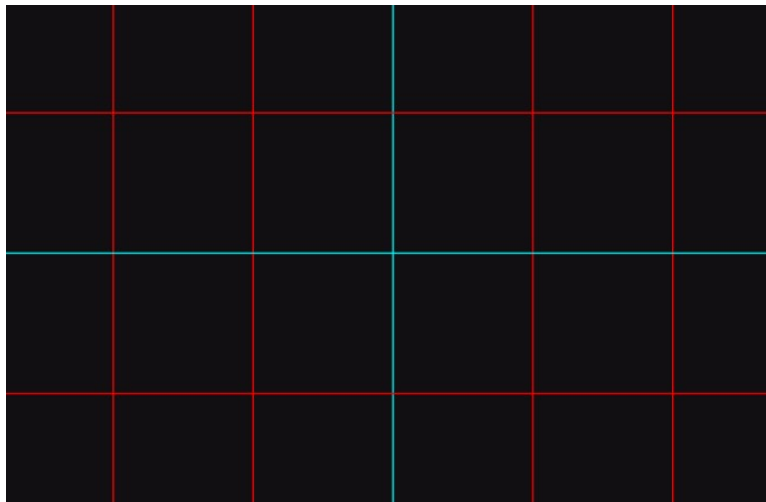



Figure 5-39 Crosshair ruler with cross line in center

- (5) Circle Ruler : A concentric circle-shaped ruler on the screen that marks the interval between the input values, as shown in Figure 5-40.

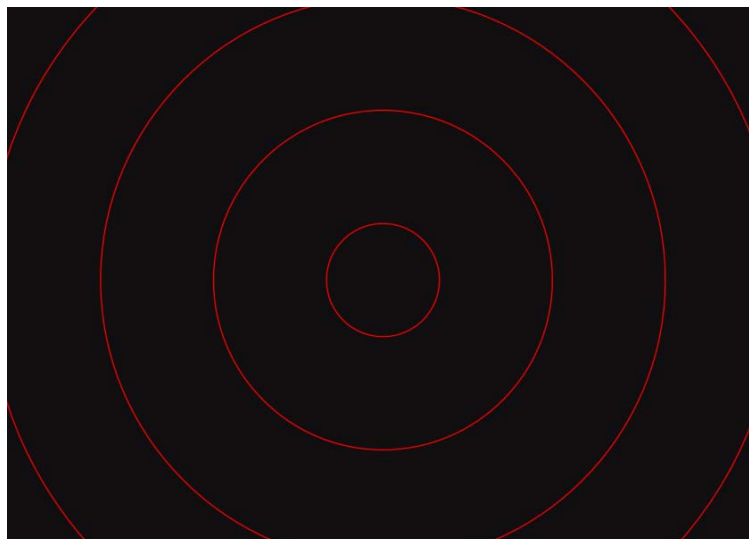



Figure 5-40 Circle Ruler



#### 4. Image Tool

Click the Image Tool button  in the Sub Program to call out the Image toolbar. See Fig 5-41.

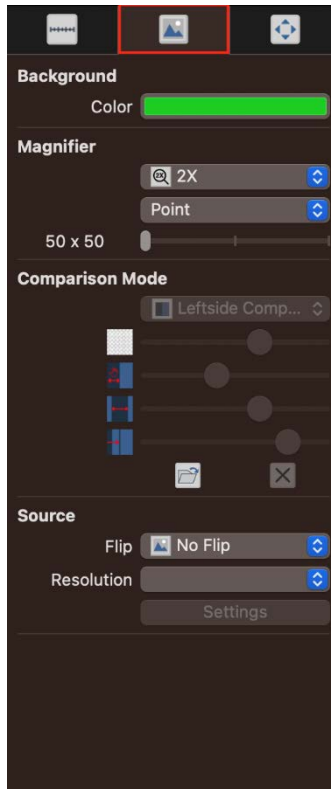


Figure 5-41 Image Tool Toolbar

1. Background setting, as shown in Figure 5-42:

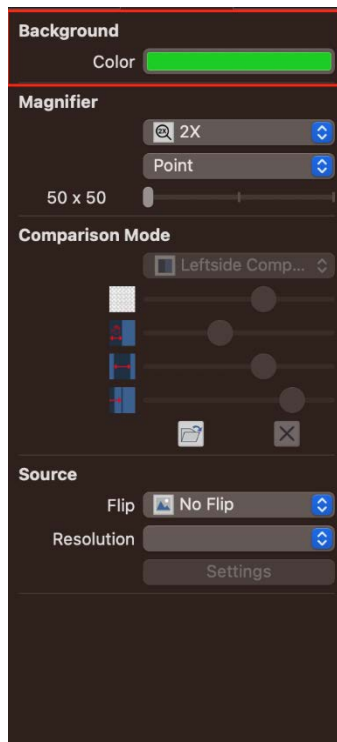


Figure 5-42 Background settings

- (1) Color: If the background color is similar to the microscope screen, you can manually

adjust it to the appropriate color, as shown in Figure 5-43.

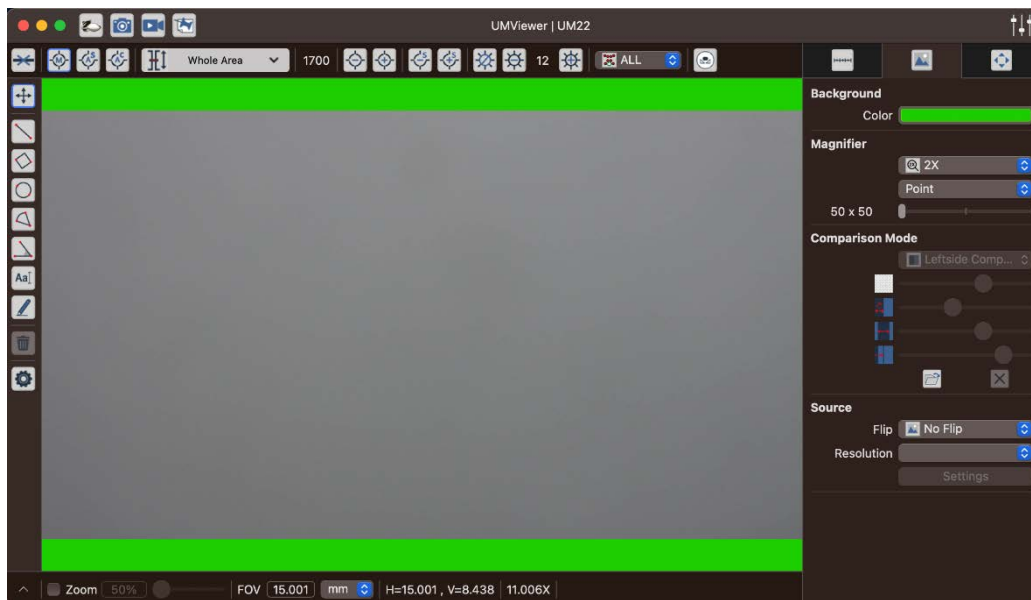


Figure 5-43 Change the background to green

2. Magnifier settings, as shown in Figure 5-44:

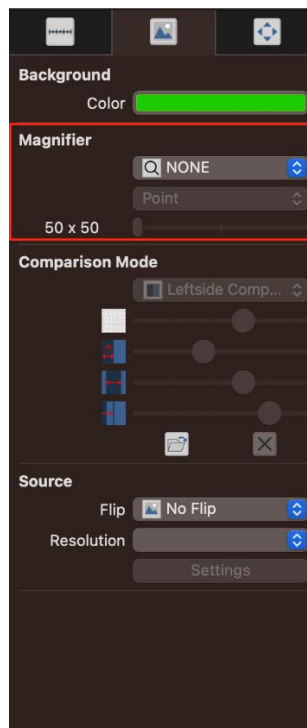


Figure 5-44 Magnifier settings

(1) Multiple menu: There are three multiple options, as shown in Figure 5-45. NONE turns off the magnifier.

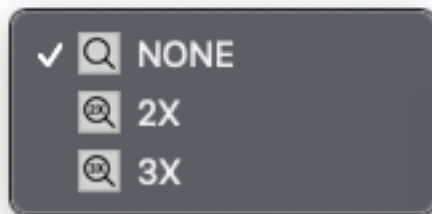


Figure 5-45 Magnifying glass magnification options

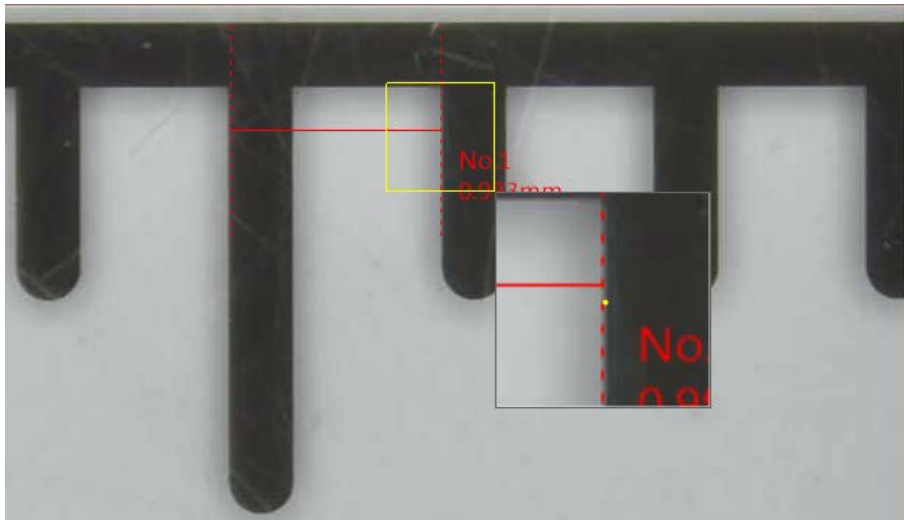


Fig. 5-45-1 Before applying 3x subsidiary magnify

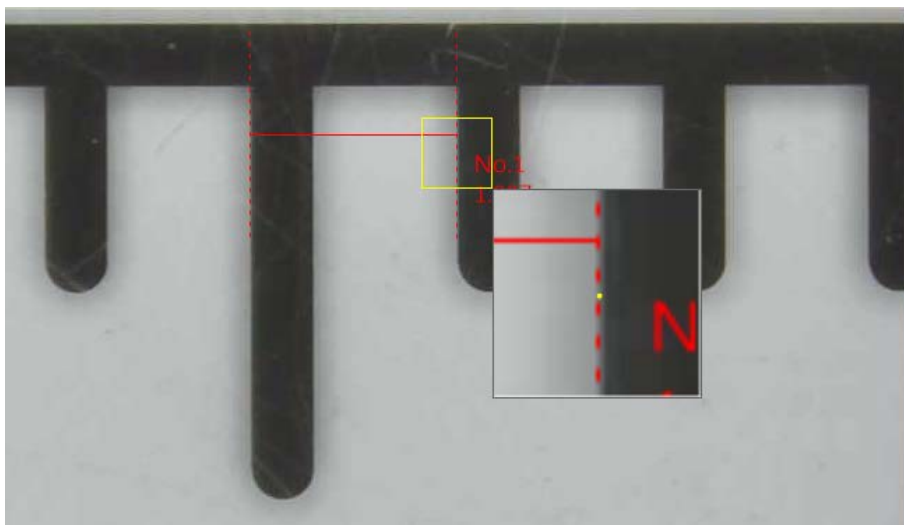


Fig.5-45-2After applying 3x subsidiary magnify

- (2) Style menu, as shown in Figure 5-46: There are two style center styles in the enlarged screen, the descriptions are as follows:

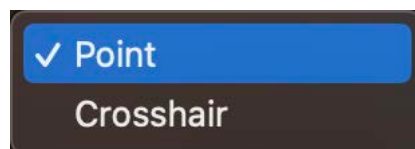
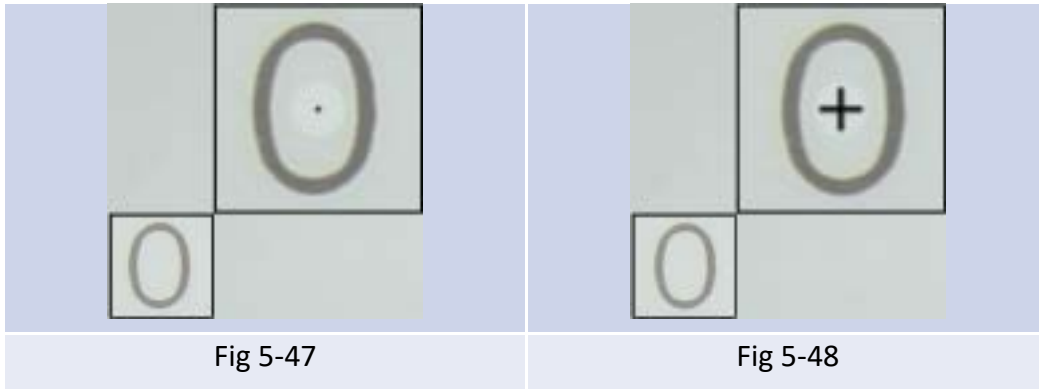


Figure 5-46 Magnifier style menu

- Point: mark a dot in the center of the enlarged screen, as shown in Figure 5-47.
- Cross: mark the center line of the cross in the center of the enlarged screen, as shown in Figure 5-48.



- (3) Capture size setting: Capture the image size of the magnifying glass from the image source. The values of the slider from left to right are 50x50, 100x100, and 150x150, as shown in Figure 5-49.



Figure 5-49 Capture size settings

3. Comparison function, as shown in Figure 5-50:

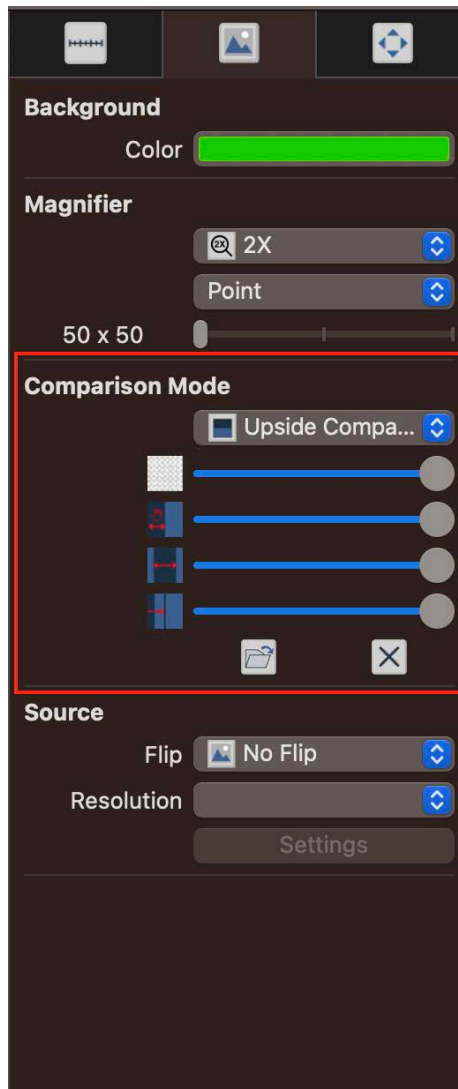



Figure 5-50 Comparison function block

(1) Comparison mode:

- Overlay : Turn on or off the comparison function. After turning it on, the default file for comparison is the last picture taken (the same method is used for other comparison modes). Figure 5-51 shows that the comparison mode is not turned on, and Figure 5-52 shows that it is turned on. Overlay function

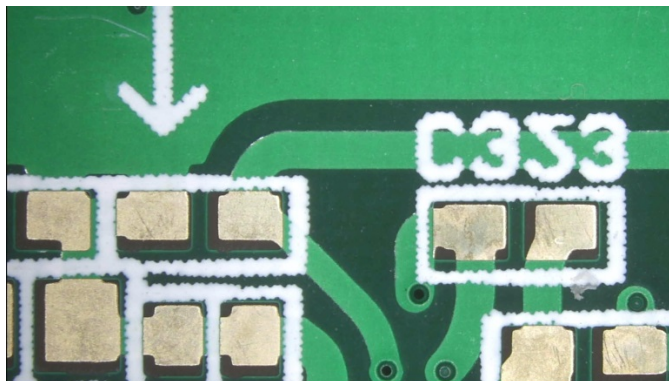


Figure 5-51 Example of not enabling comparison mode

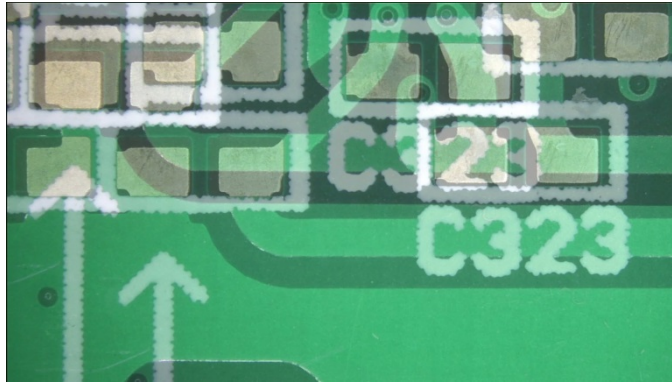


Figure 5-52 Example of Overlay Function enabled


- Top Side Comparison : Enable/Disable the Top Side Compare mode. The loaded image is on Top side. Bottom side image is live preview image.

Fig 5-53 Transparency: 100%, Image Location: 100%, Offset Ratio: 0%, Image Ratio: 50%.

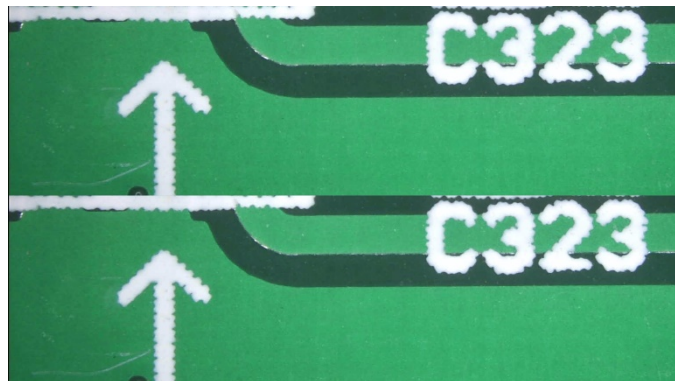


Fig 5-53 Top Side Compare Mode


- Bottom Side Comparison : Enable/Disable the Bottom Side Compare mode. The loaded image is on Bottom side. Top side image is live preview image.

Fig 5-54 Transparency: 100%, Image Location: 100%, Offset Ratio: 0%, Image Ratio: 50%.

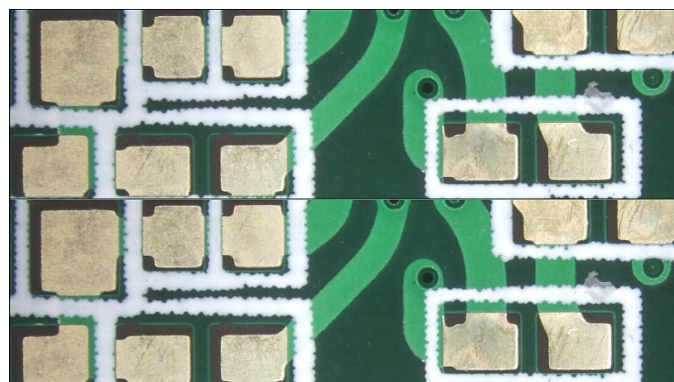



Fig 5-54 Bottom Side Compare Mode

- Left Side Comparison : Enable/Disable the Left Side Compare mode. The loaded image is on left side. Right side image is live preview image. Below Fig 5-55: Transparency: 100%, Image Location: 100%, Offset Ratio: 0%, Image Ratio: 50%.

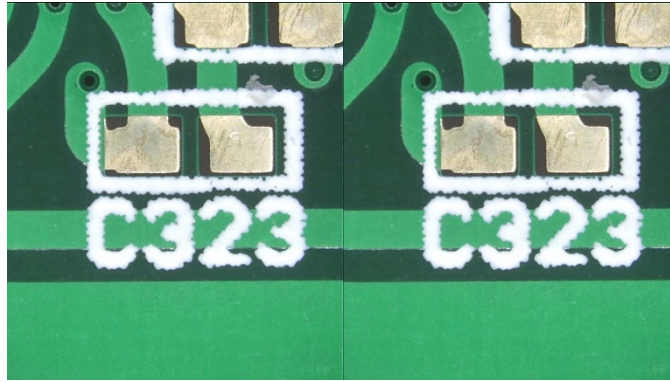



Fig 5-55 Left Side Compare Mode

- Right Side Comparison : Enable/Disable the Right Side Compare mode. The loaded image is on Right side. Left side image is live preview image. Below Fig 5-56 Transparency: 100%, Image Location: 100%, Offset Ratio: 0%, Image Ratio: 50%.

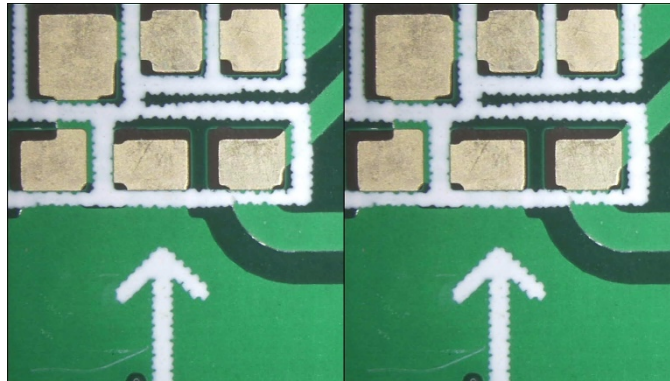



Fig 5-56 Right Side Compare Mode

- Transparency : Adjust the transparent level when in comparison mode. The Default level is 50%, drag the bar to adjust level. Fig 5-54 is the transparency in 15%, Fig 5-55 is in 75%.

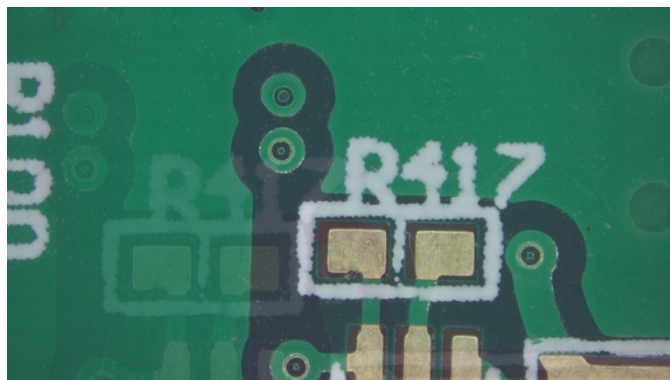


Fig 5-57 Transparency in 15%

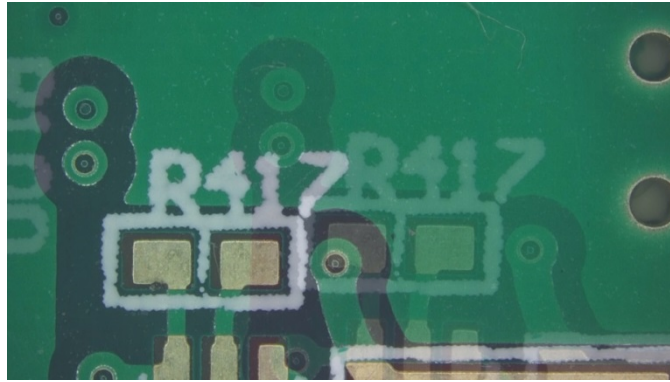






Fig 5-58 Transparency in 75%

- (3) Photo Rolling  : Adjust the loaded-in photo position in comparison mode. Drag the bar to roll the loaded-in photo.
- (4) Photo Moving  : Adjust the loaded-in photo window in comparison mode. Drag the bar to move photo, so that to easily compare the loaded-in photo with the preview image.
- (5) Photo Size  : Adjust the loaded-in photo size in comparison mode. Drag the bar to adjust photo ratio. Max. photo size is 50%.
- (6) Load Image  : Load image from other location.

4. Display Setting, as shown in Figure 5-59:

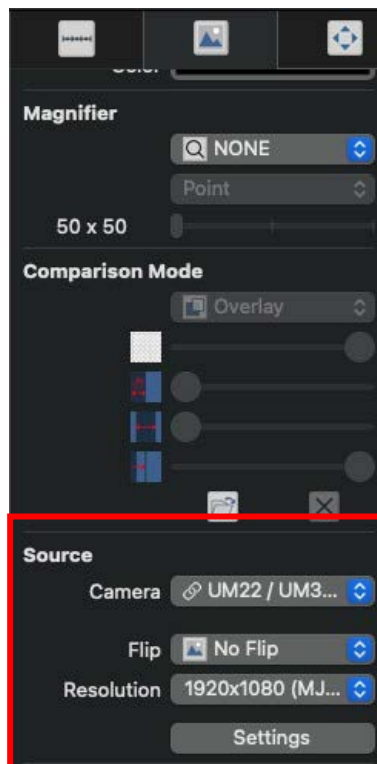


Figure 5-59 Display setting block



(1) Camera

The camera functions list and currently connecting Device are as shown in Figure 5-60.

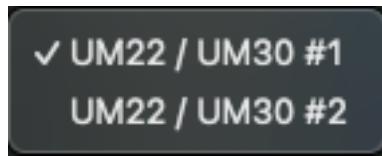



Figure 5-60 Camera mode menu

(2) Port

When connecting to 2 same device models, it will pop up "Port" list as shown in

Figure 5-61. "Lock remote control"  will be displayed then, as shown in Figure 5-62; Tick a camera and select the correct port, it needs to be paired for "Unlock remote control".

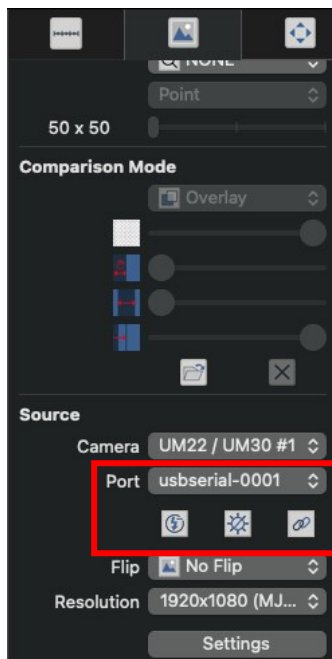


Figure 5-61 Expand the block

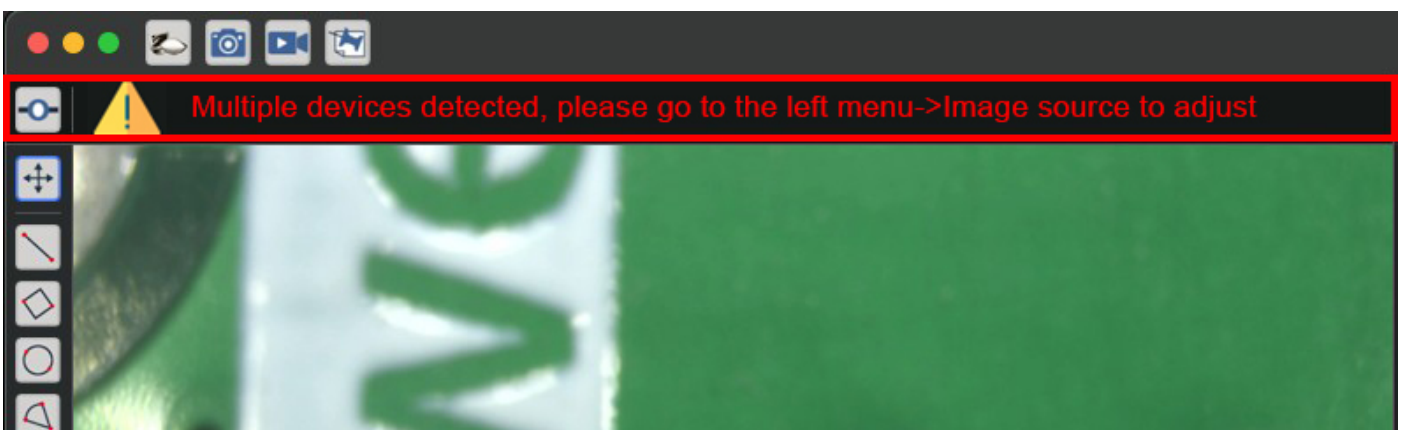


Figure 5-62 Schematic diagram of locking remote control

**(3)** Flip function

Flip function: The flip function is represented by a menu, as shown in Figure 5-60; and is divided into four modes, as shown below.

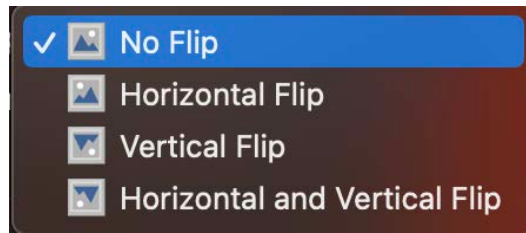



Figure 5-63 Flip mode menu

- No Flip  :

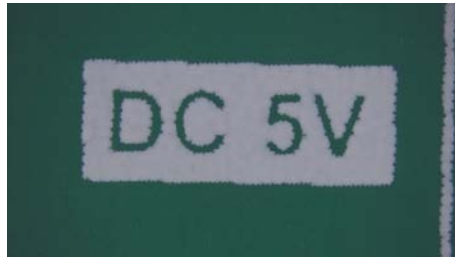



Fig 5-64 No Flip

- Horizontal Flip  :

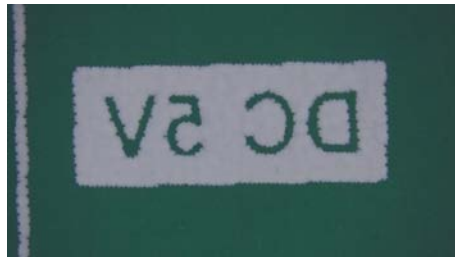


Fig 5-65 Horizontal Flip

- Vertical Flip  :

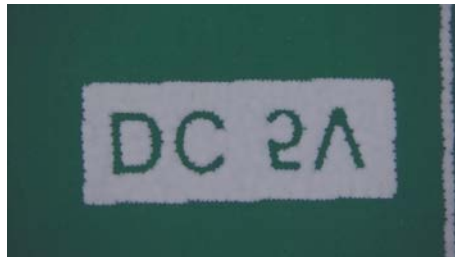


Fig 5-66 Vertical Flip

- Horizontal & Vertical Flip  :

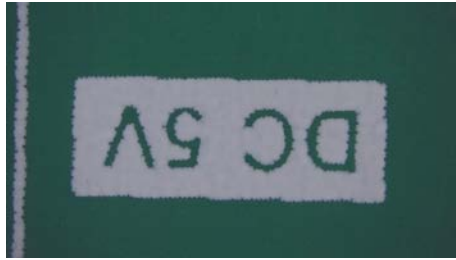


Fig 5-67 Horizontal & Vertical Flip

(4) Resolution

The resolution of the signal source can be adjusted, as shown in Figure 5-65.

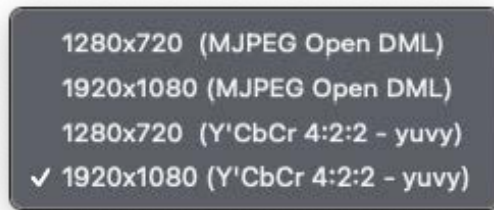


Figure 5-68 Resolution menu

(5) Settings

Provides various camera settings, divided into general settings and advanced settings.

Various camera settings are provided and divided into general settings and advanced settings. (temporarily removed)

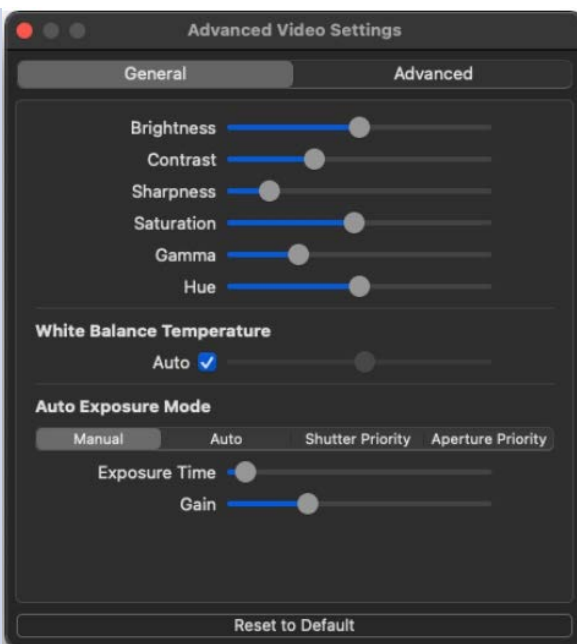


Figure 5-69 General settings

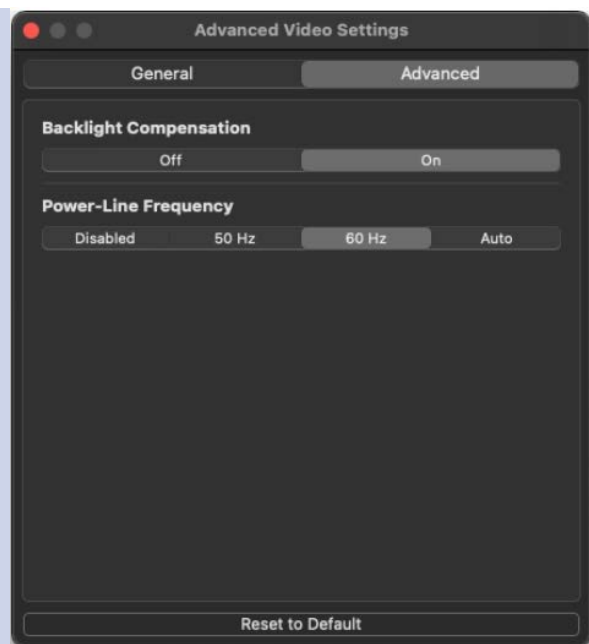
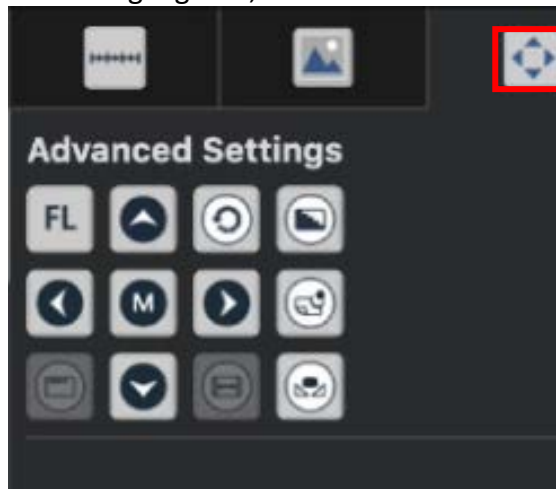


Figure 5-70 Advanced settings

## 5. Advanced Options

After enabling remote connection, you can click the Advanced Options tab to open this page, as shown in Figure 5-67. If the icon is highlighted, this model does not support this operation.



As shown in Figure 5-67 Advanced options page