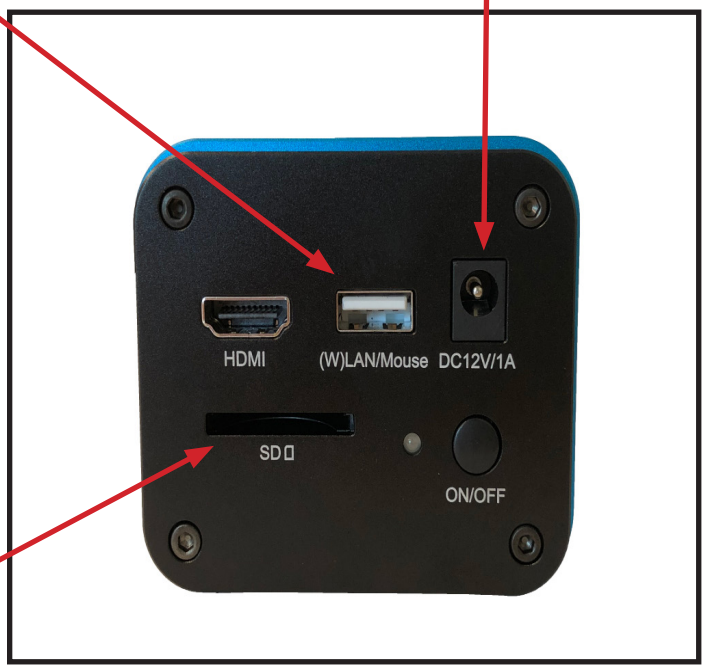
HDCAM-WiFi
High Definition WiFi Microscope Camera & Software
User's Manual

HDCAM-WiFi Set up

- Attach the HDCAM-WiFi to the C-Mount on the Microscope.

- Insert the WiFi dongle into the (W) LAN/Mouse port. This port is used for the WiFi dongle when using the camera in WiFi mode or for the USB mouse when using the camera in HDMI output mode.

- Plug the power adapter into the DC12V power adapter input on the camera.



- Insert the SD card into the SD card slot.

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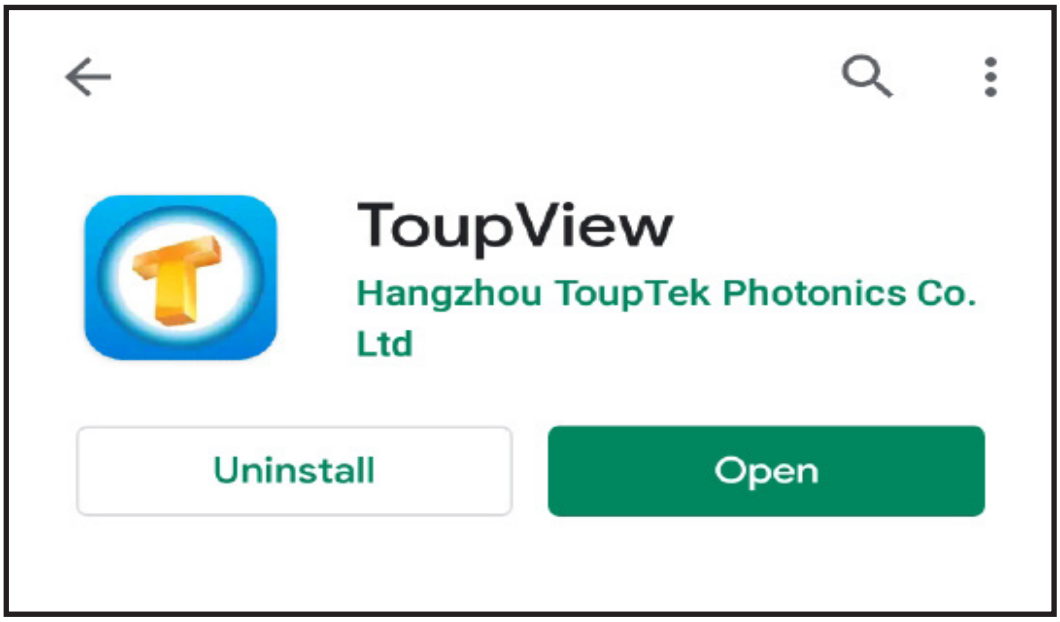
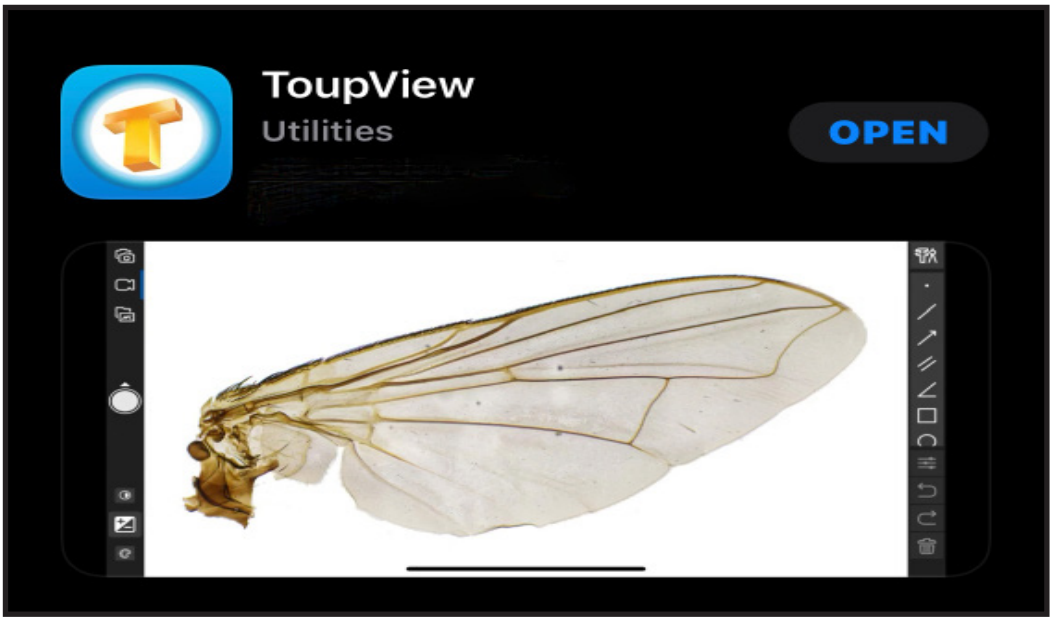
- Using your smartphone, locate the ToupView app in the App Store for IOS or in Google Play for Android.
- Download the app.

- Google Play Store for Android.

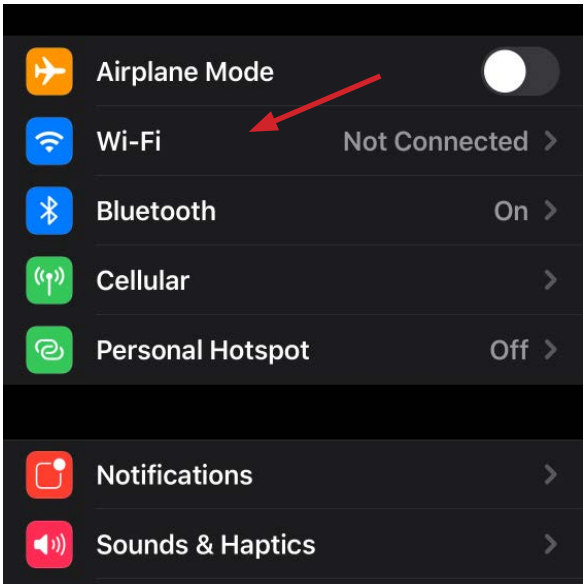


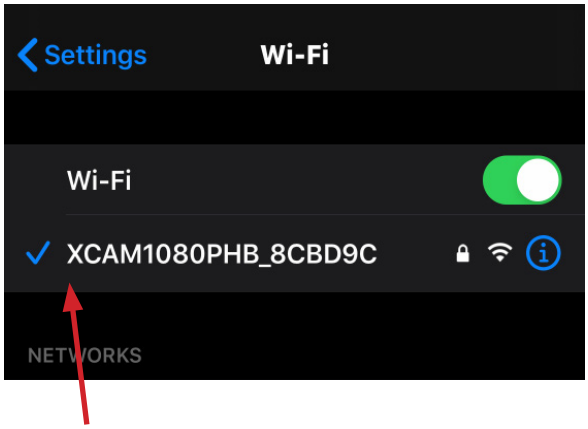


- App Store for IOS

- Power the camera on by pressing the ON/OFF button on the top of the camera.
- A blue light to the left of the button will begin blinking. Once the blue light has stopped blinking and is fully illuminated, the camera is on and ready for operation.

- In the settings menu on your smartphone, locate the WiFi menu.
- Locate the camera's WiFi signal. The WiFi signal name will appear as the camera's factory model number.
- Connect to the camera's WiFi signal.
- When asked for the password use 12345678.





- After the camera and computer configurations are completed, the camera is ready to stream live video to anyone connected to the network.

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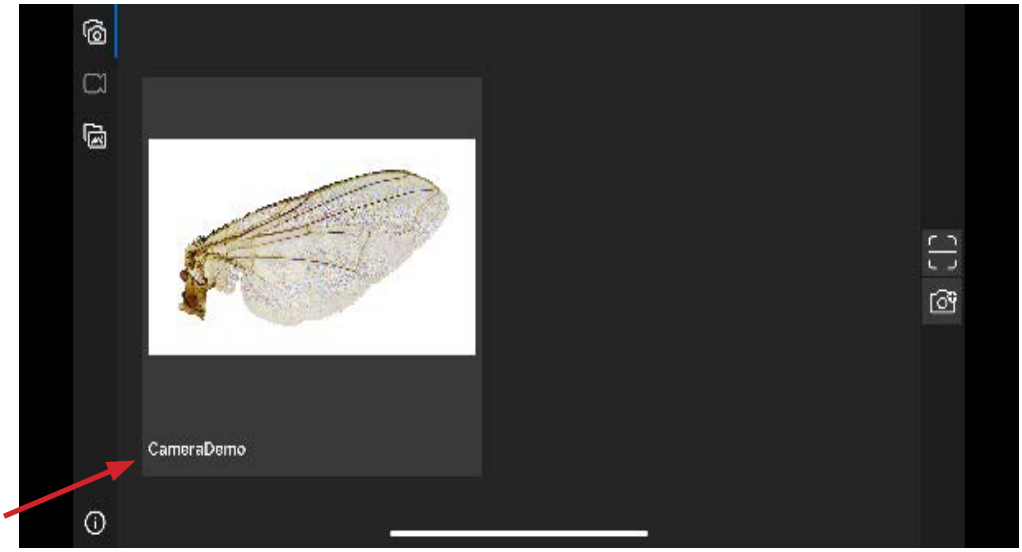
- Prepare the microscope for use. Place a sample on the microscope stage and turn on any illumination that will be required to view the sample.
- With the smartphone connected to the camera's WiFi, launch the Toupview App.
- The app will open with the "Camera Demo" image.



- Allow the app a moment to connect and the view will change over to the microscope stage.
- The camera name will appear below the image of the microscope stage.

- To begin working in the app, tap on the image or tap on the  icon.

- A live image of the sample on the microscope stage will appear. The image is now ready to work with.

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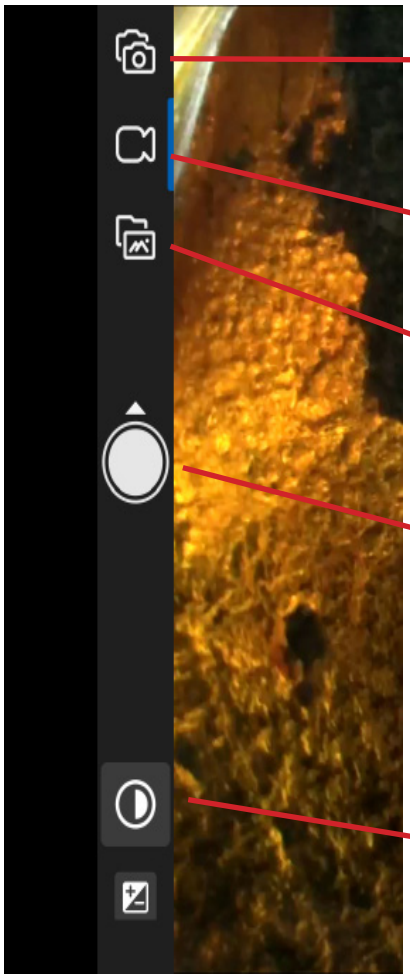
- There are two toolbars located on either side of the image display.
- Tap on each icon to select and use the function.
- If more than one function option is available, scroll up to select.

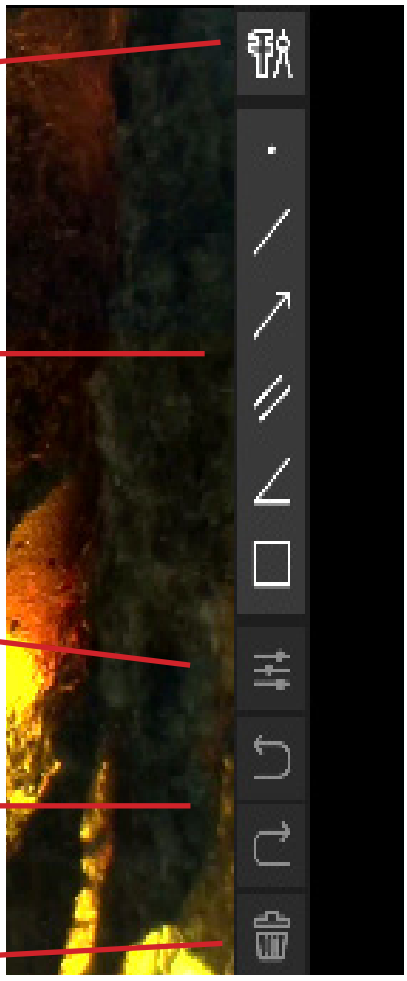
- Toolbar on Left side of display.



- Tap to return to home screen.
- Tap to return to your live image screen.
- Tap to access your snapped photos.
- Tap to snap a photo of the image.
- There are multiple function options below the color adjustment function. Scroll up to make them available for selection.

- This toolbar is for calibration and measurement functions.
- Tap on each icon to select and use the function.
- If more than one function option is available, scroll up to select.

- Toolbar on Right side of display.



- Tap to begin process to calibrate instrument.

- Calibrated measurements can be made with the style options located in this portion of the toolbar.

- Tap the settings icon to make style adjustments to a measurement. Change the color and width of a line measurement. Scroll up for more options.

- Tap to undo or redo an action.

- Tap to delete a measurement.

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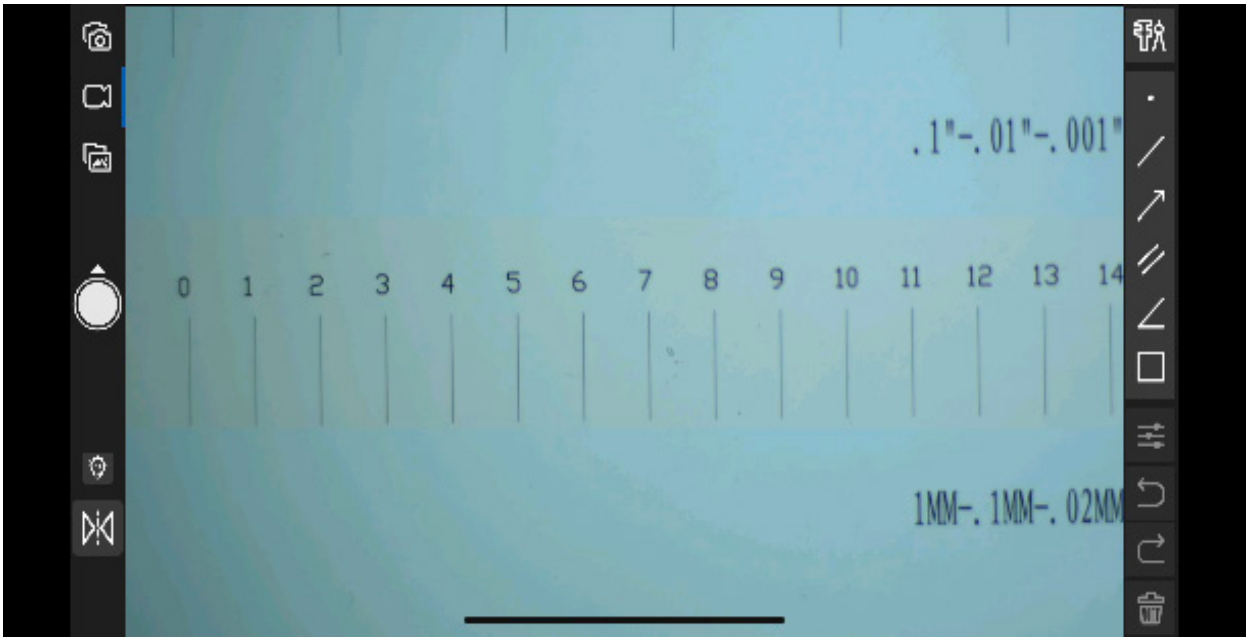
Items required to perform calibration:

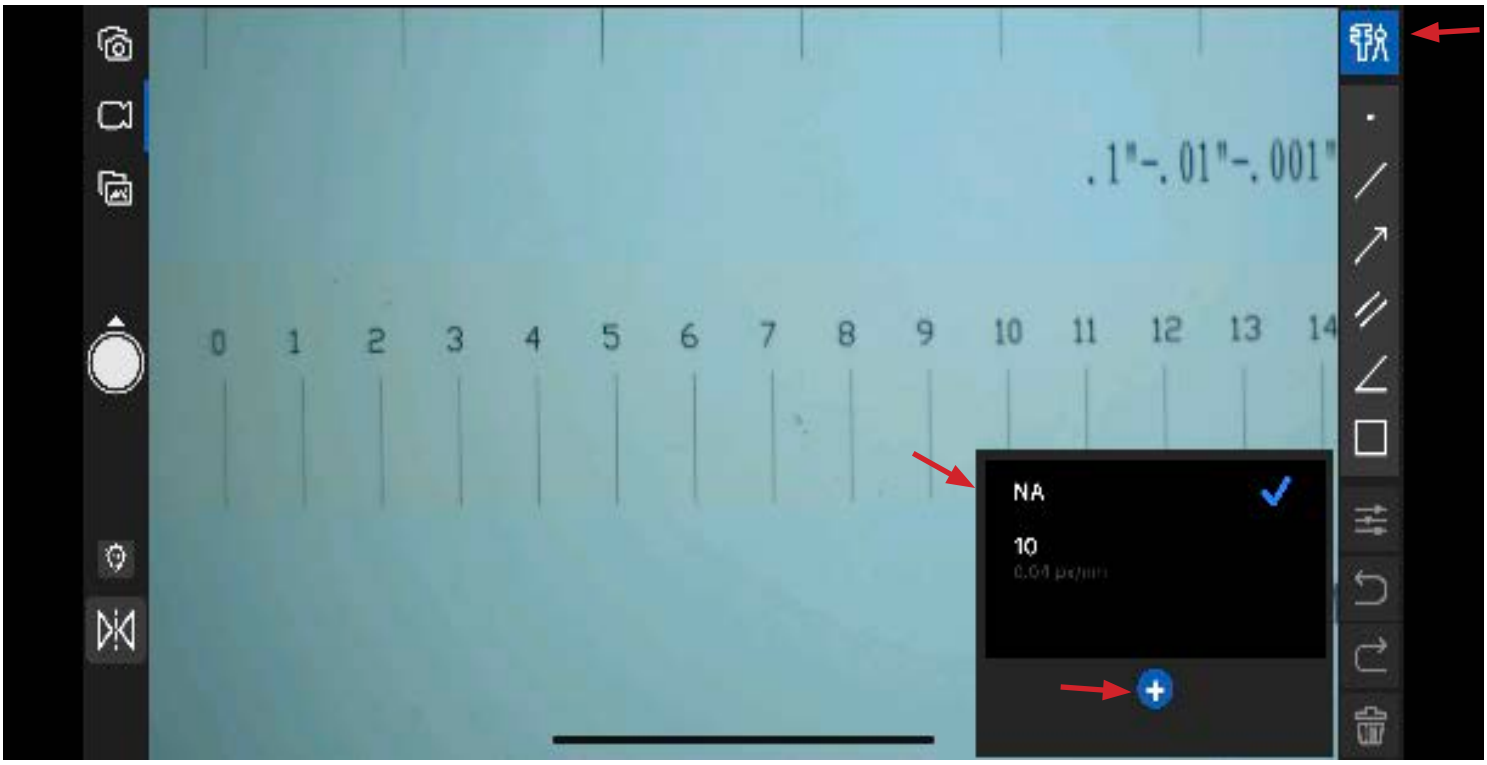
- HDCAM-WiFi camera
- Stage micrometer
- Smart device (tablet or smartphone)

Helpful Tip:
Make sure to use the proper stage micrometer for your microscope. If you are using a stereo microscope, use a stage micrometer for a stereo microscope. If you are using a compound/ biological microscope, use a stage micrometer for a compound/ biological microscope.

- Place a stage micrometer on the stage of the microscope bringing the stage micrometer into focus.
- Note: Your stage micrometer will have a known distance. In this example we are using a stage micrometer ruler that is 25mm (25,000um) long.



- Tap on the calibration icon.
- A magnification box will appear.
- Tap on the blue plus button to input the magnification being used to perform the calibration.



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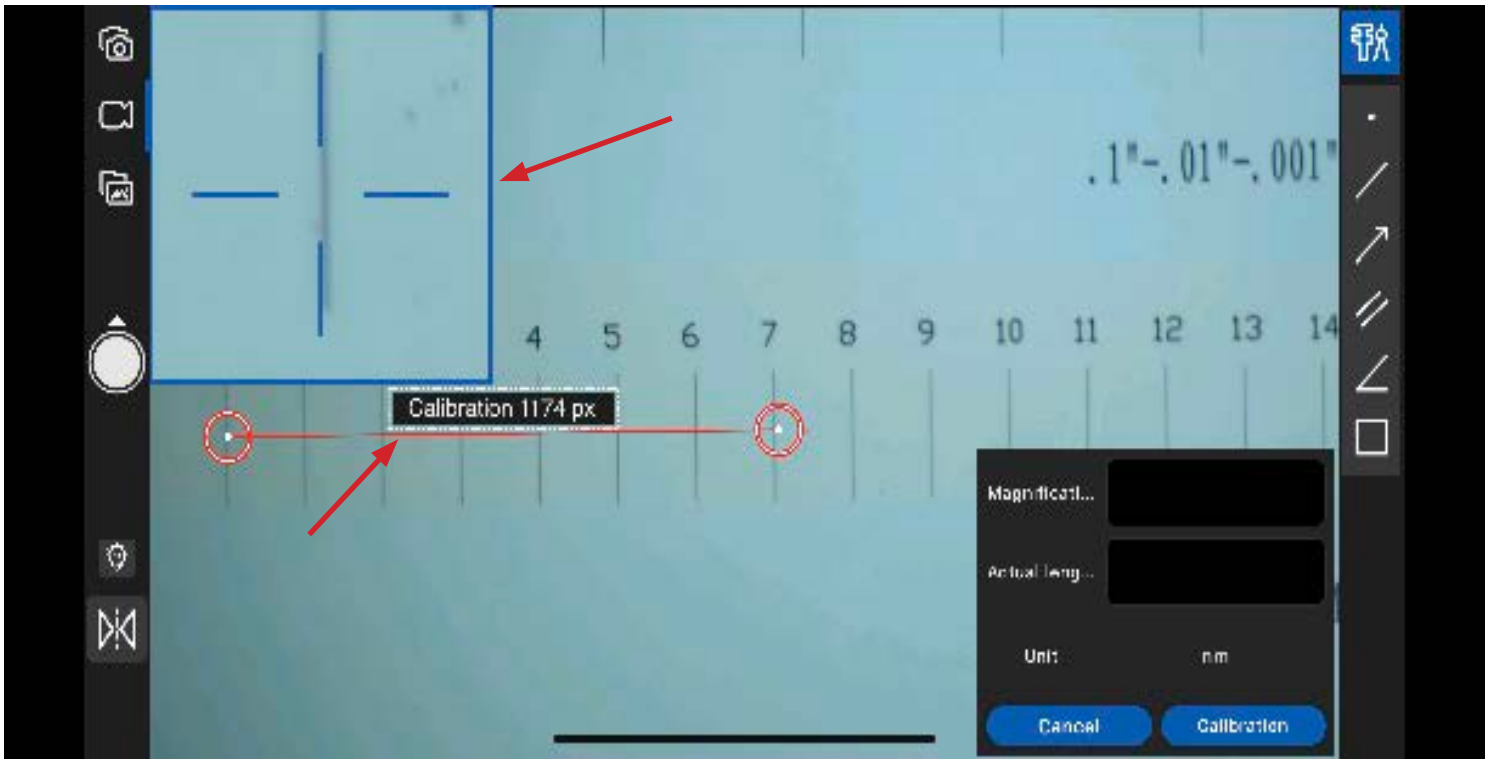
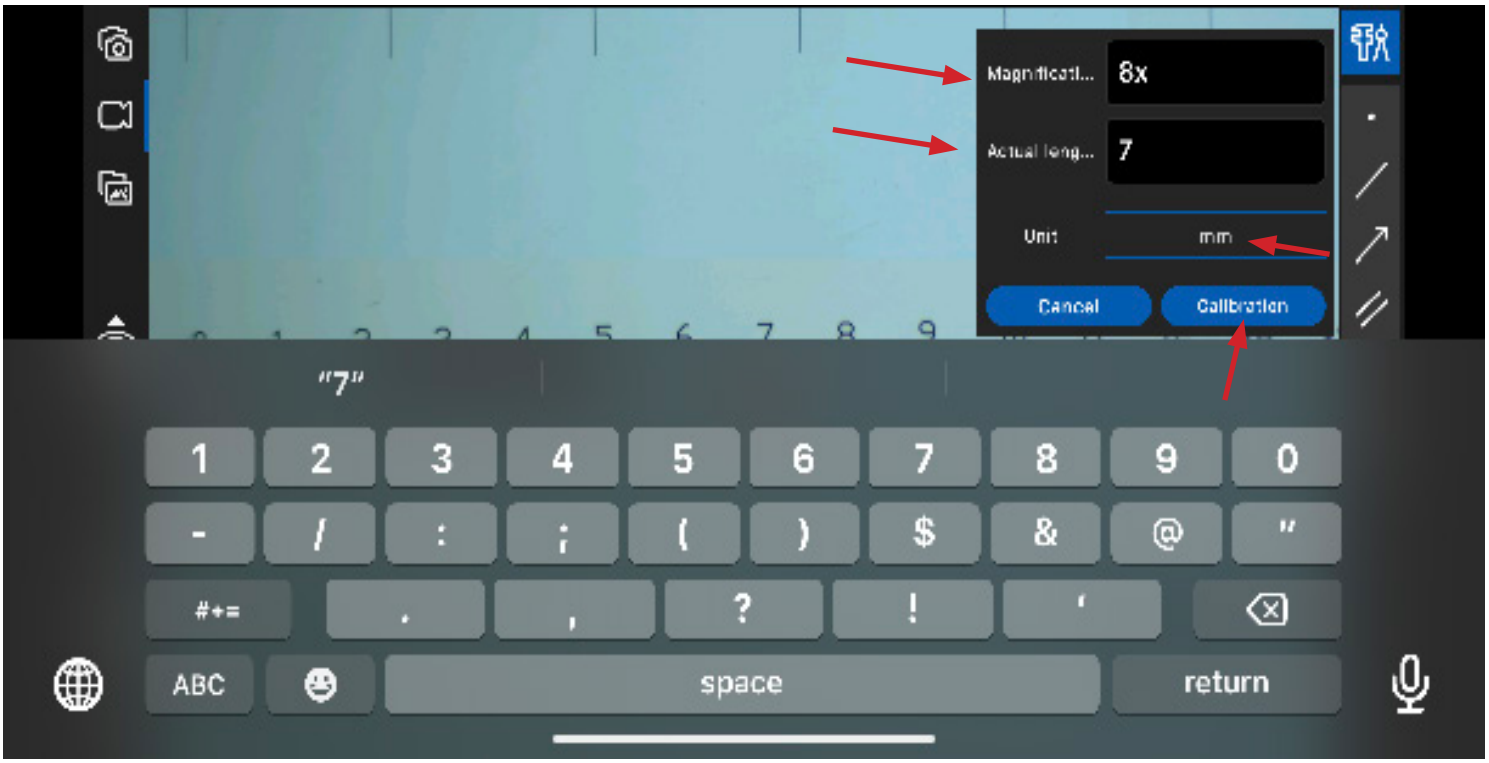


- A calibration line with two circles and a text box labeled "calibration ### px" will appear on the image.
- Tap on one of the circles at the end of the calibration line and drag it to a measurement line on the stage micrometer.
- Tap on the other circle at the end of the calibration line and drag it to another measurement line on the opposite side of the stage micrometer.
- For a magnified view of the line placement, tap on the circle, release, then tap and hold the circle. A blue outlined box will appear showing a magnified view of the selected end of the calibration line.

- Input the magnification being used while performing the calibration in the magnification text box.
- Record the actual length of the line measured in the text box marked "Actual Length...". text box.
- Set the measurement unit by scrolling up or down on the Unit line of the calibration box. Select from nm, µm, mm, cm, m, and in.

Helpful Tip:
If using a Stereo Microscope, ensure the microscope has detents, also known as click stops. This feature is necessary for ensuring accurate repeatable measuring with a Stereo Microscope as it allows for precise magnification to be determined.



- Tap on the Calibration button when all required information has been input.
- A full screen view of the sample on the microscope stage will be in view.
- The microscope and camera are now calibrated and ready to perform measurements.

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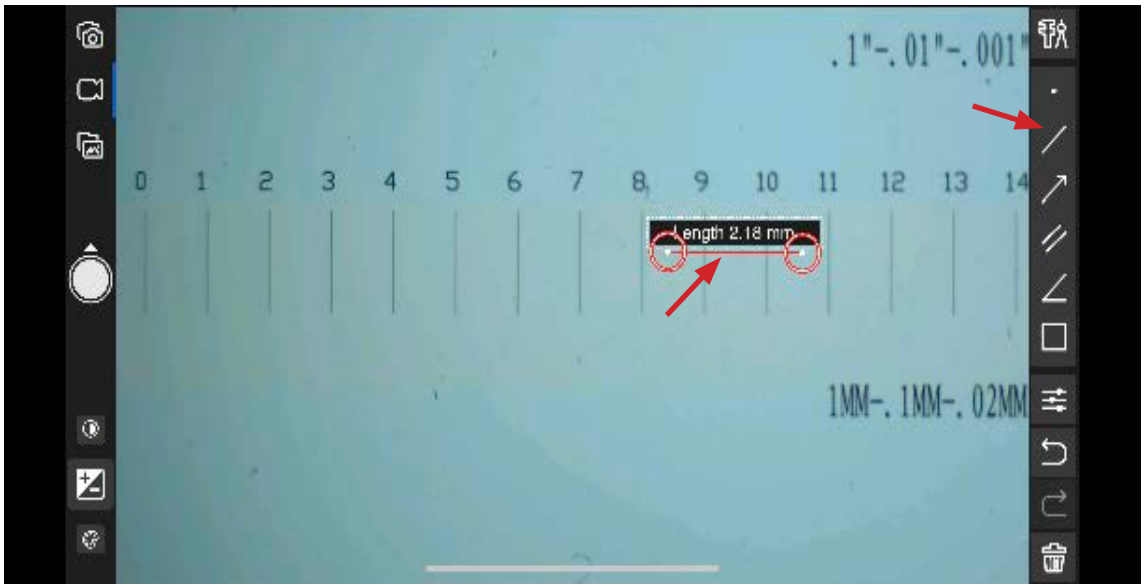
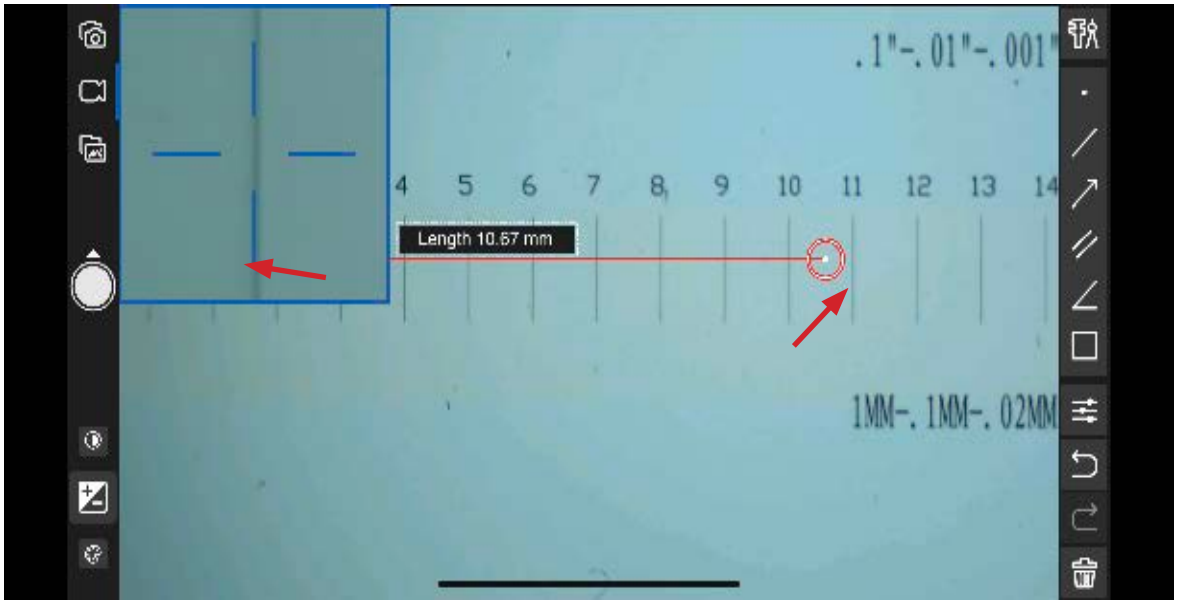
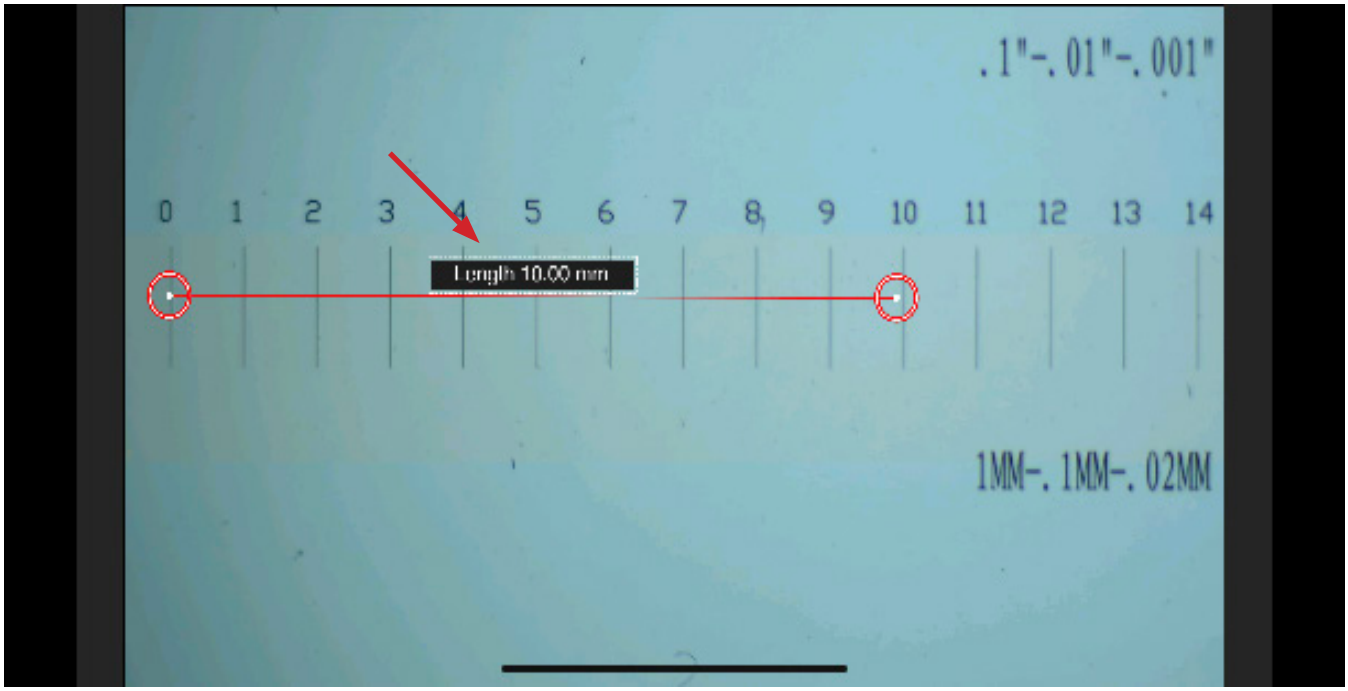
- Test the calibration by selecting the single line option from the toolbar to the left.
- A single measurement line with a measurement box will display on the image.



- Tap one end of the measurement line, moving the measurement line to the inside edge of a line on the stage micrometer.
- Tap the other end of the measurement line, moving the measurement line to the outside edge of a line on the stage micrometer.



- The measurement box will reflect the unit of measure that was initially selected when the calibration was performed.
- With the calibration set and tested, the system is ready to perform measurements using the various measurement options found on the tool bar.



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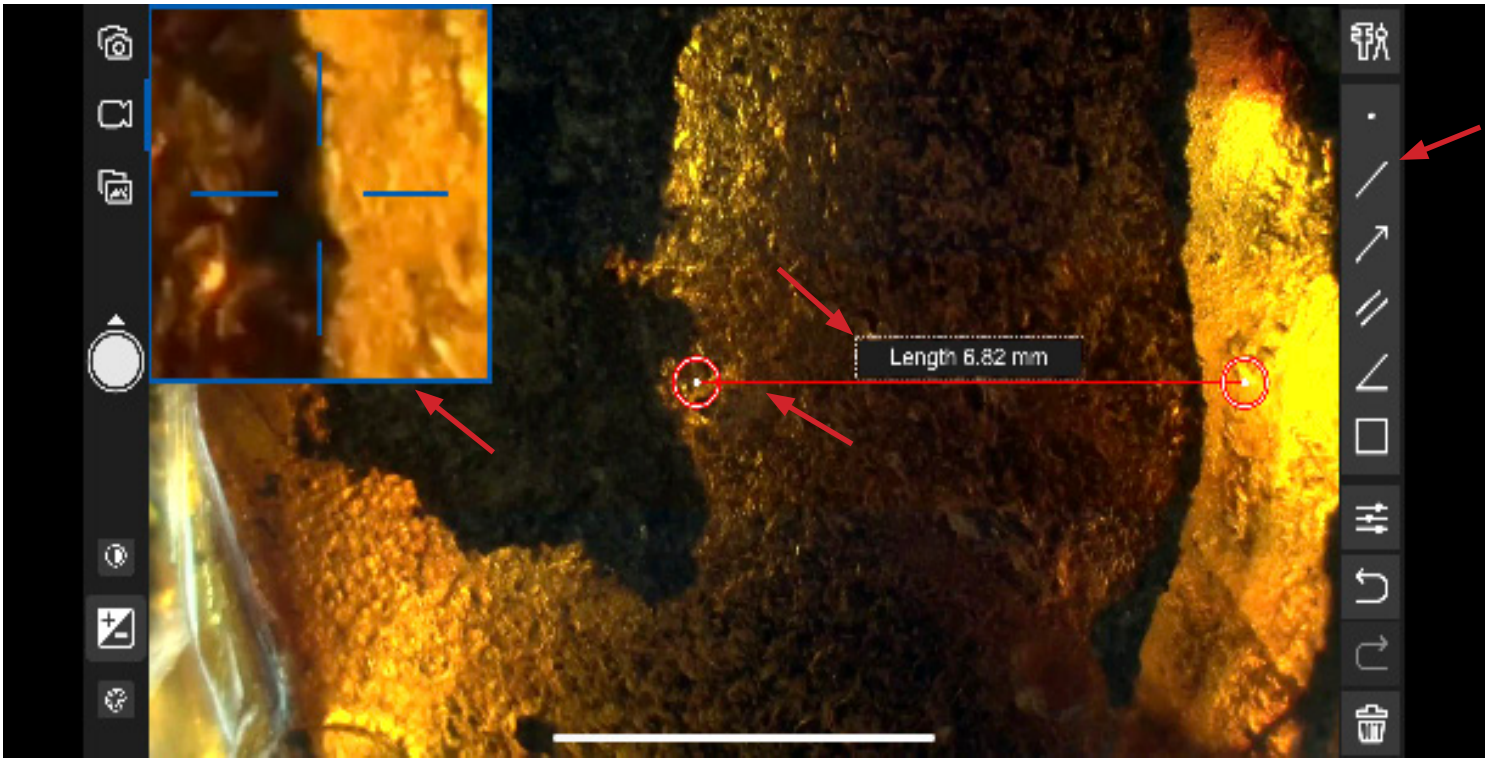
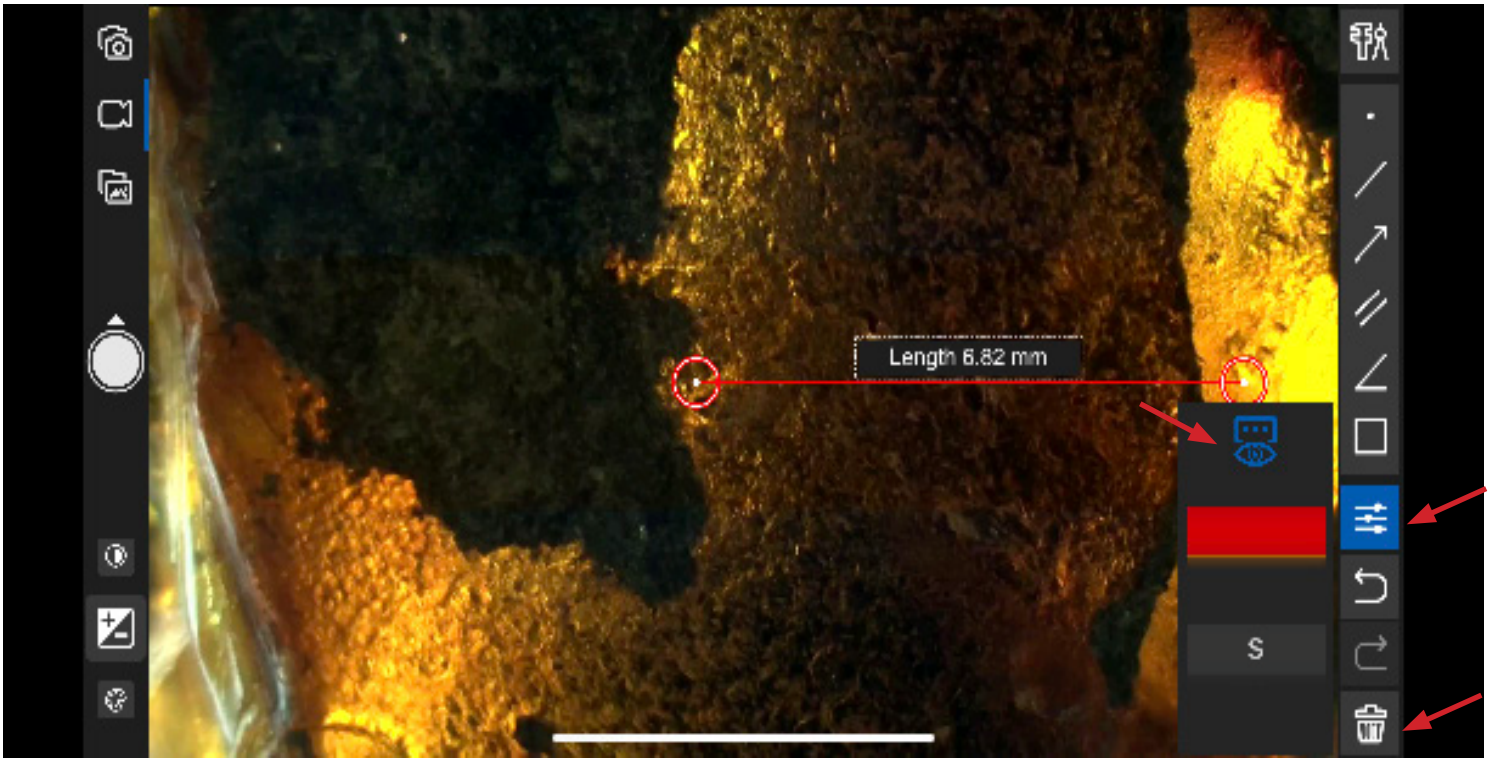
Helpful Tip:
If the magnification is changed while performing a measurement and no longer coincides with the magnification specified in the calibration, the measurement will not be accurate. A calibration must be performed for each magnification being used to make measurements.

- Tap the single line icon to begin a single line measurement.
- A single measurement line will display on the image.
- Tap and drag each end of the measurement line to the desired place on the image.



- The measurement within the measurement box will change as the line is moved.
- Use the magnified view of the measurement line to precisely place the line.

- Select the settings icon.
- A style menu will display where the color and size of the measurement can be changed. Scroll up or down to change the color and thickness of the measurement line.
- Tap the blue eye icon to remove the text box displayed above the measurement line.
- The trash can icon is used to delete any measurement or annotation selected. Tap on the measurement or annotation then tap the trash icon.



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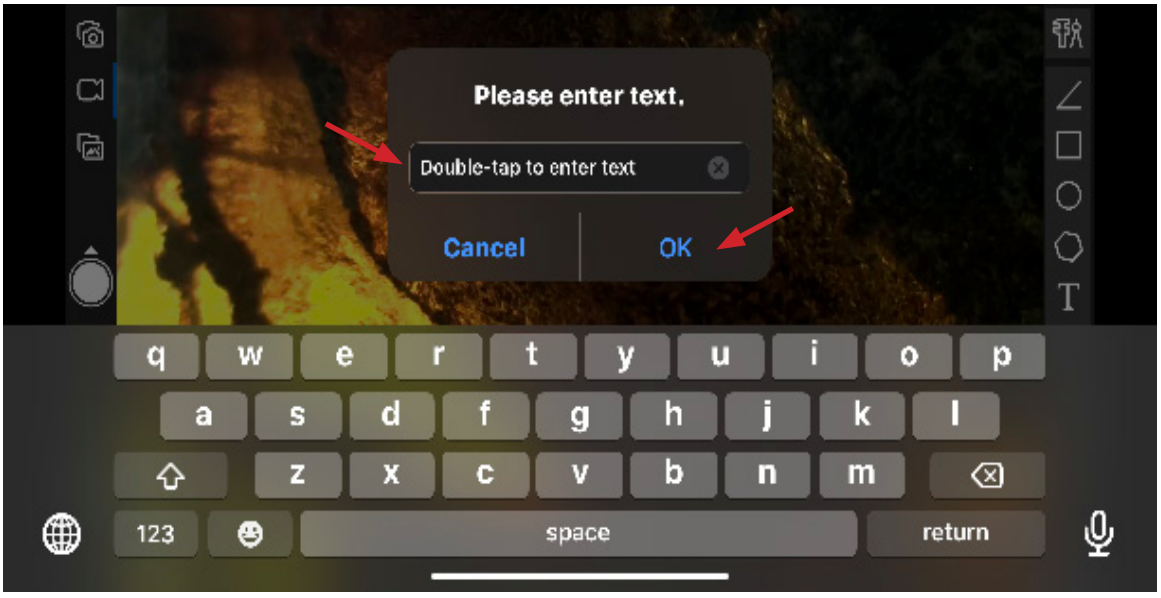
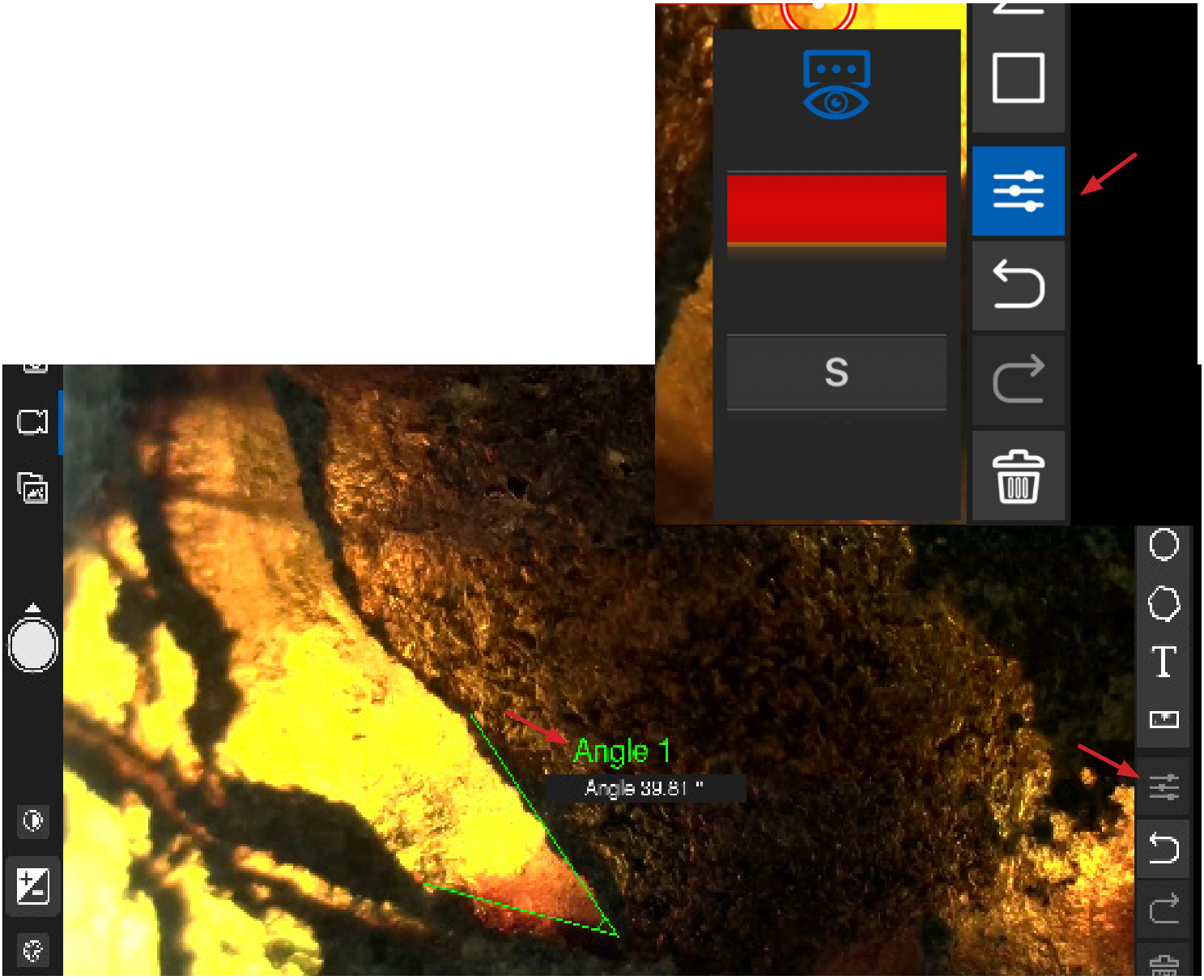
HDCAM-WiFi Measurements and Annotations

- To make annotations, tap the Text icon.
- A text box will display over the image.
- Using the two circles, adjust the size and position of the text box.
- Double tap within the text box.

- The smart device's keyboard will appear allowing for text to be entered.
- Input desired text and tap "OK".



- The text will appear on the image.
- Access the style menu through the settings icon to adjust the color and width of the text.



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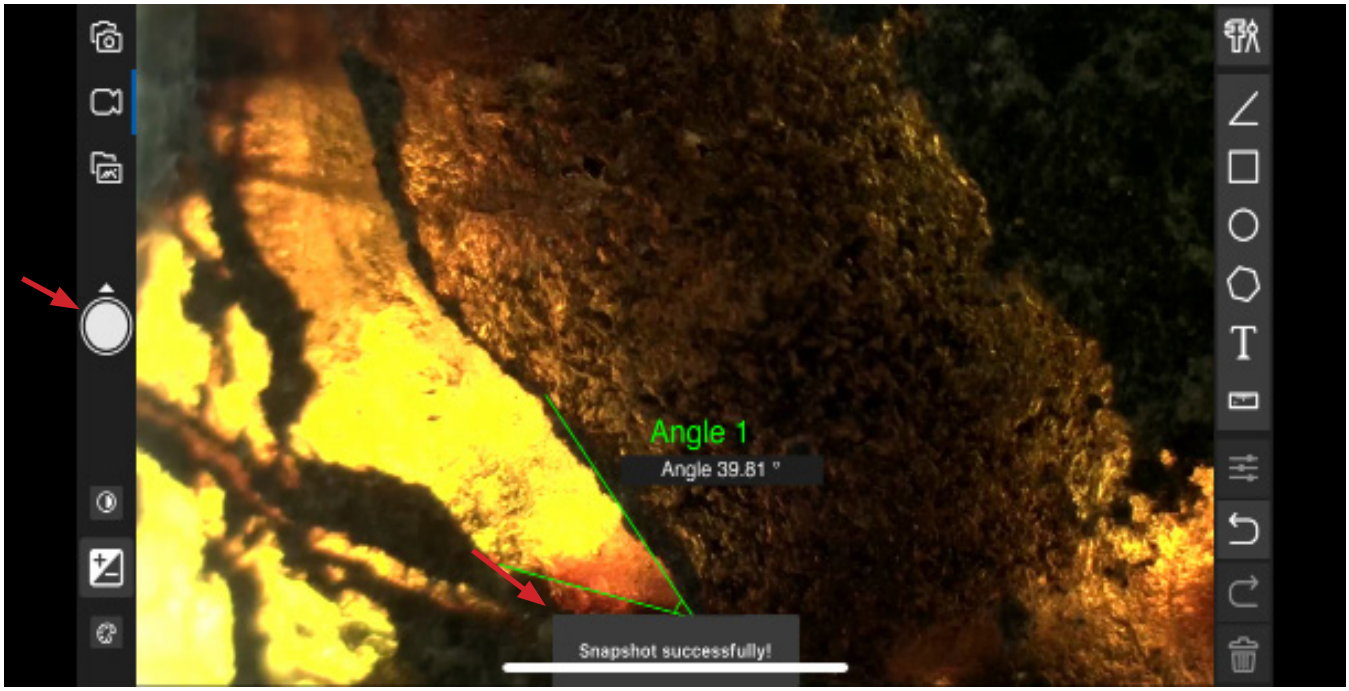
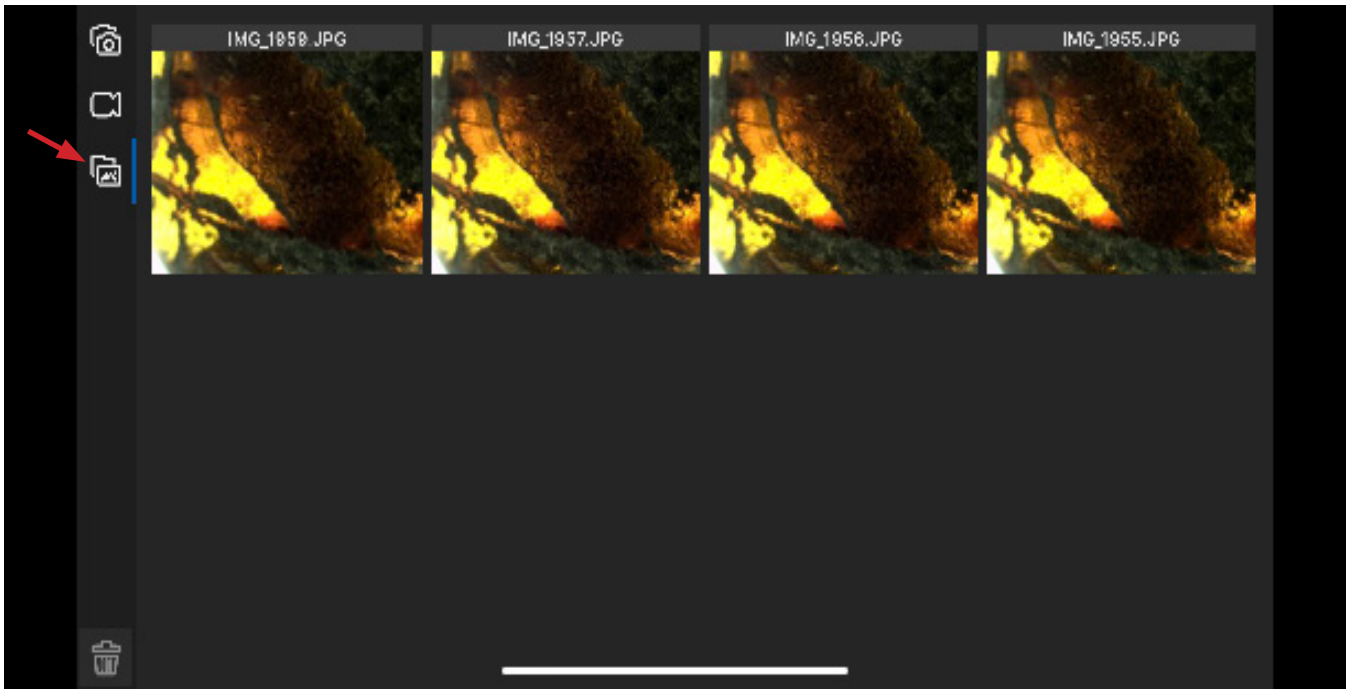
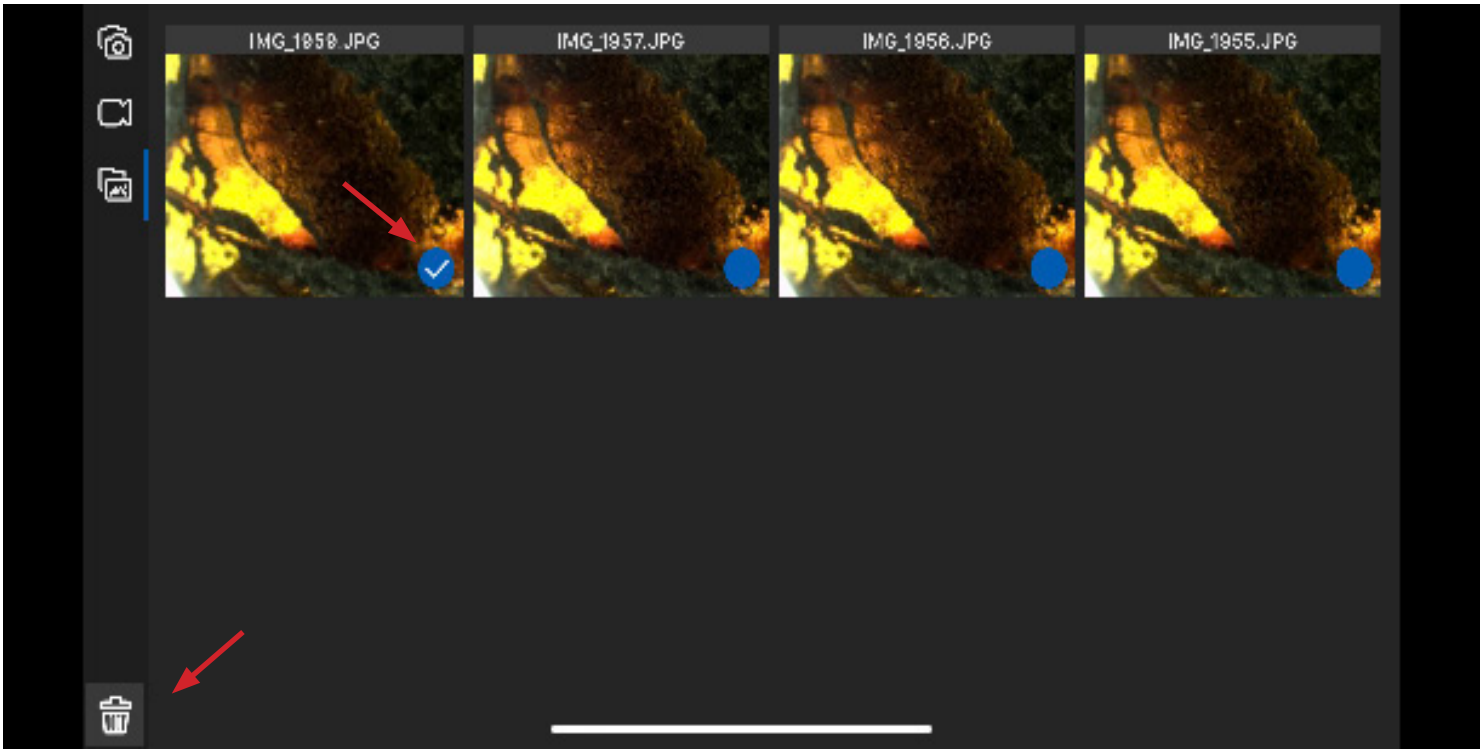
- If satisfied with the measurements and annotations made, tap the "snap" icon to capture an image.
- Look for the "Snapshot successful!" to ensure the image was captured.



- Captured images are stored in the app's photo gallery and are accessed by tapping the photo gallery icon.



- To delete a photo from the photo gallery. Tap on an image and hold. A blue circle will appear in the bottom right side of the images within the photo gallery.
- Tapping on a blue circle will “select” that image showing a check mark inside of the blue circle.
- With the image selected (blue circle with check mark) tap on the trash can icon.



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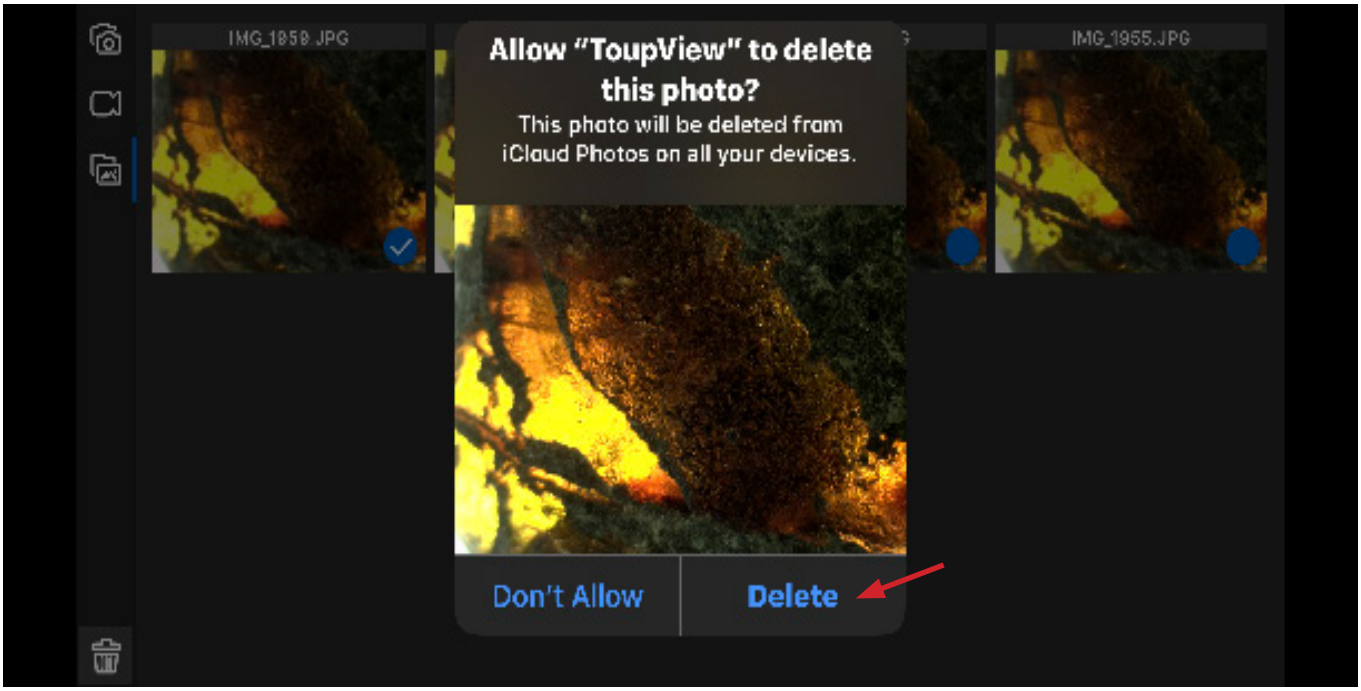
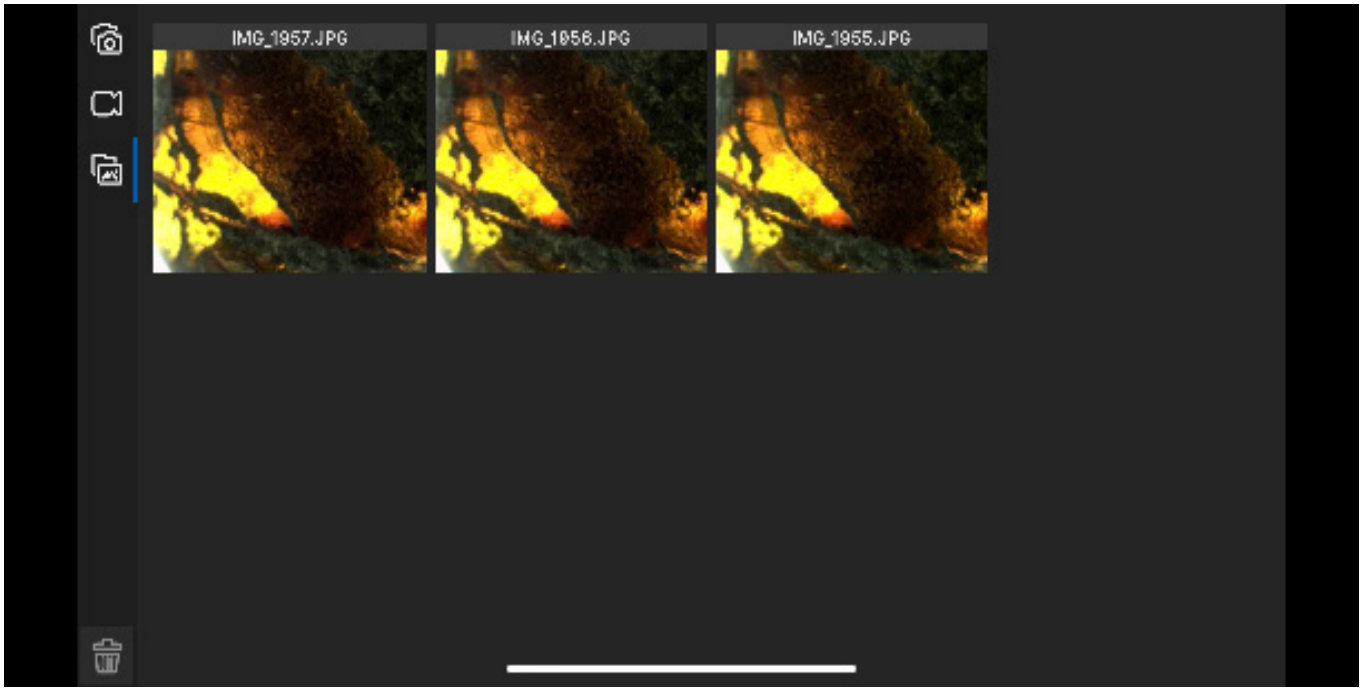
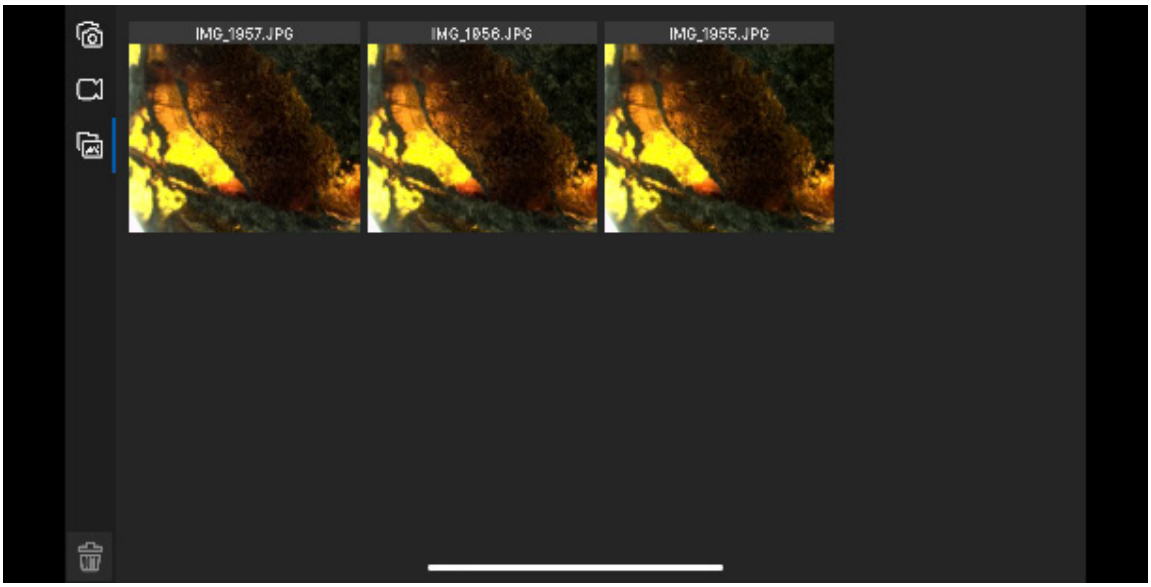
- Tap “Delete” to delete the image from the photo gallery.



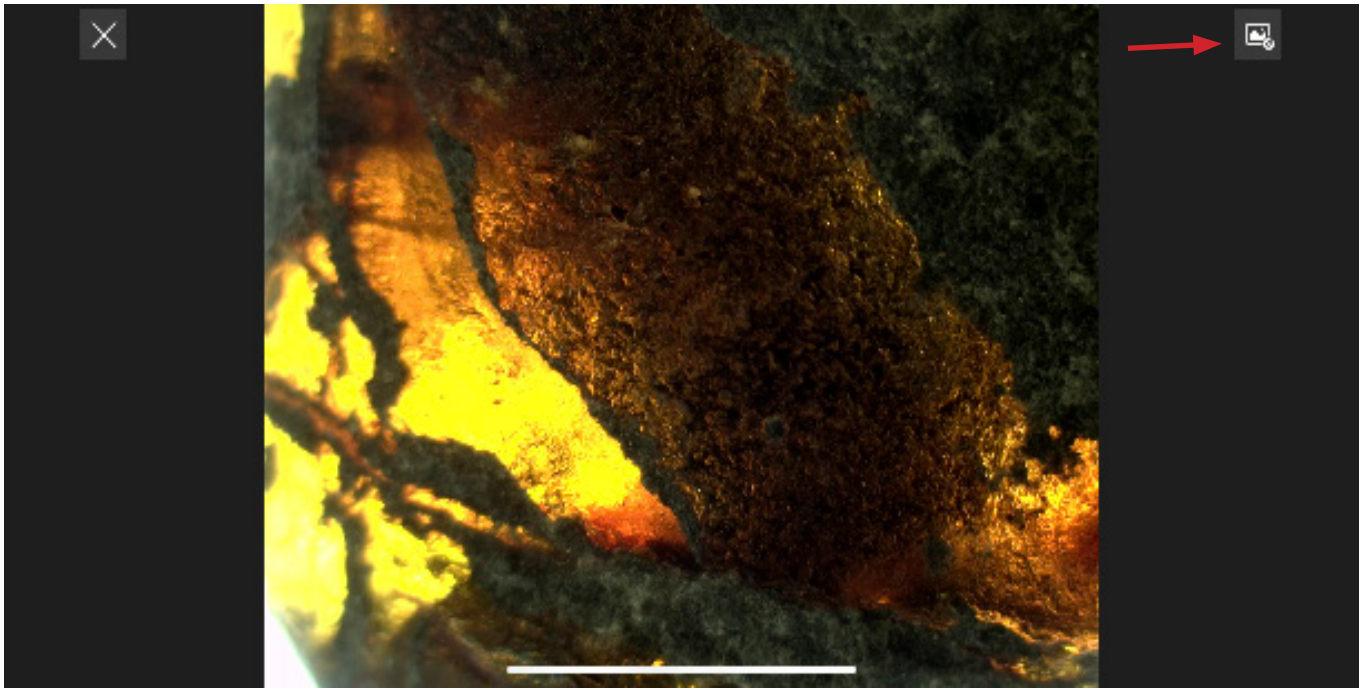
- The image has been deleted from the photo gallery.



- Select an image by tapping on the image in the photo gallery.



- The selected image will display.
- Tap the “edit image” icon.



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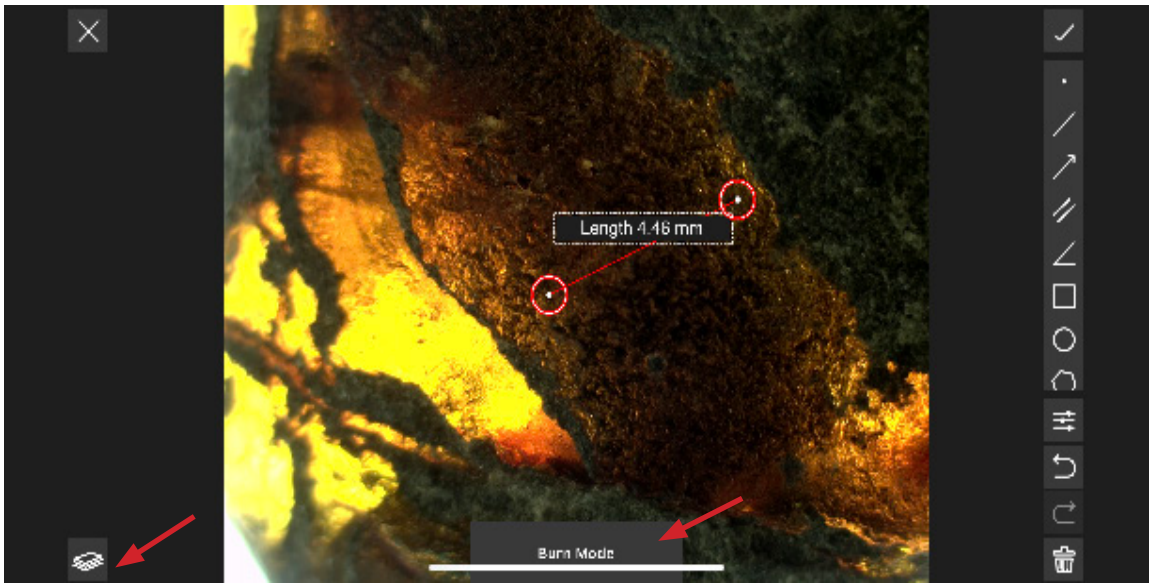
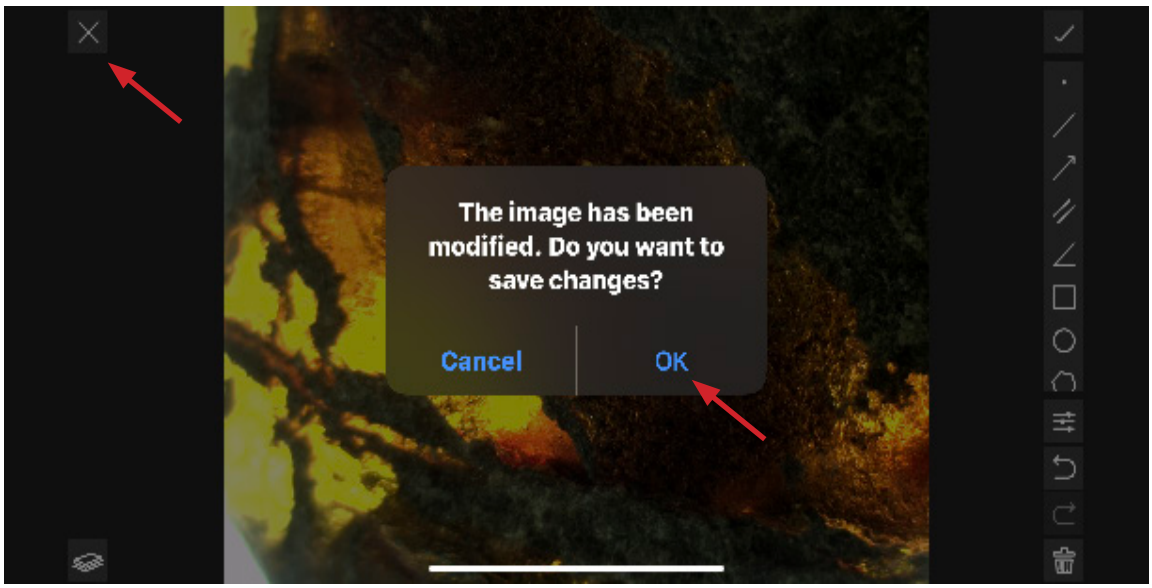
- Perform any additional measurements or annotations using the toolbar to the right.

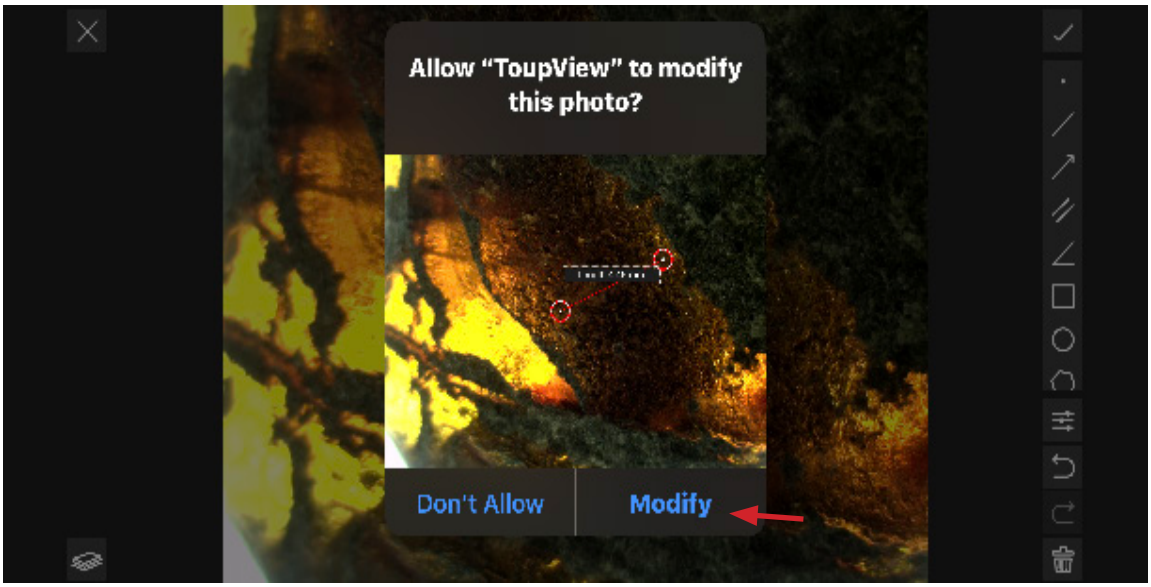


- When image is ready, tap the "burn mode" icon. This will "burn"/ save the measurements/annotations onto the image.

- Tap the "X" in the top left corner.
- Tap "OK" to save the modifications made to the image.



- Tap "Modify" for the final image to be saved.
- The modified image with all measurements/annotations will be saved in the app's photo gallery. The image will also be saved in the smart device's photo gallery where the image can be sent via email or text.



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Problem	Solution
The smart device does not locate a wireless signal.	Check that the camera has been turned on and the blue blinking light is fully illuminated.
Live image is dark	Adjust the illumination on the microscope. Use the white balance option on the control panel.
Live image is upside down or backwards	Use the Rotate and Flip features on the tool bar.
Dust or dirt is visible in the live image.	Clean the sample Clean the objective Clean the C-mount Clean the lens on the camera