

ScopePhoto user guide

Only for Windows XP or Vista with
USB2.0

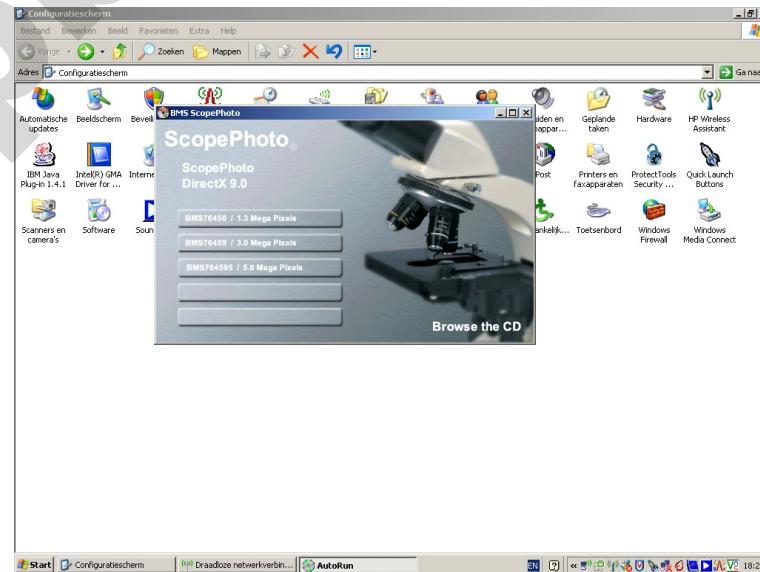
Application of Digital Camera for Microscope



1. D

Start Using Digital Camera for Microscope

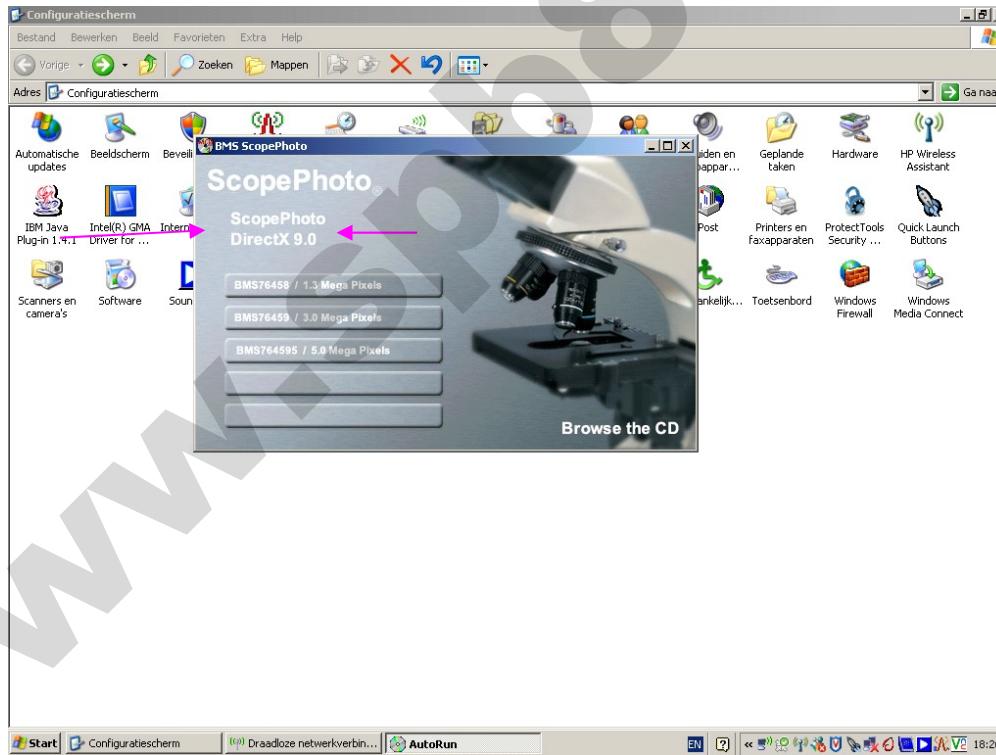
- **Insert the CD into your PC CDROM .**
- **Do not connect your camera at this moment., You will be asked to do so later. The installation program should run automatically.**
- **Install the driver with the name as your DCM hardware.**



2. Install ScopePhoto

Start Using Digital Camera for Microscope

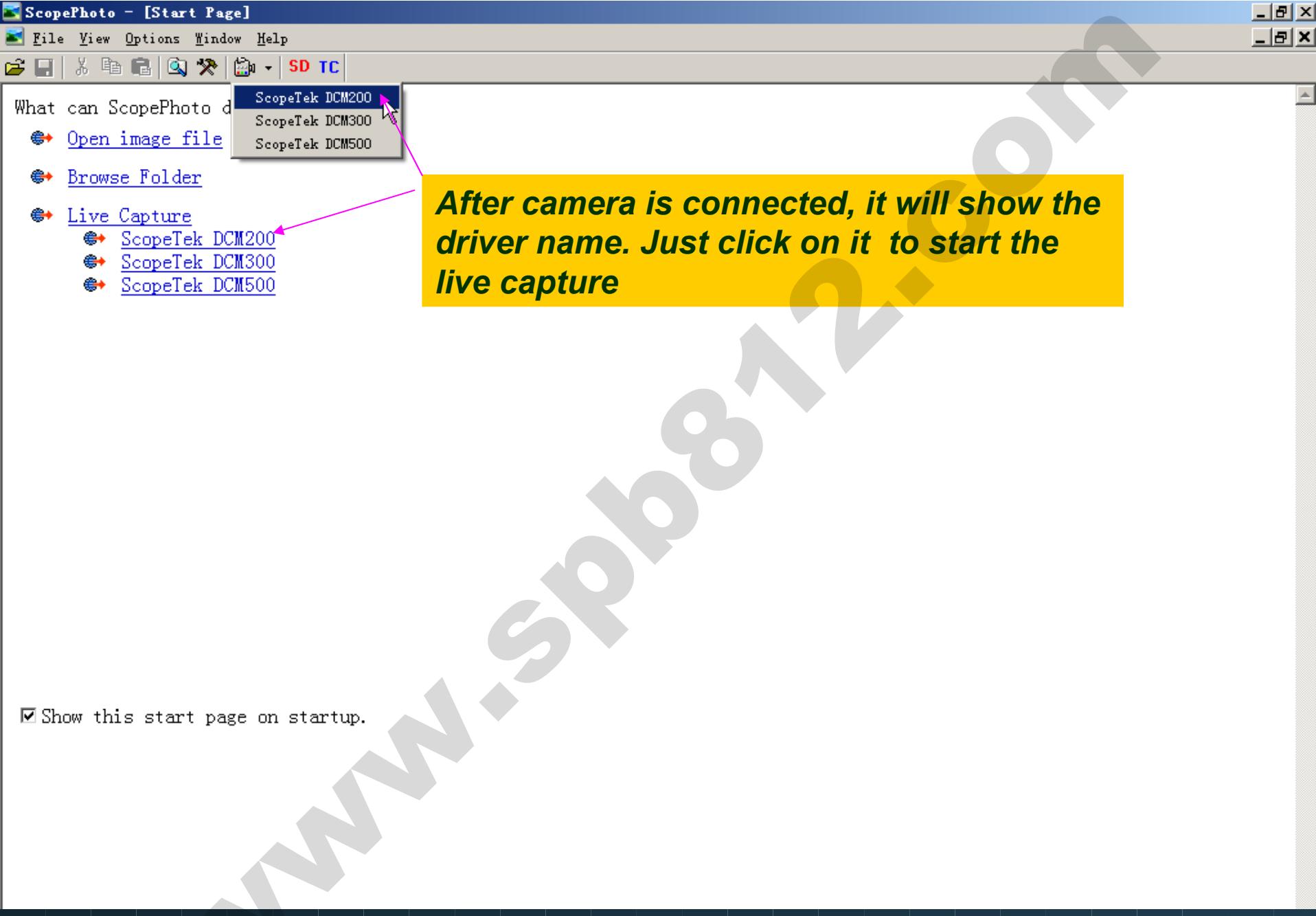
- **Install DirectX 9.0 if your version is lower than 9.0, otherwise, skip this step**
- **Install ScopePhoto**



Start Using *Digital Camera for Microscope*

3. What can ScopePhoto do?

- **Video Preview and Capture**
 - Start video preview in DirectShow or Twain format;
 - Overlay marker, scale & date , water marker on video;
 - Software power definition and video measurement
 - Record video in AVI ,MPEG4 or other format;
 - Capture image and save image in BMP, JPG, PNG, TIFF, PCX, TGA or SFT formats;
- **Layer and Draw**
 - Insert layer on the image to keep draw objects;
 - Draw geometrical objects on the image to show the image information;
 - Export draw objects operation ;
 - Draw object and image print ;
 - Save draw objects with the image in sft format ;
- **Image Processing**
 - Image adjustment;
 - Image processing ;
 - Image plugin provided by the 3rd party;
- **Image Browse**



Import Image

Open... Ctrl+O

Paste as New File

Print Setup...

1 DCM200_1.jpg

2 ImageWithLayerInformation.sft

Exit

 ScopeTek DCM200

Software Power

Manage Software Power...

Live Capture

Video Marker...

Video Scale & Date...

Video Watermark...

 Auto Maximum Size

Capture with Marker and Watermark

Twain: Select Device...

Twain: Acquire...

Twain Capture: Select device Show this start page on startup.



SD TC

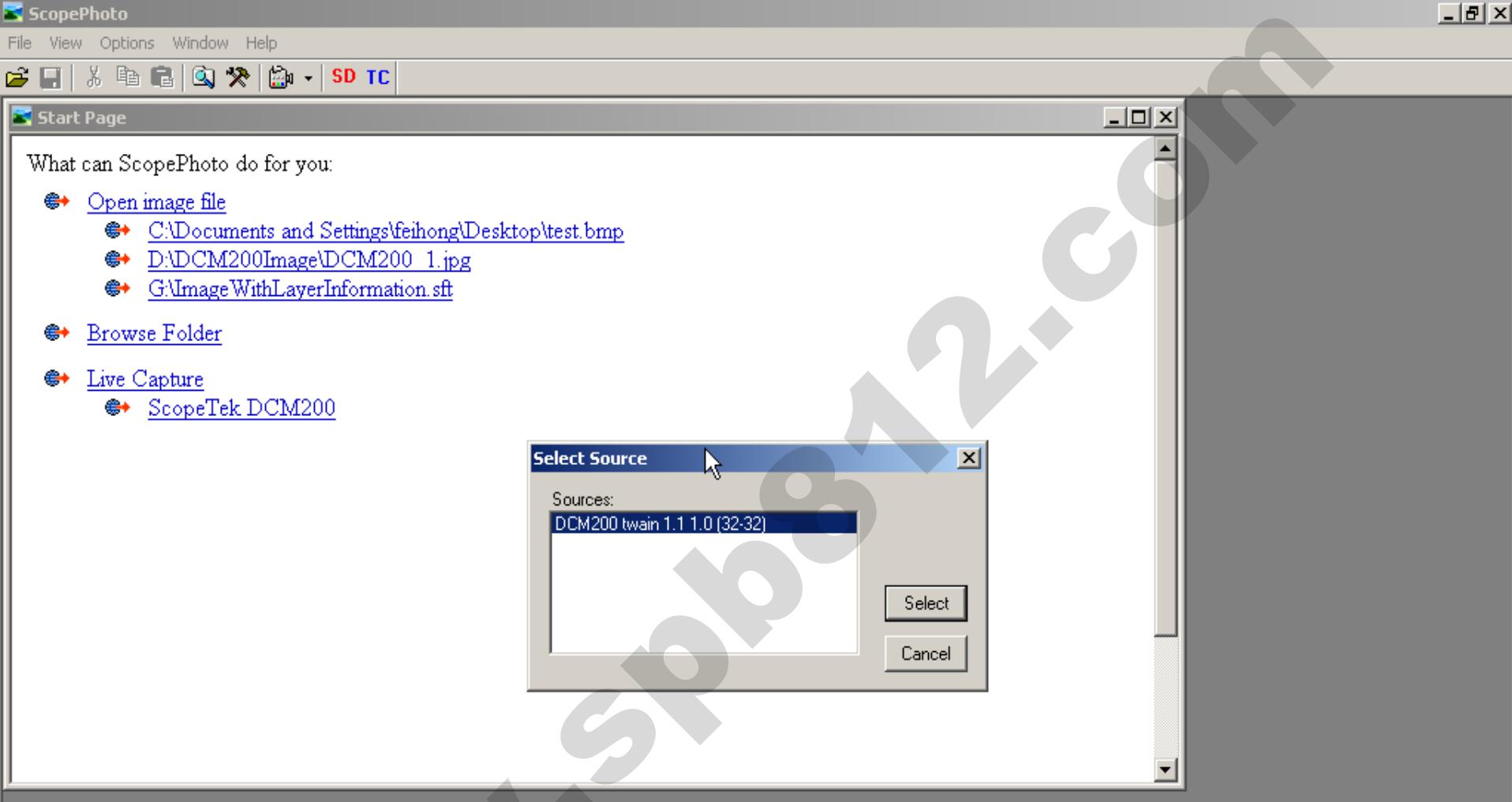
What can ScopePhoto do for you:

Twain: Select Device

- [Open image file](#)
 - [D:\DCM200Image\DCM200_1.jpg](#)
 - [G:\ImageWithLayerInformation.sft](#)
- [Browse Folder](#)
- [Live Capture](#)
 - [ScopeTek DCM200](#)

**Twain Capture: You may select device
with “SD” button**

 Show this start page on startup.



Import Image

Open... Ctrl+O

Paste as New File

Print Setup...

1 DCM200_1.jpg

2 ImageWithLayerInformation.sft

Exit

 ScopeTek DCM200

Software Power

Manage Software Power...

Live Capture

Video Marker...

Video Scale & Date...

Video Watermark...

✓ Auto Maximum Size

Capture with Marker and Watermark

Twain: Select Device...

Twain: Acquire...

Twain Capture: Start Twain capture Show this start page on startup.



SD

TC



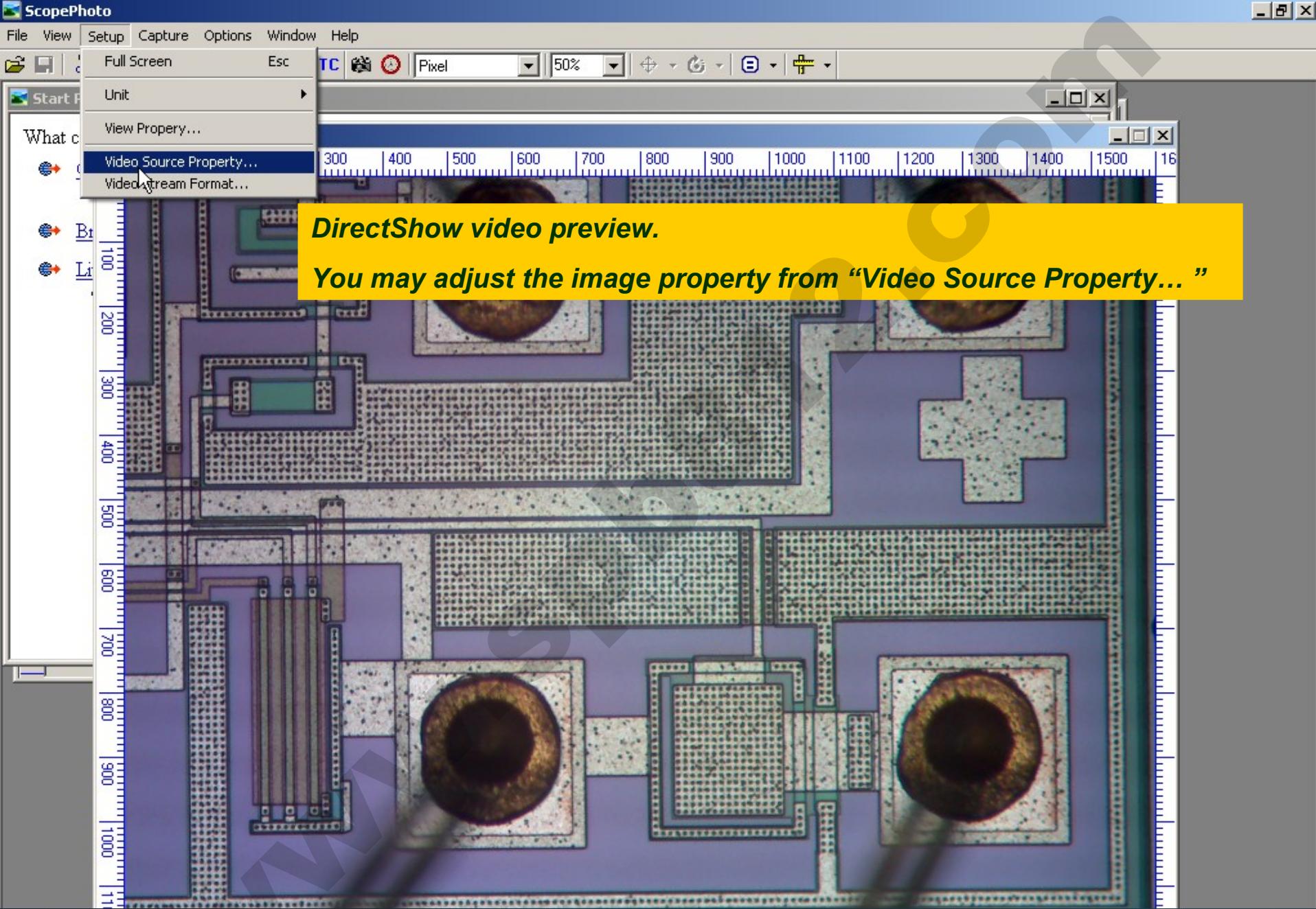
What can ScopePhoto do for you:

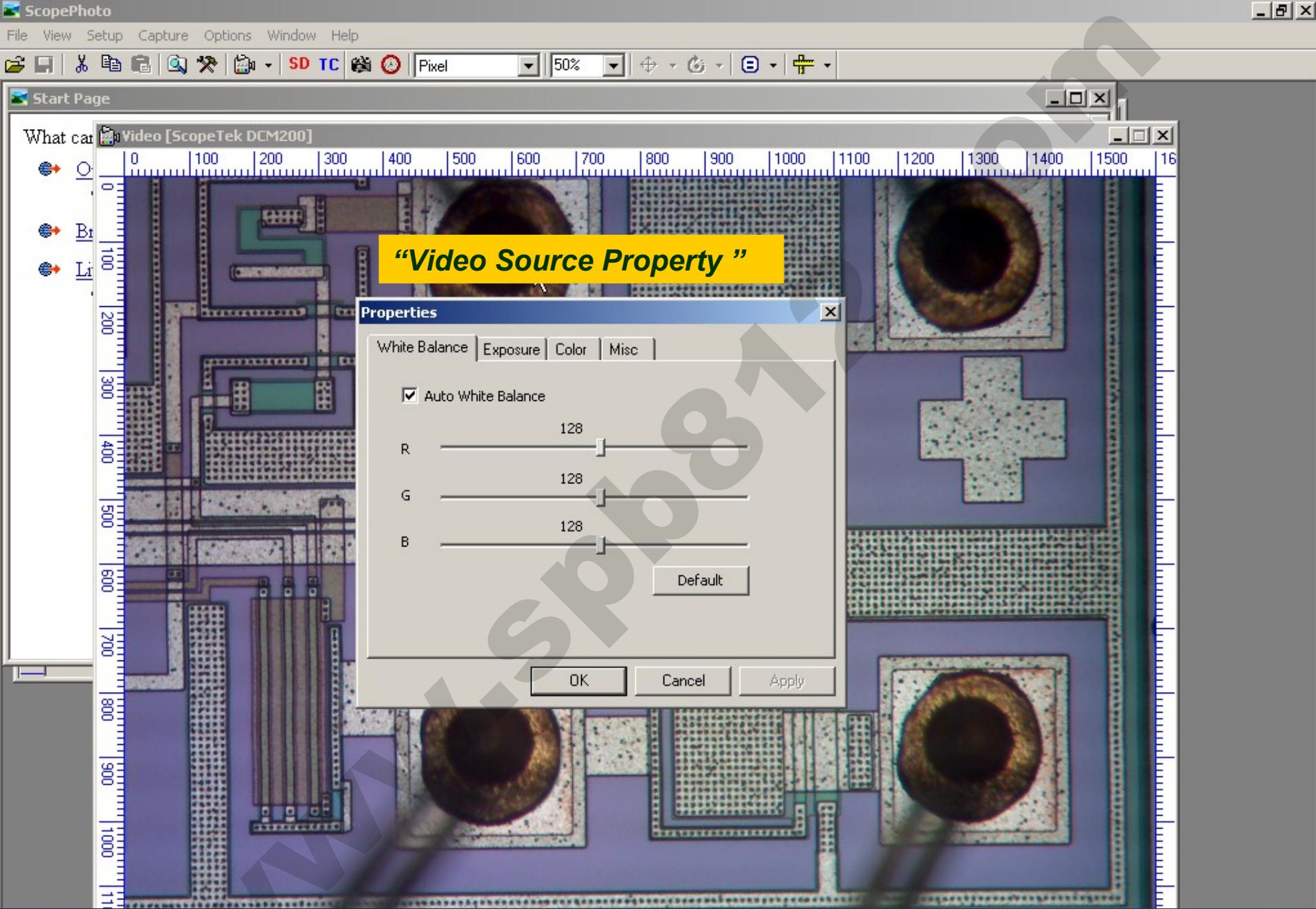
Twain: Acquire

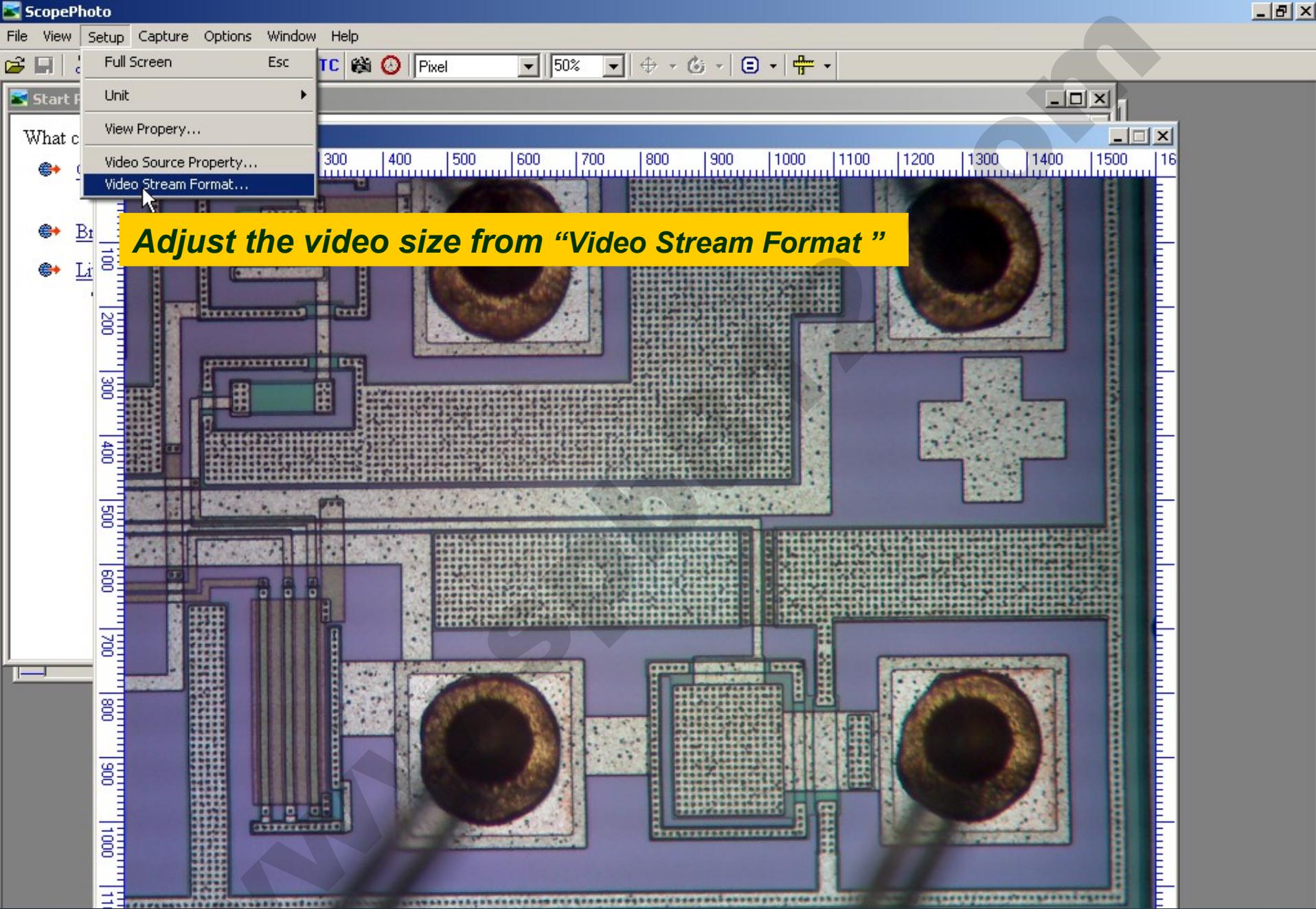
- [Open image file](#)
 - [D:\DCM200Image\DCM200_1.jpg](#)
 - [G:\ImageWithLayerInformation.sft](#)
- [Browse Folder](#)
- [Live Capture](#)
 - [ScopeTek DCM200](#)

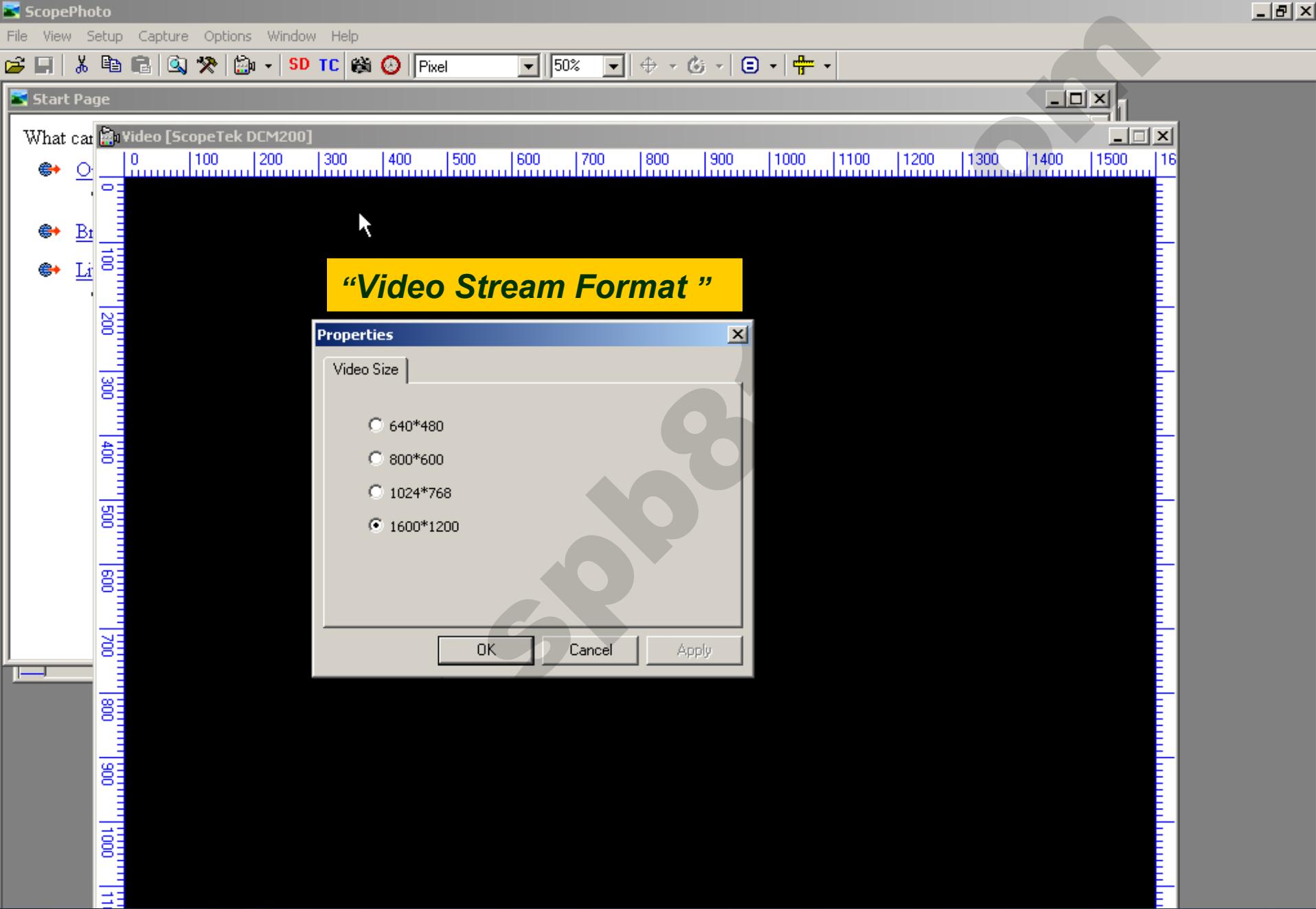
**Twain Capture: You may start Twain capture with
“TC” button**

 Show this start page on startup.









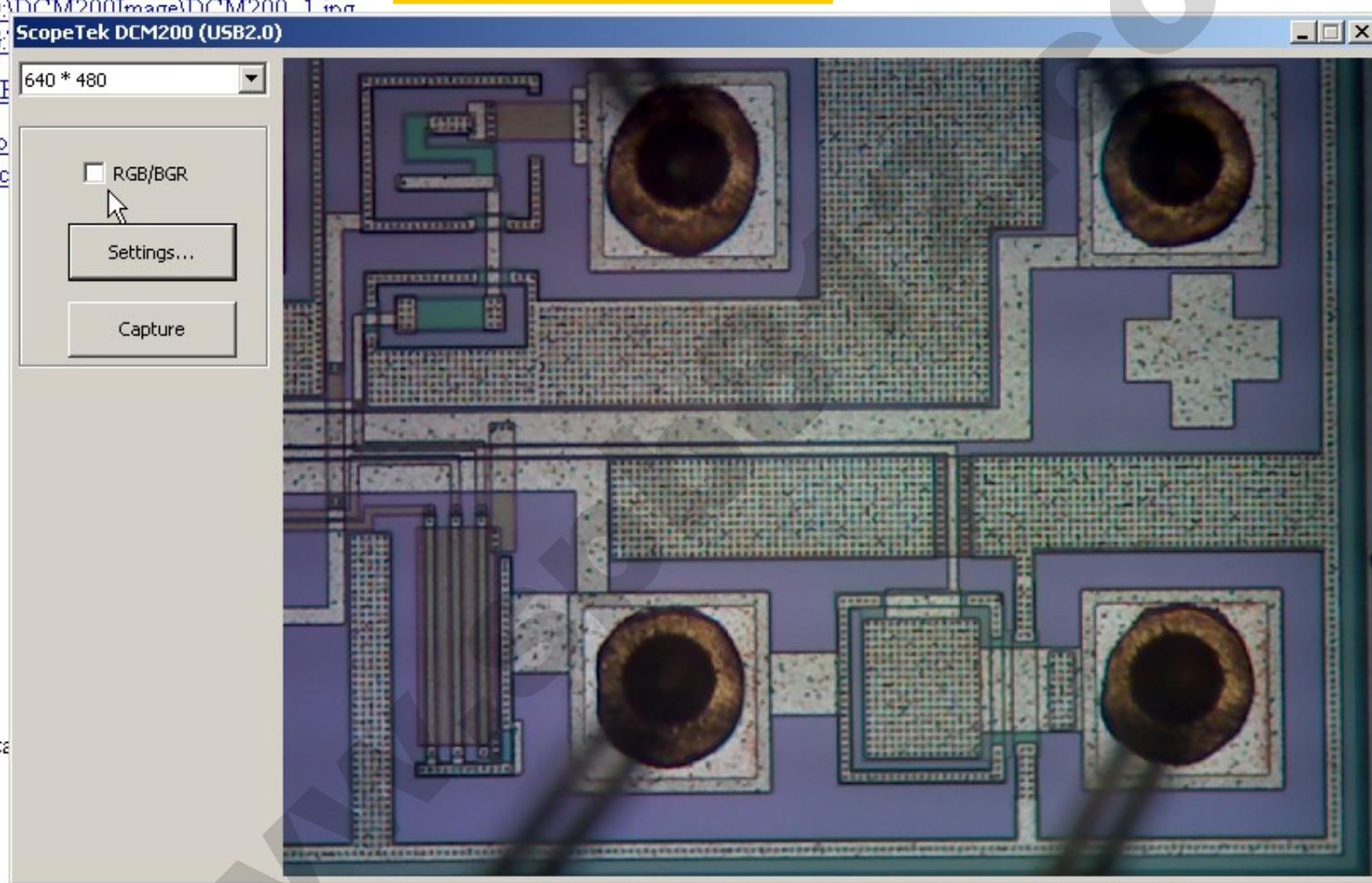


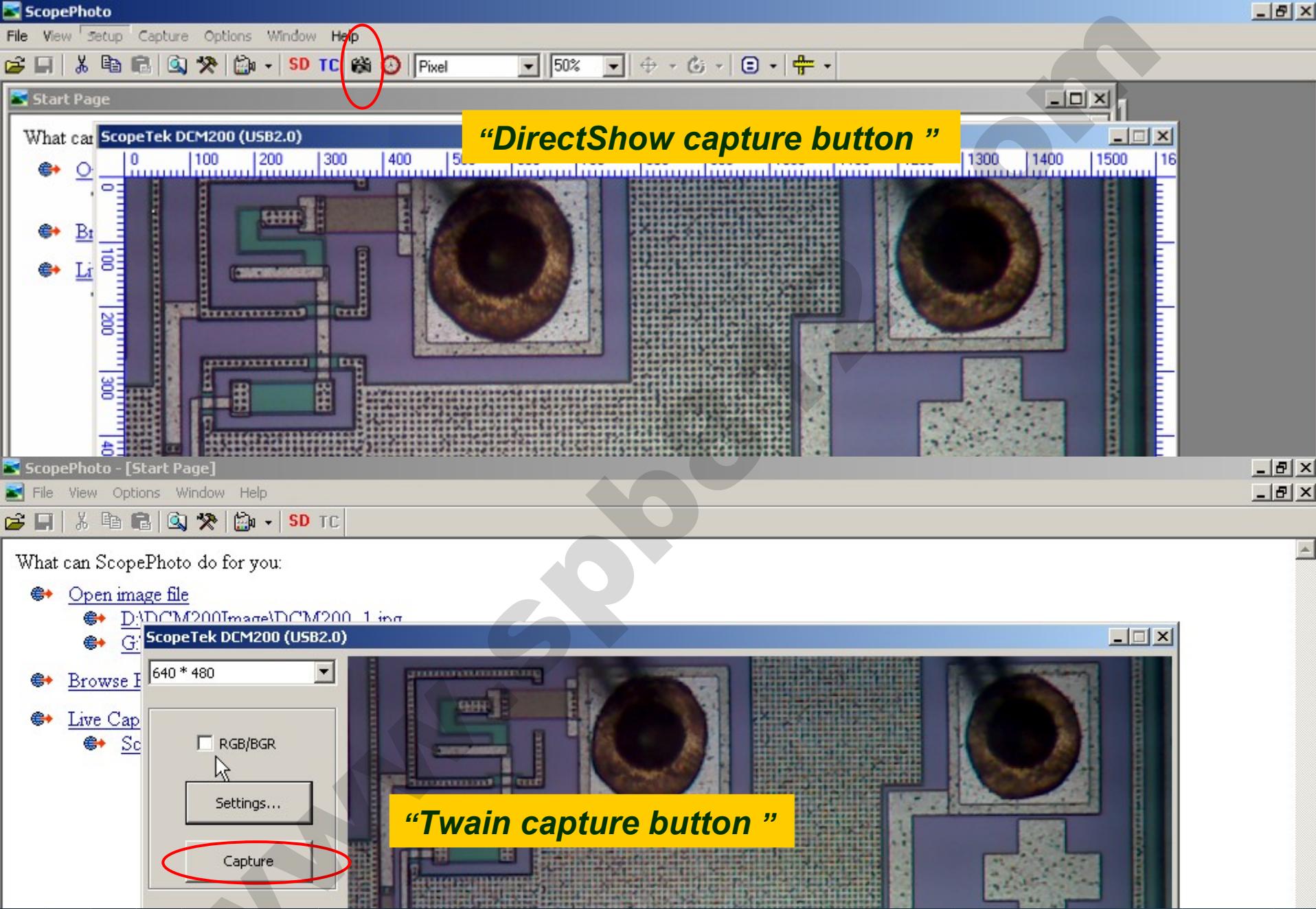
SD TC

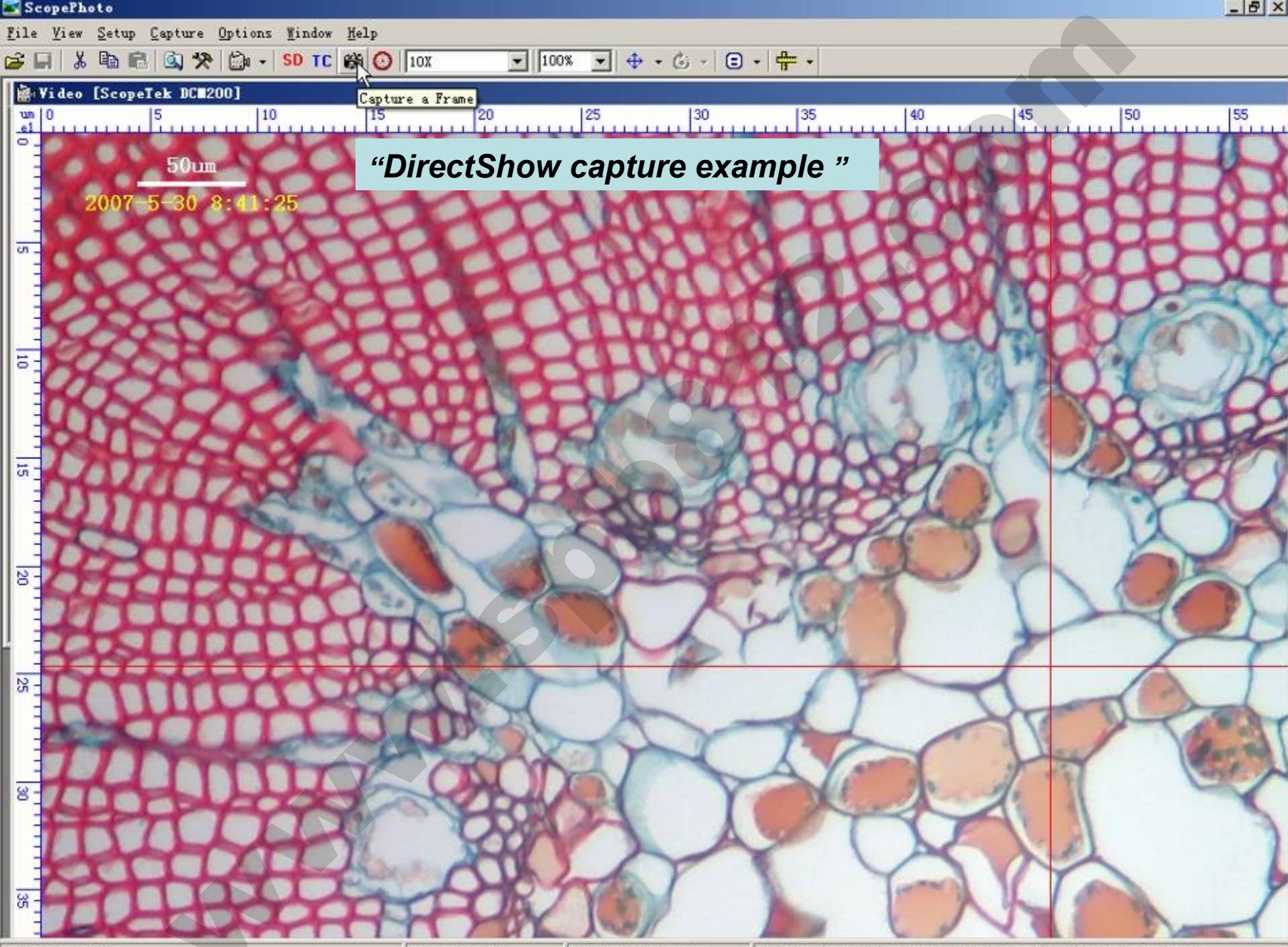
What can ScopePhoto do for you:

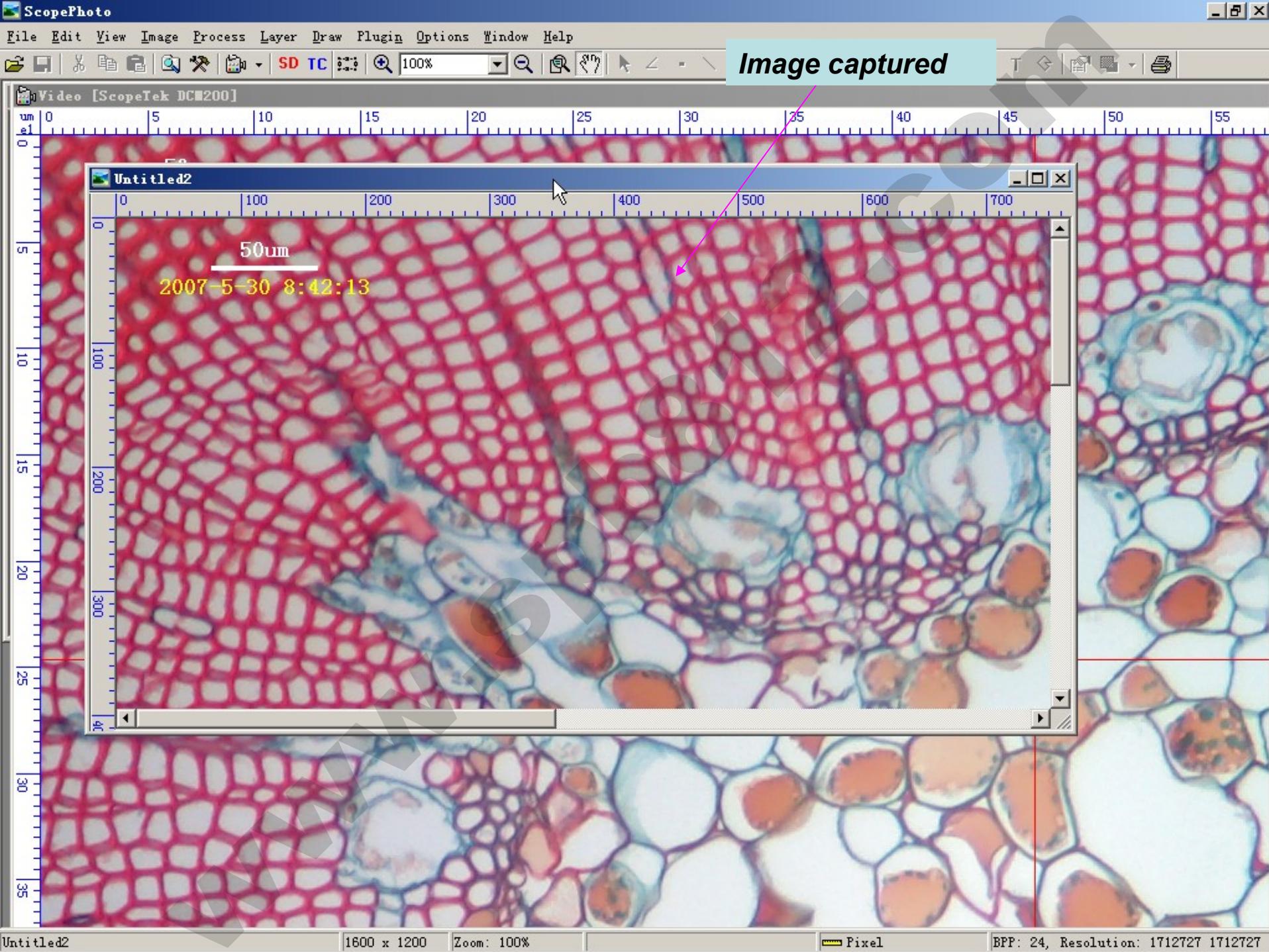
- Open image file
 - D:\DCM200\image\DCM200_1.jpg
 - G:\
- Browse F...
- Live Cap...
- Sc...

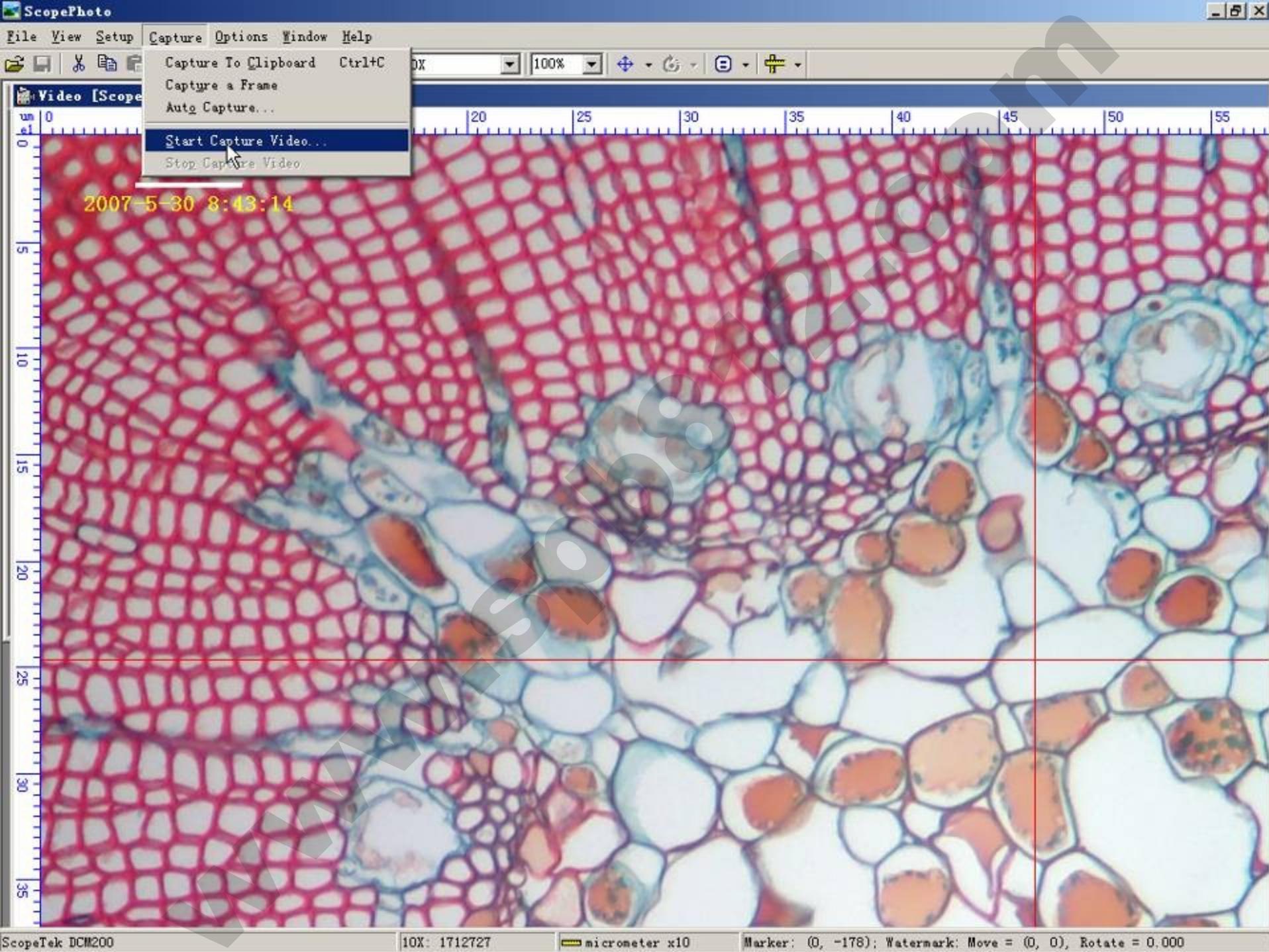
Twain video preview

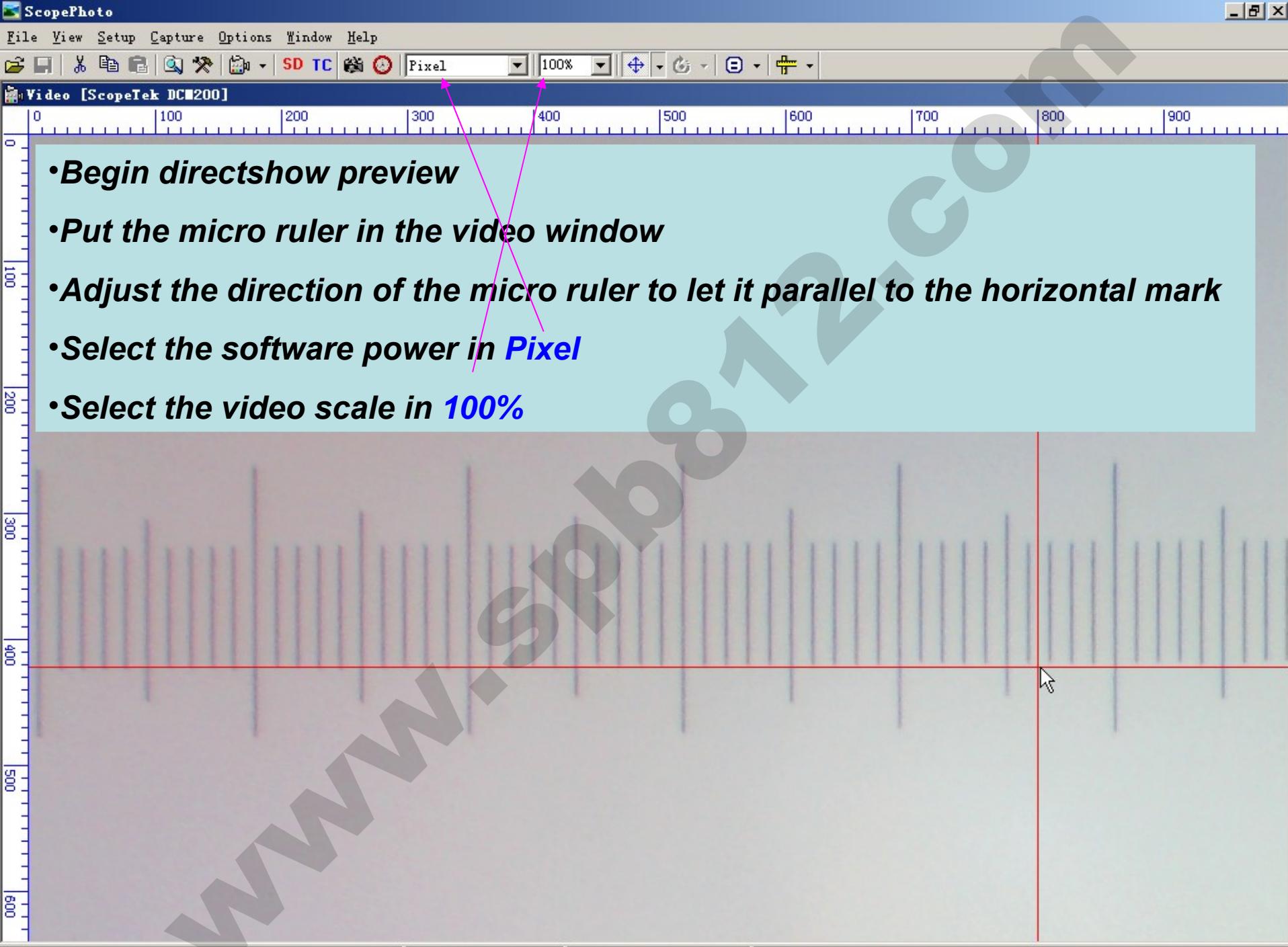


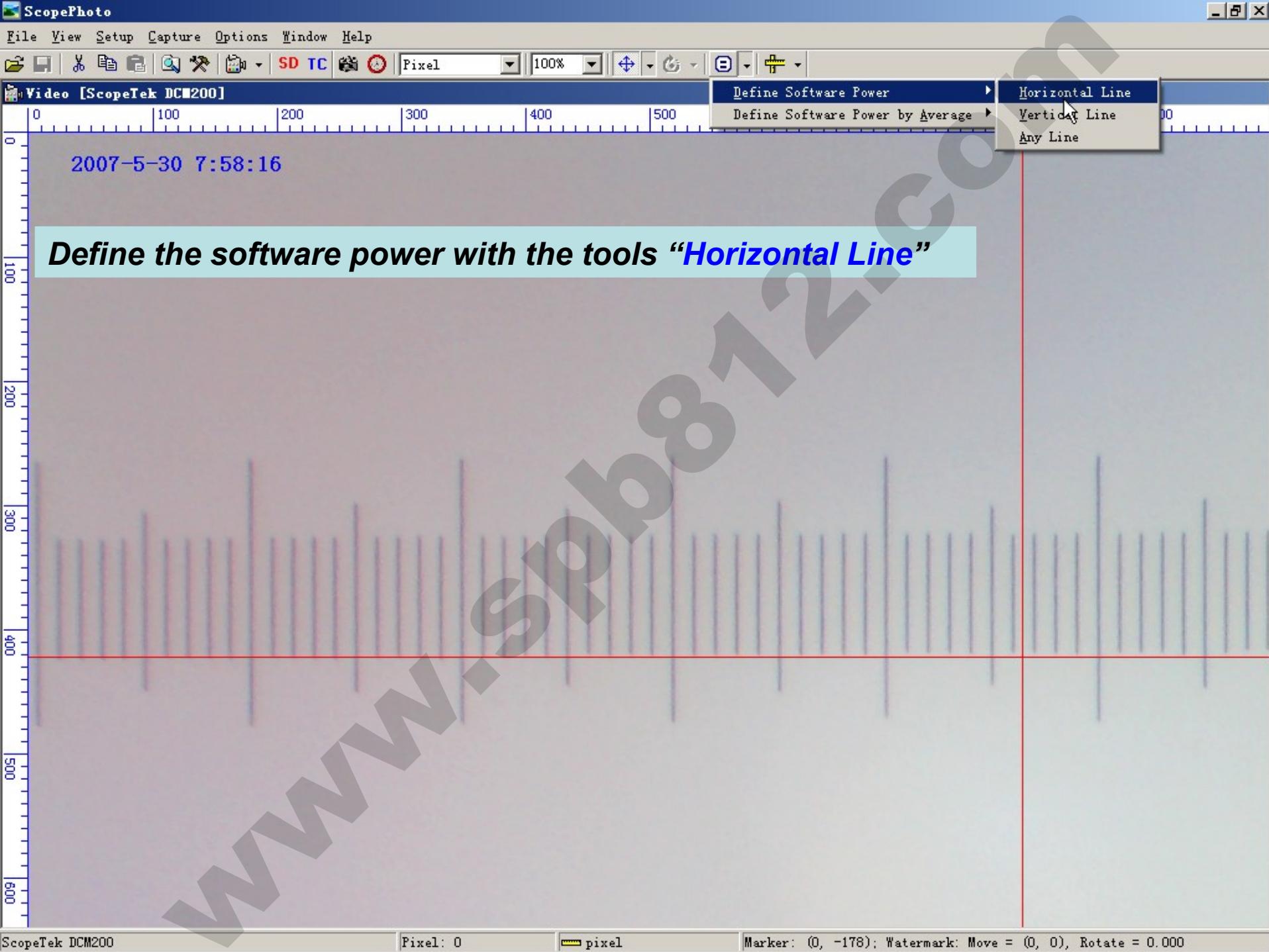


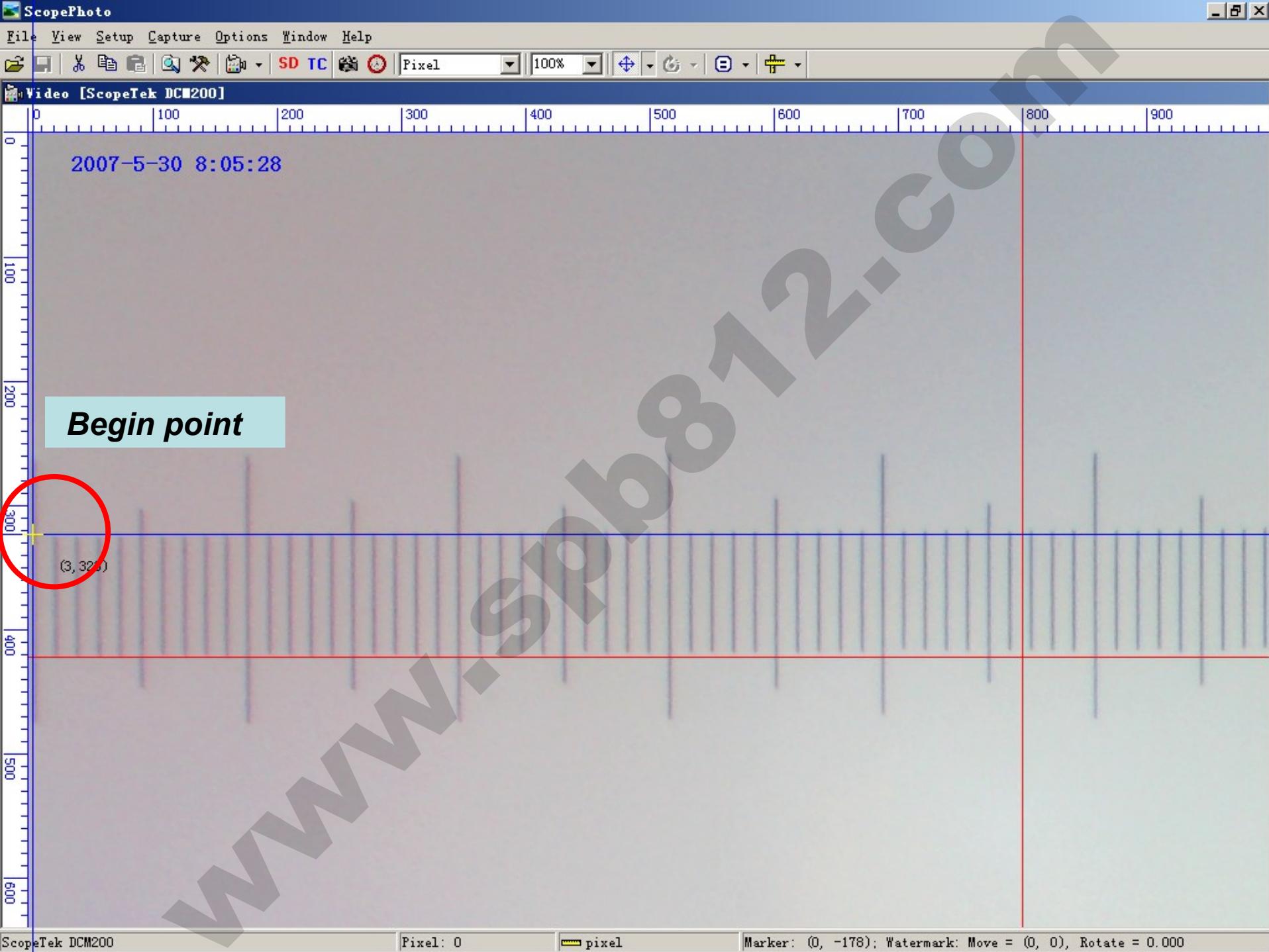


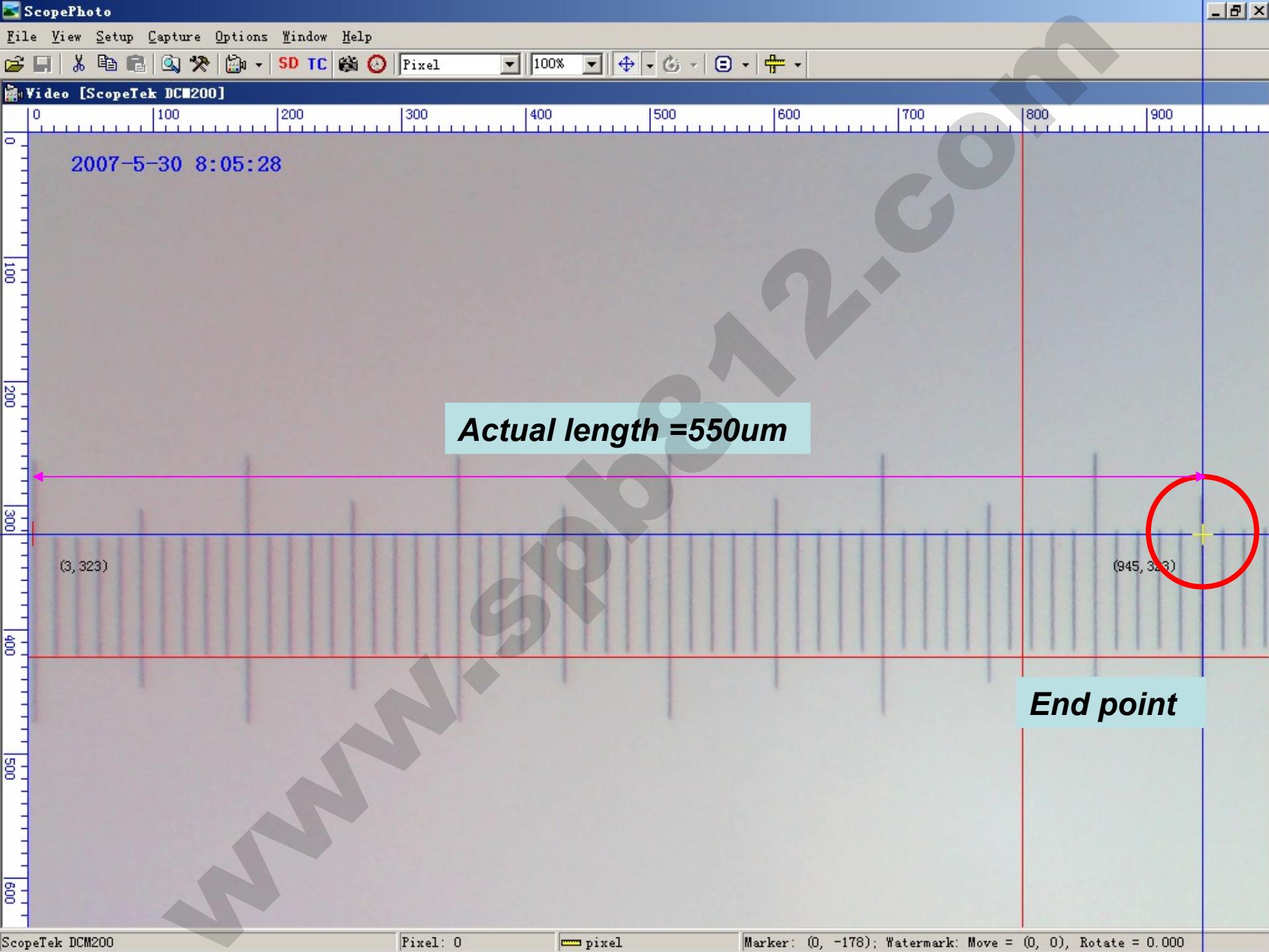












Video [ScopeTek DCM200]

0 100 200 300 400 500 600 700 800 900

2007-5-30 8:08:38

Input the actual length 550

Define Software Power

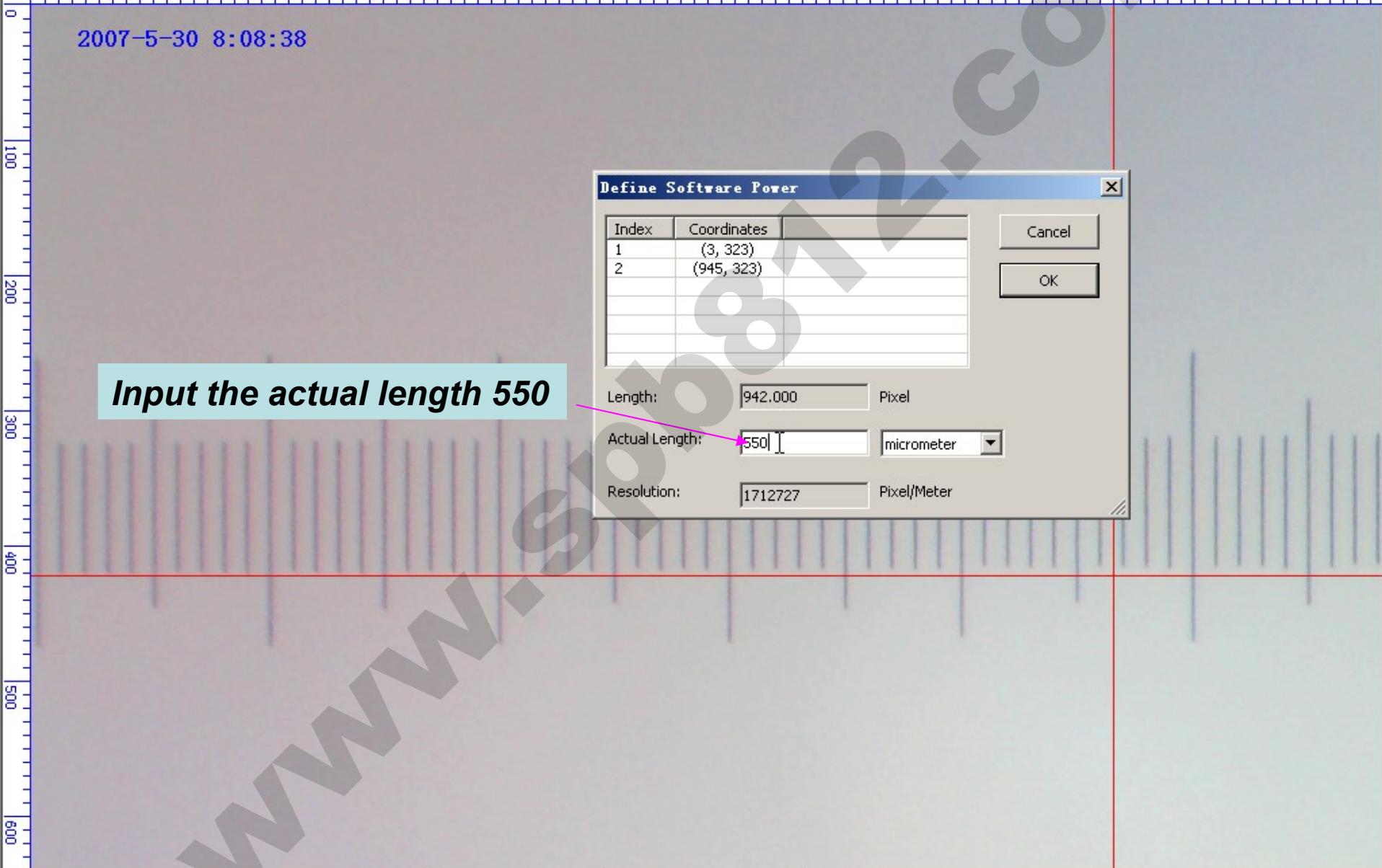
Index	Coordinates
1	(3, 323)
2	(945, 323)

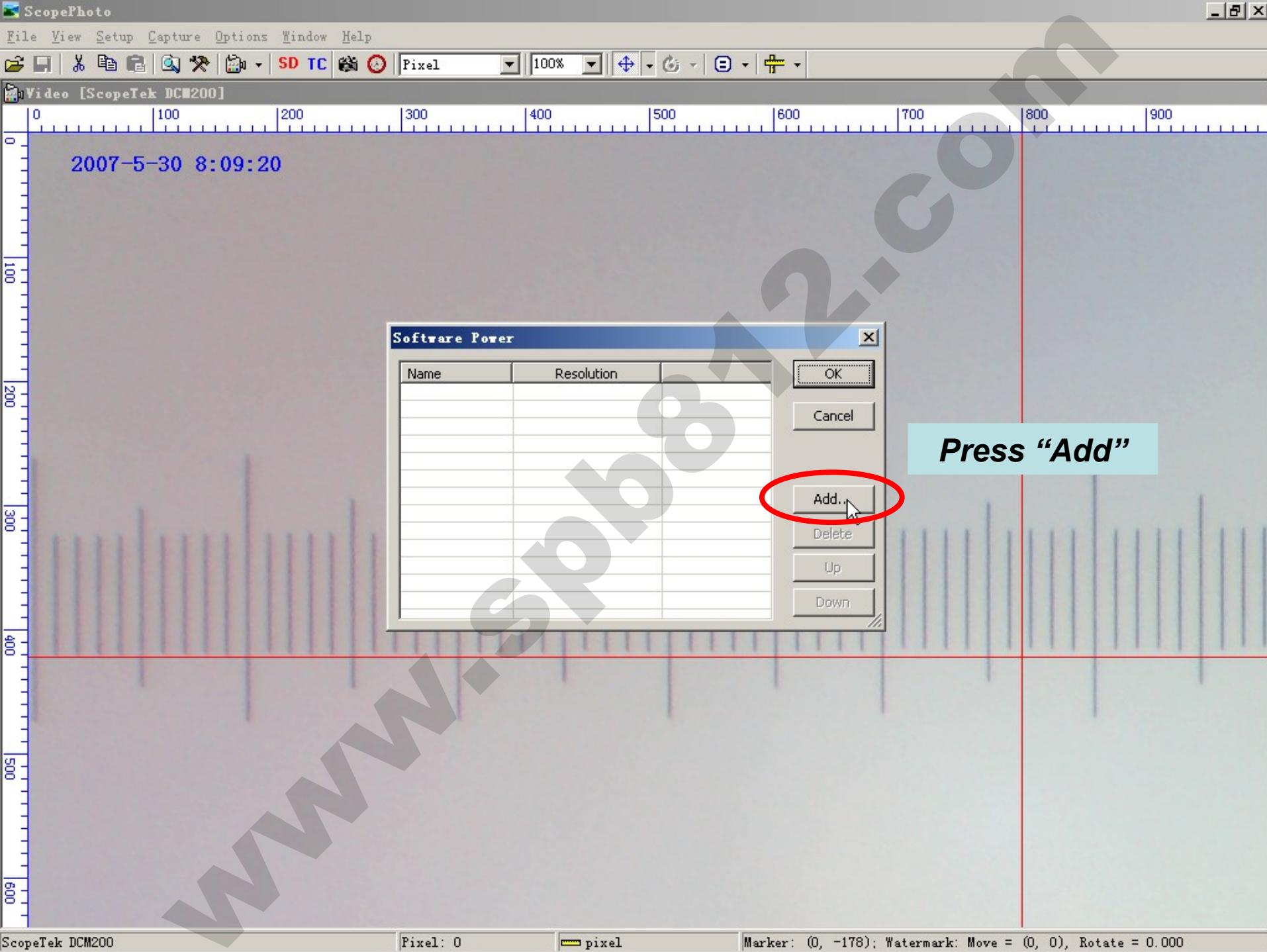
Length: 942.000 Pixel

Actual Length: micrometer

Resolution: 1712727 Pixel/Meter

Cancel OK

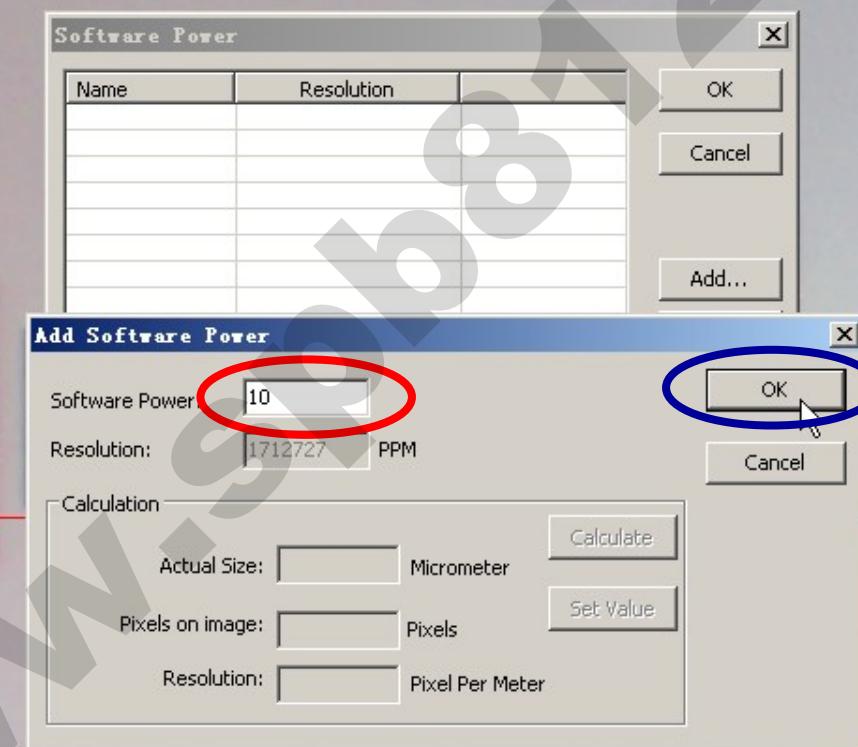


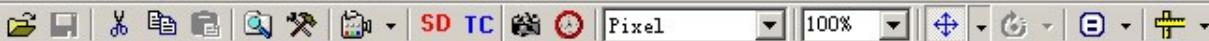


Press “Add”

2007-5-30 8:10:21

Input objective power index ,then press “OK” button





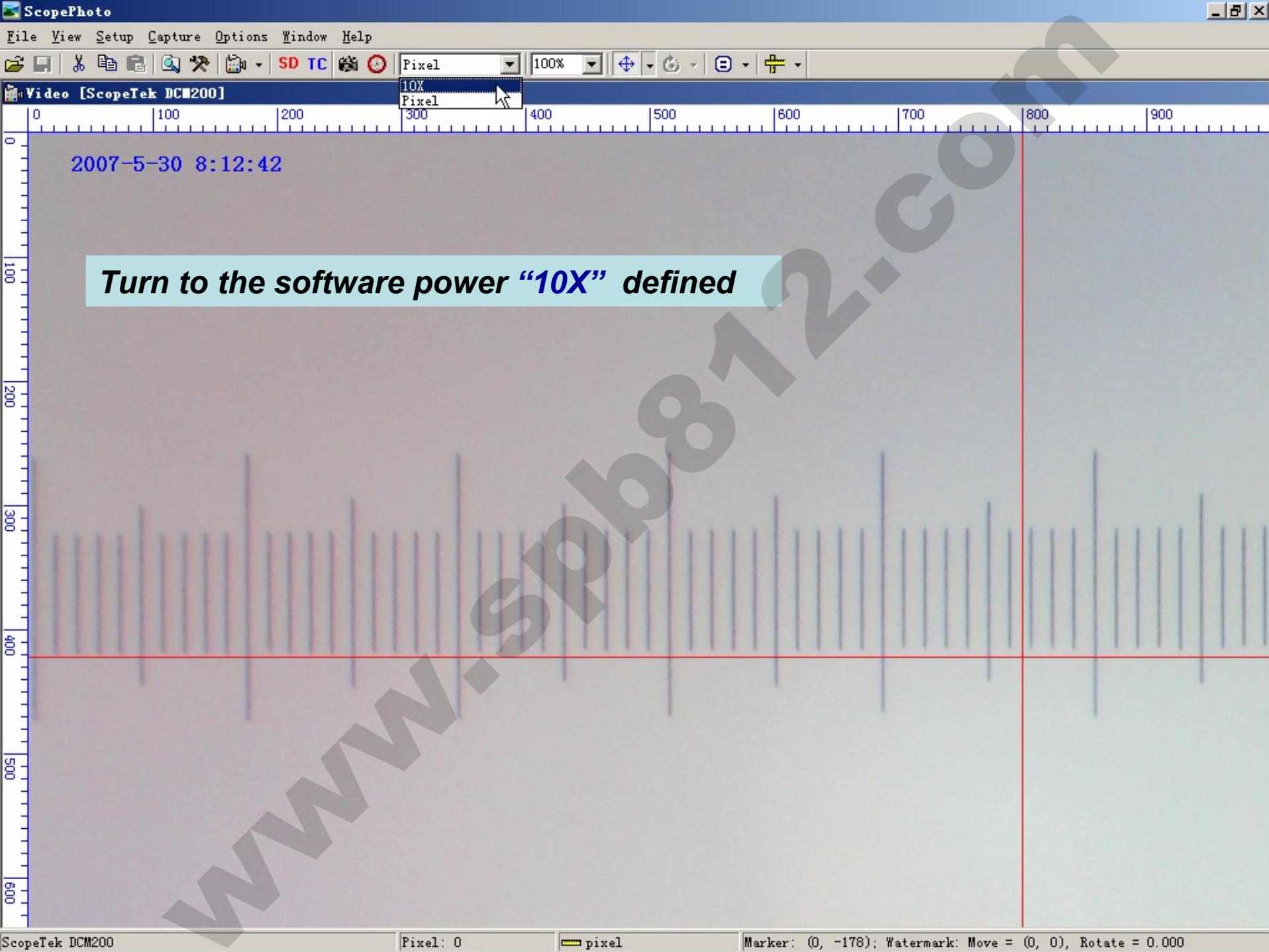
Video [ScopeTek DCM200]

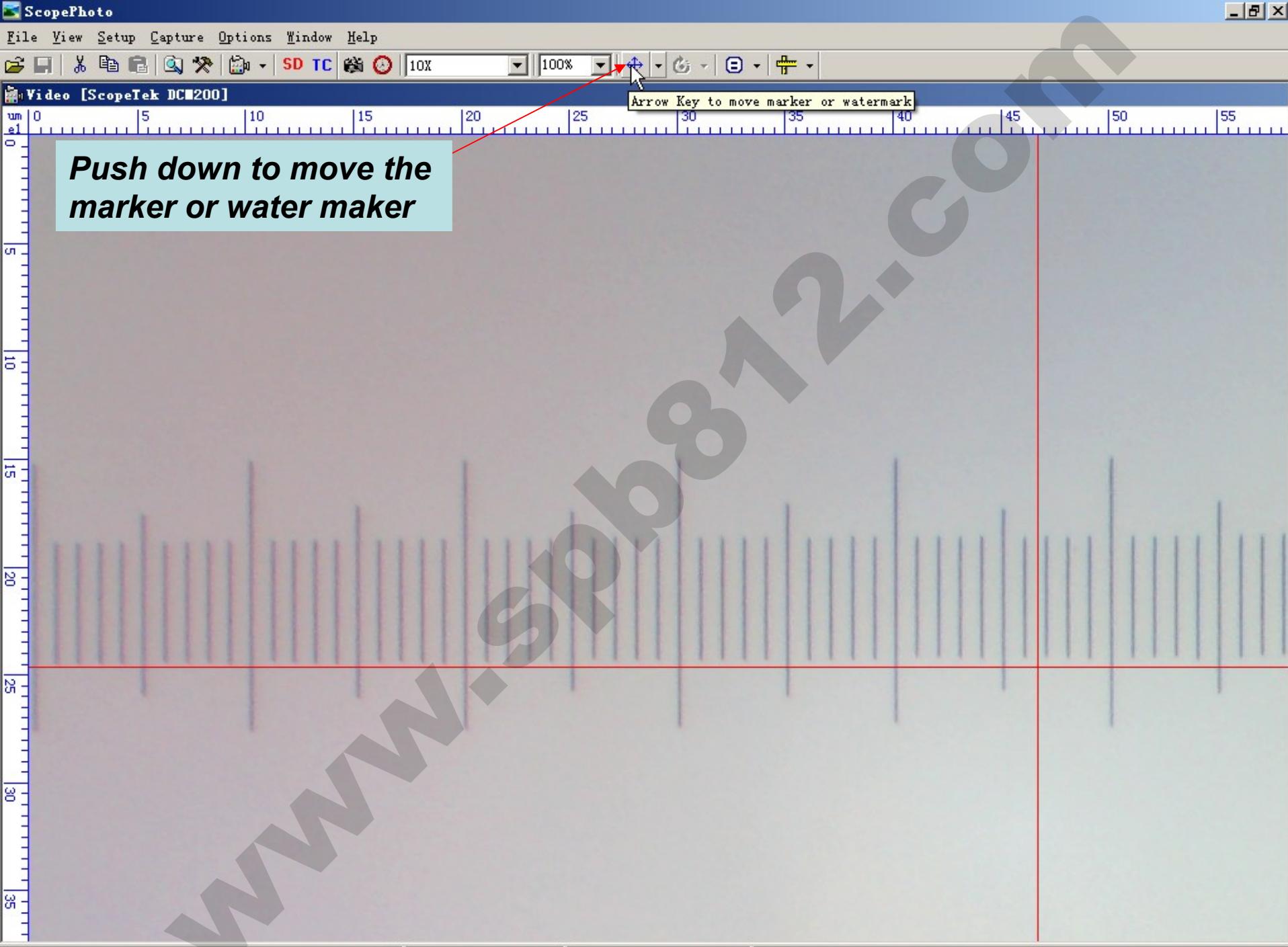
0 100 200 300 400 500 600 700 800 900

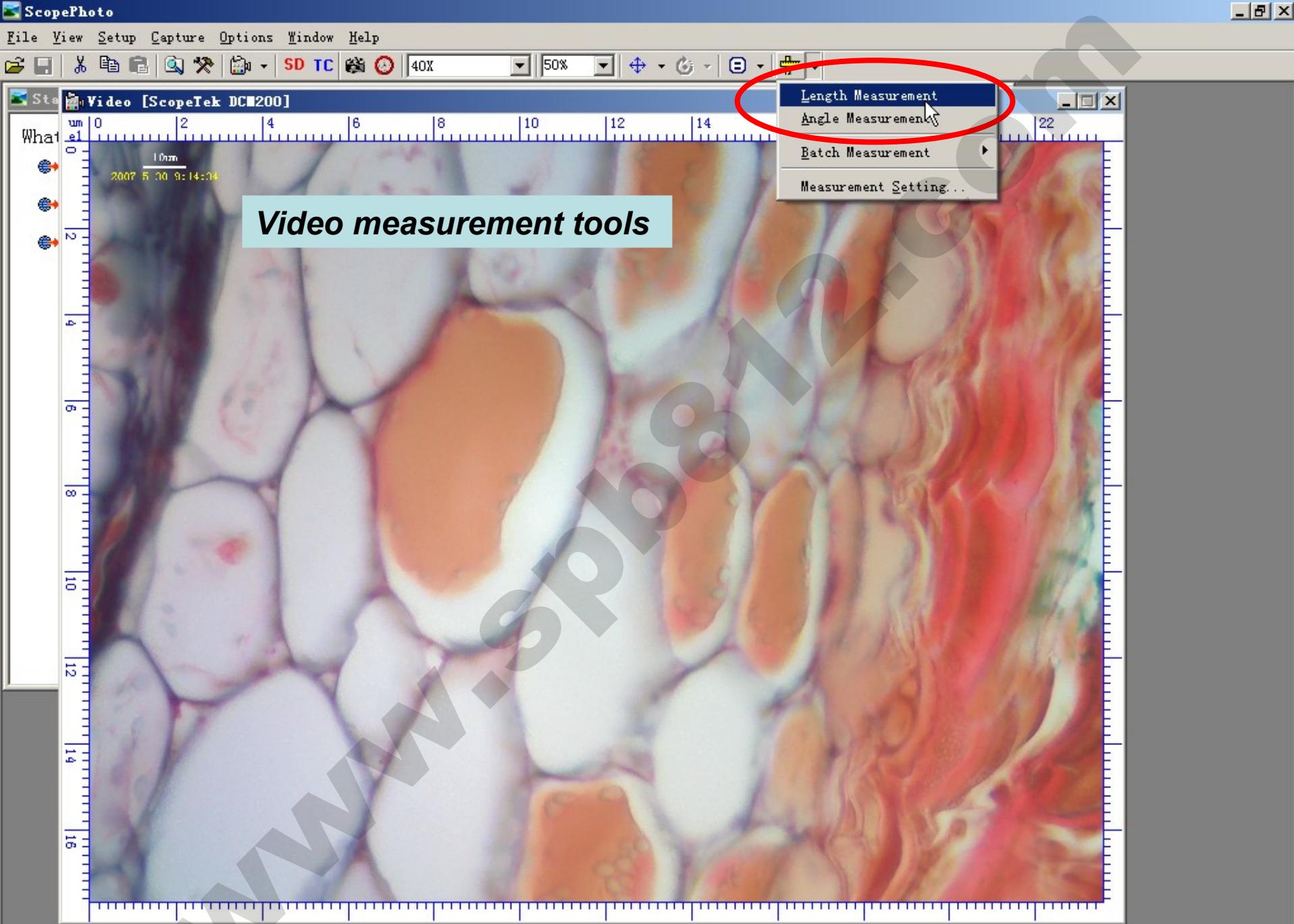
2007-5-30 8:11:25

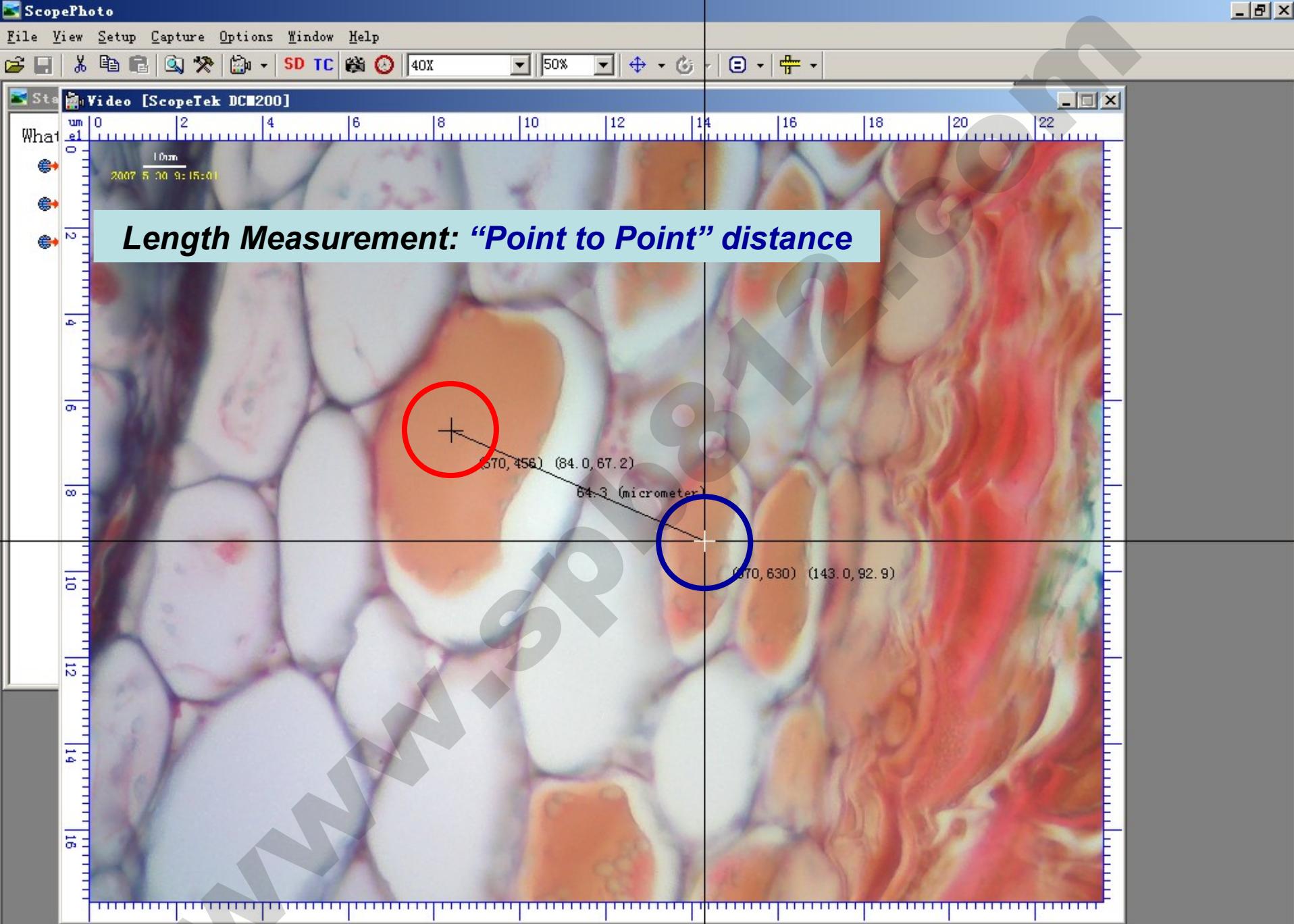
Press “OK” button to finish software power definition

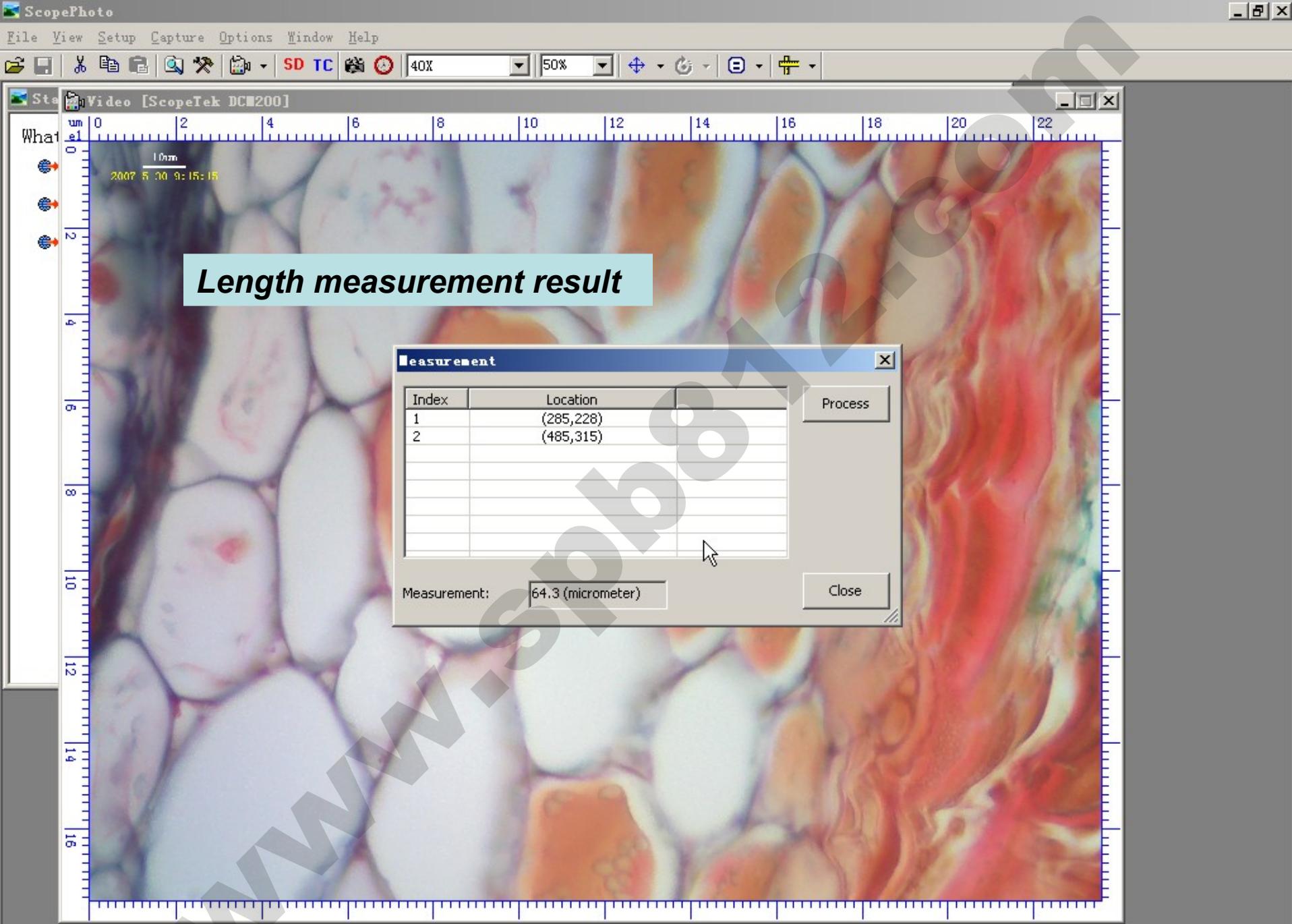


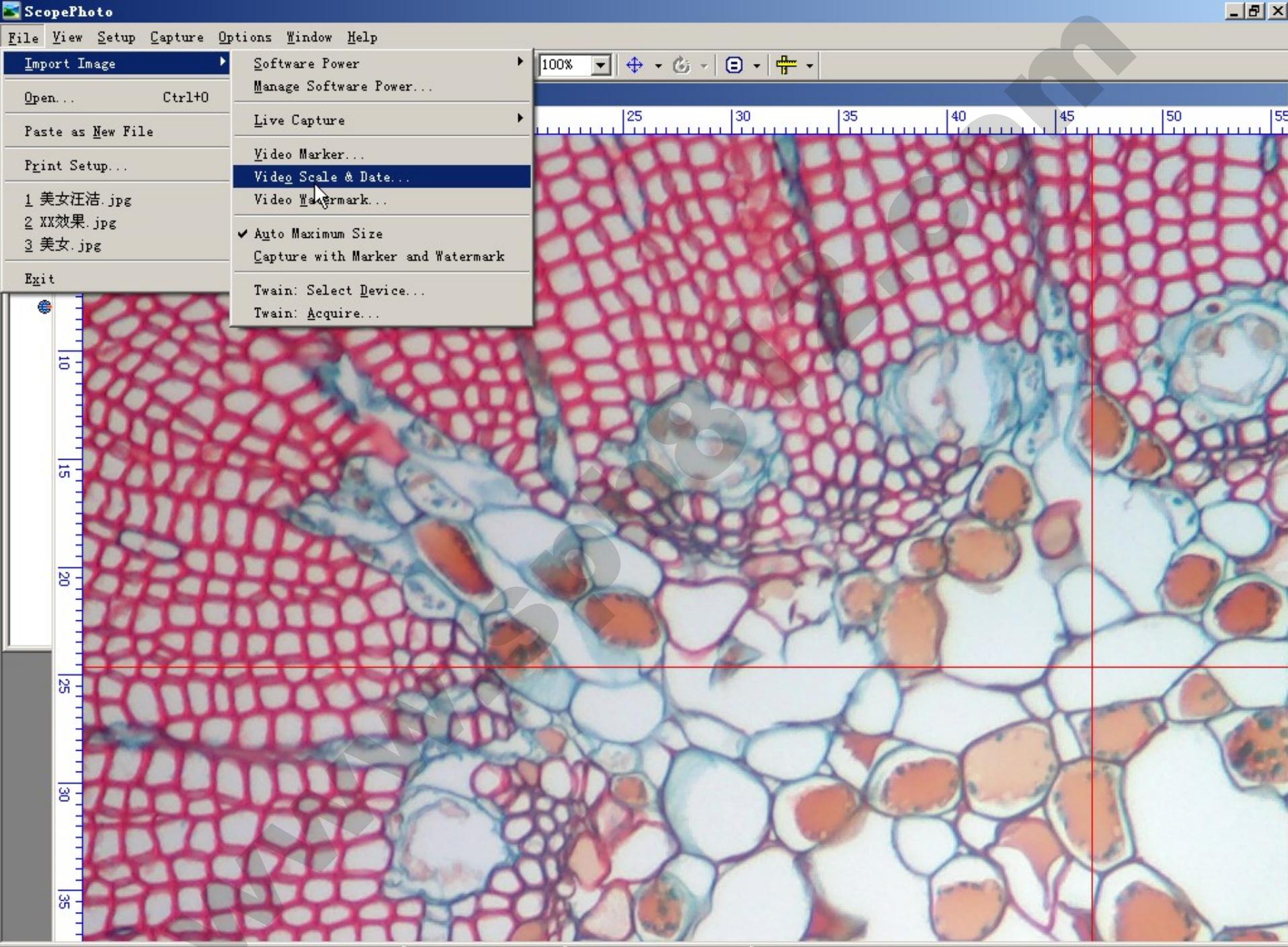






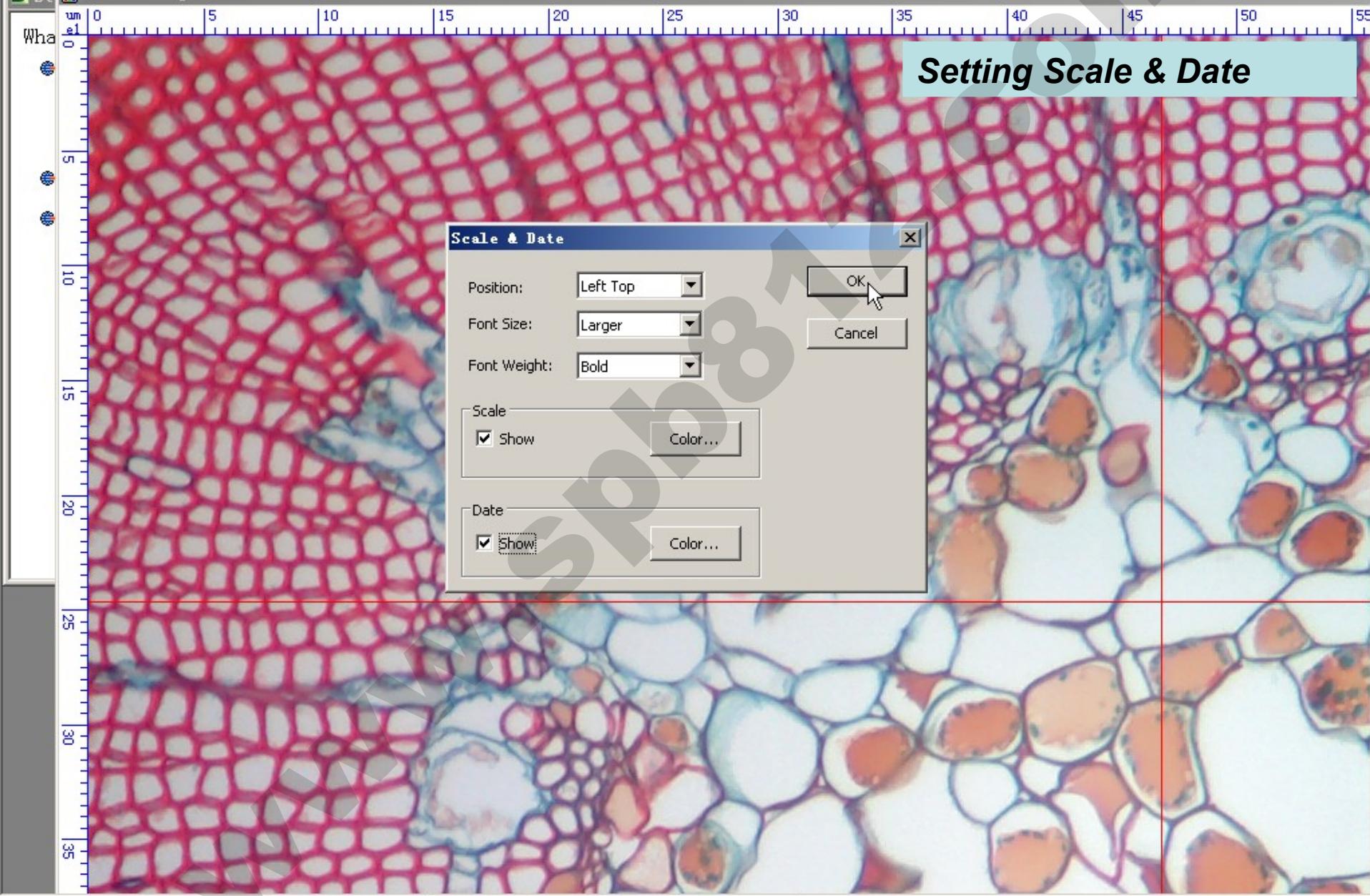




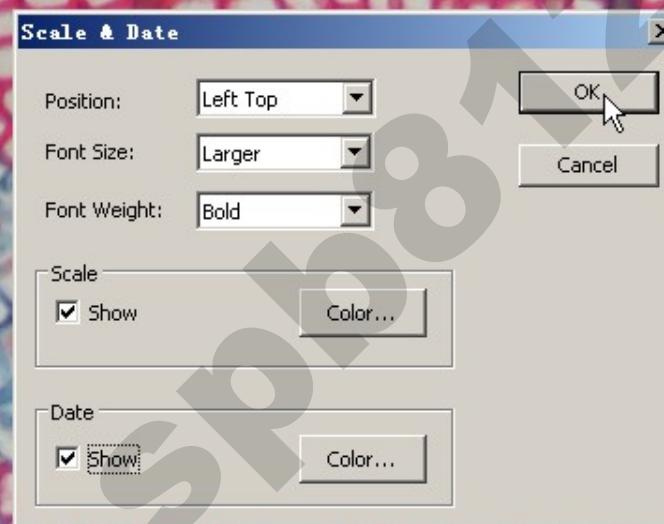


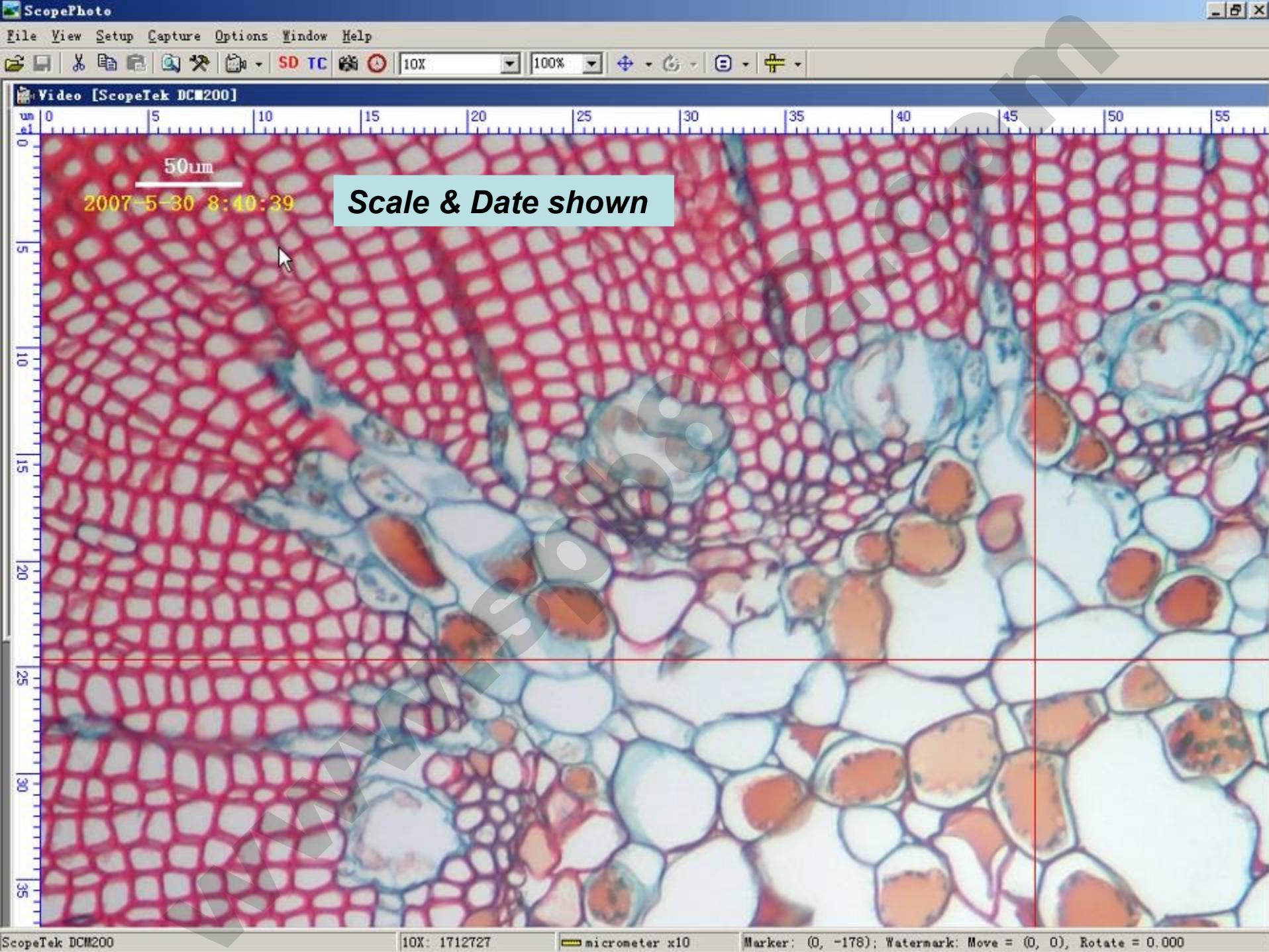


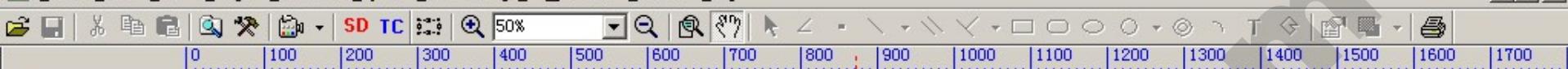
St Video [ScopeTek DCM200]



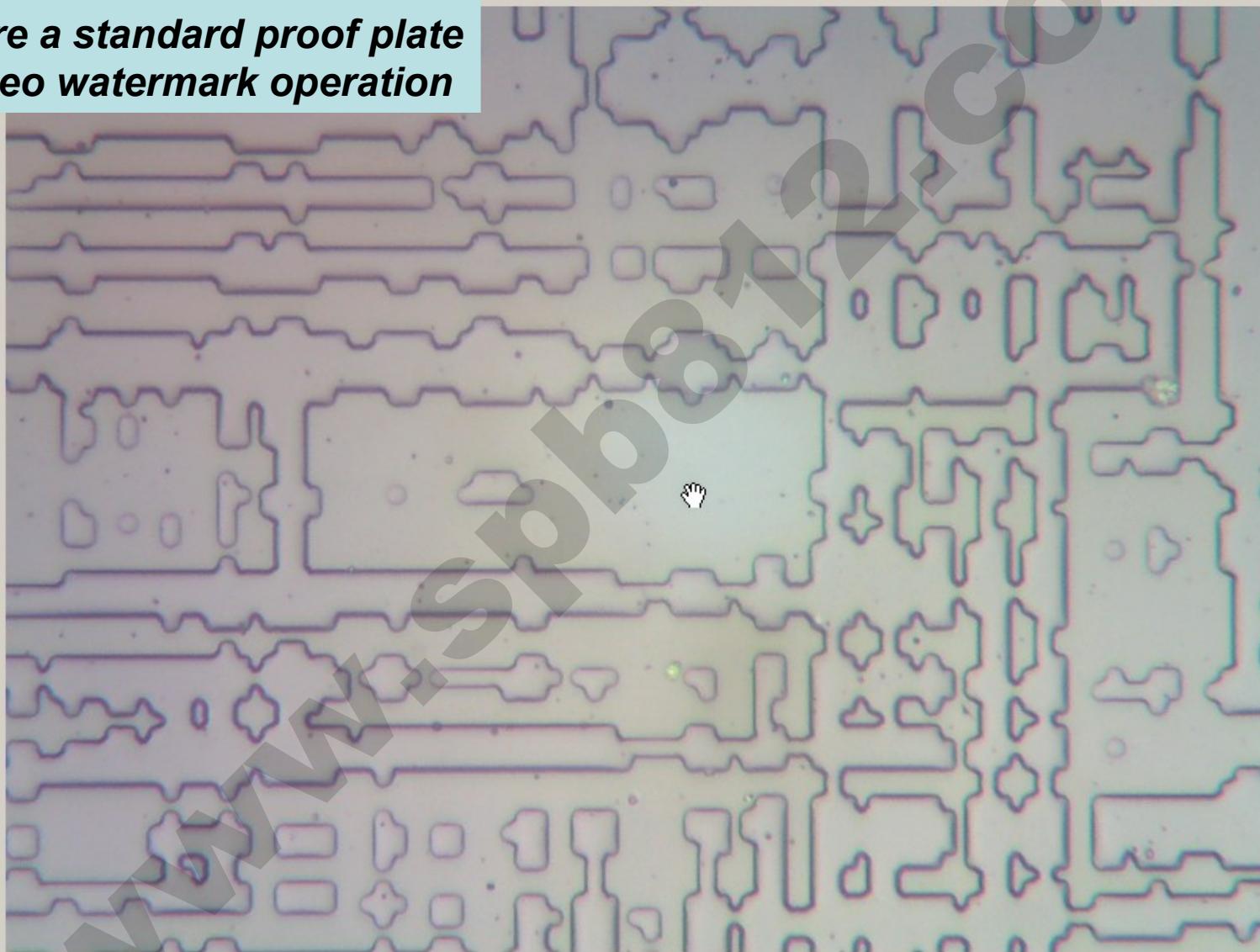
Setting Scale & Date

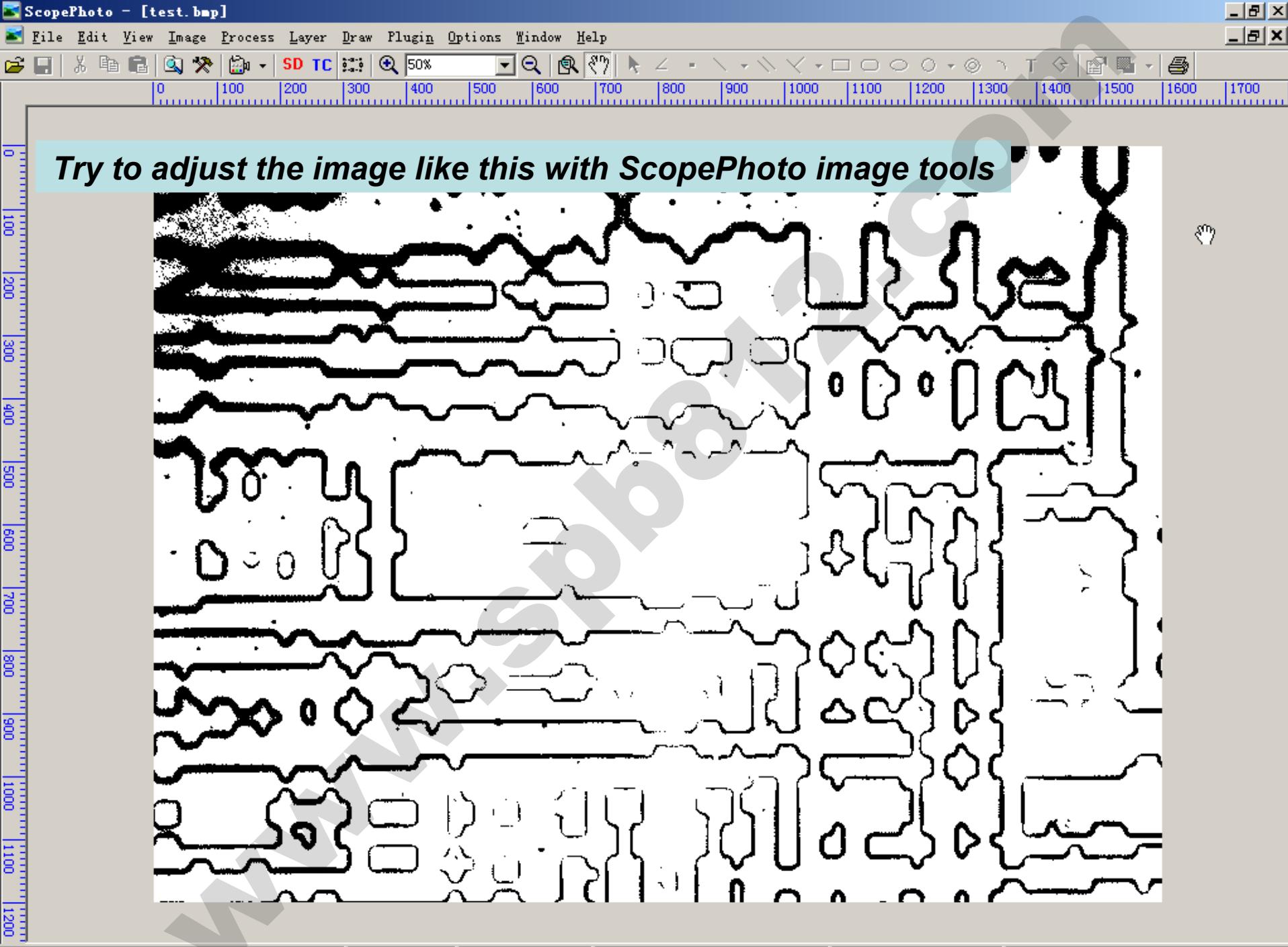


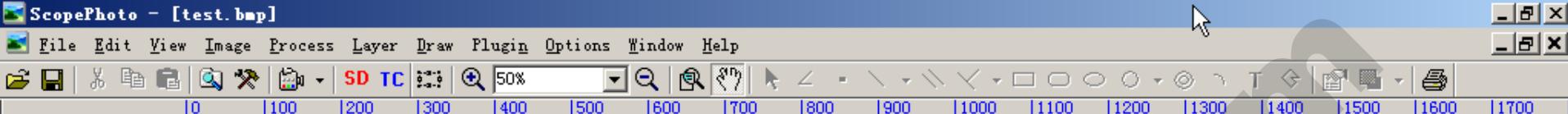




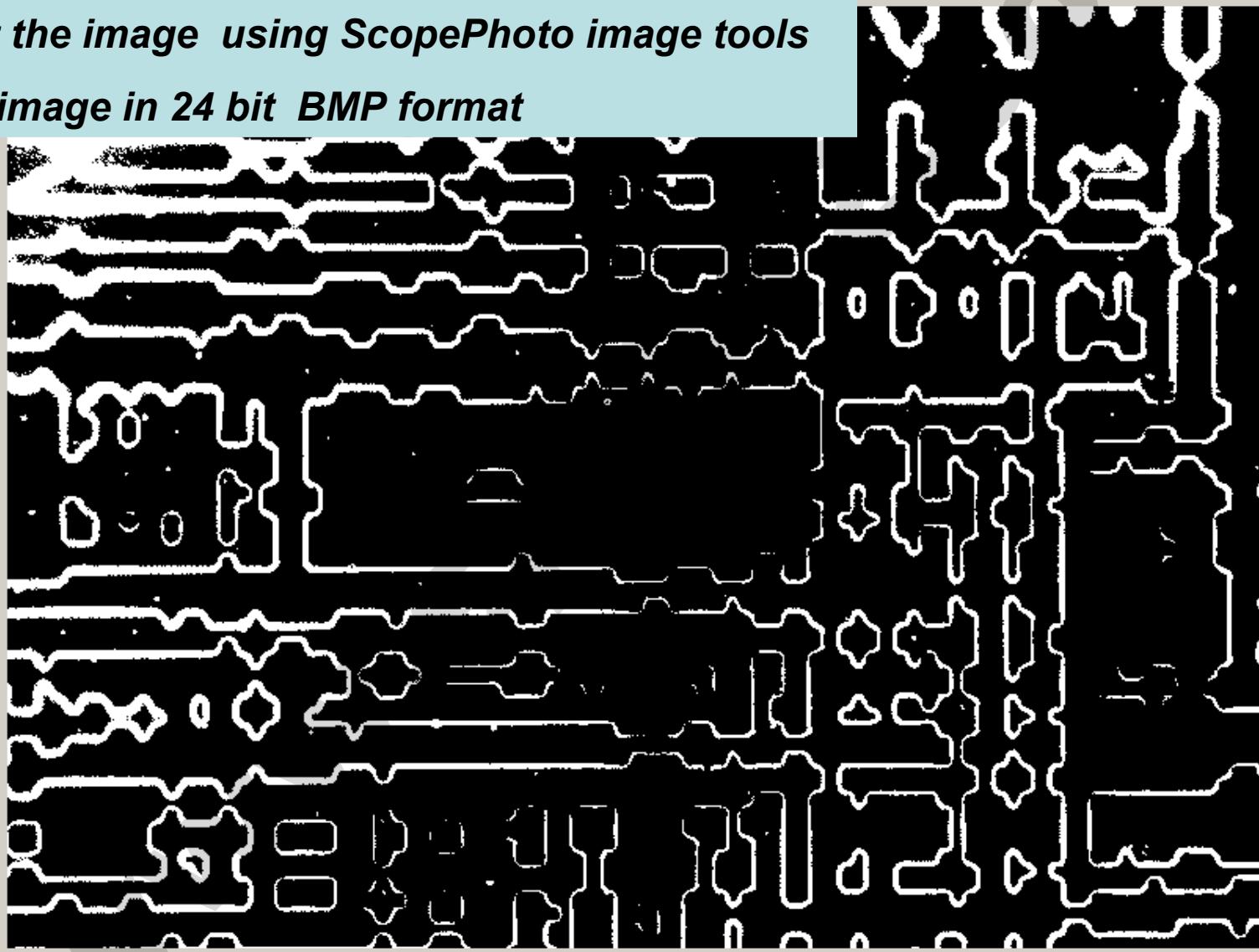
**Capture a standard proof plate
for video watermark operation**

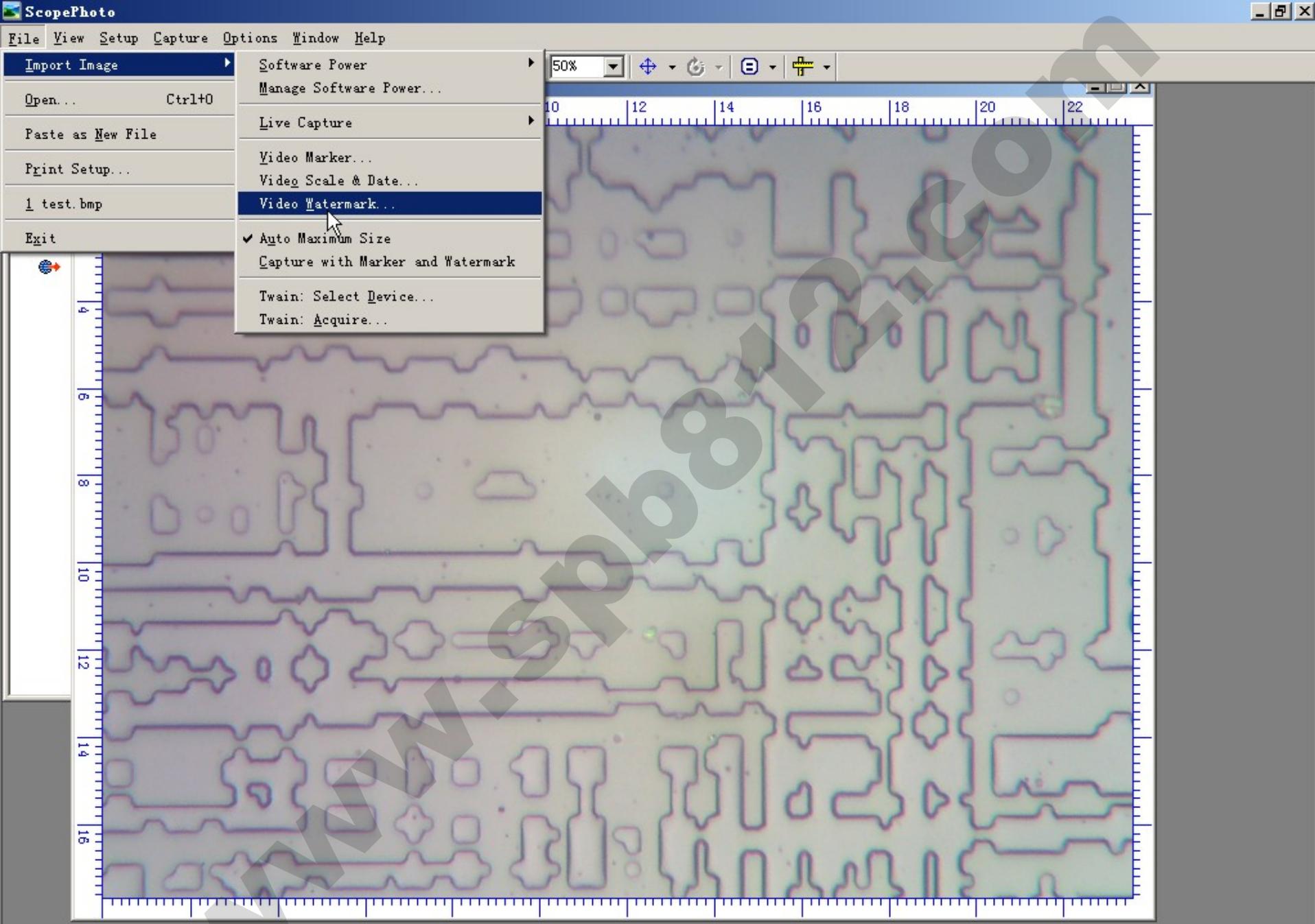


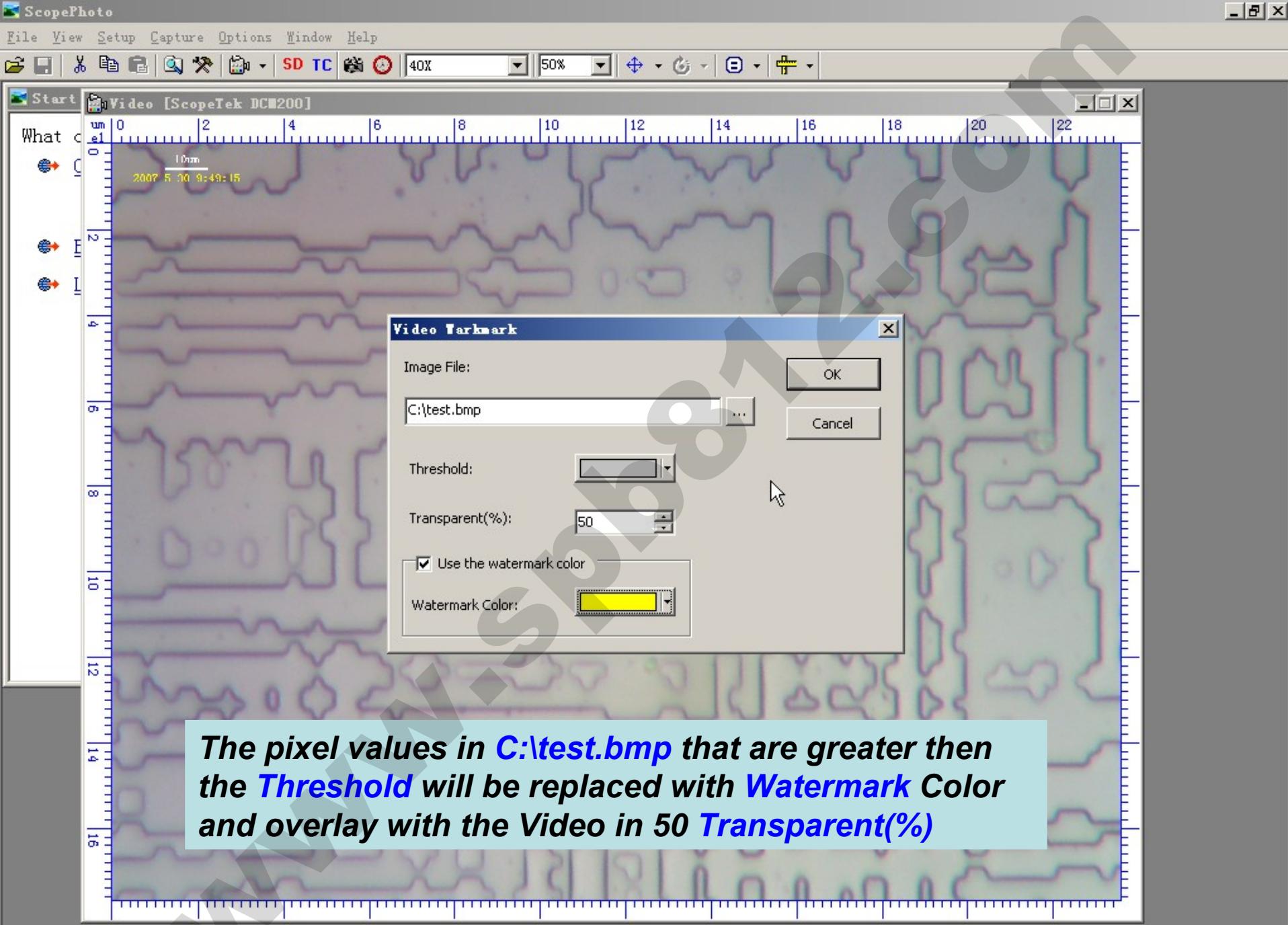




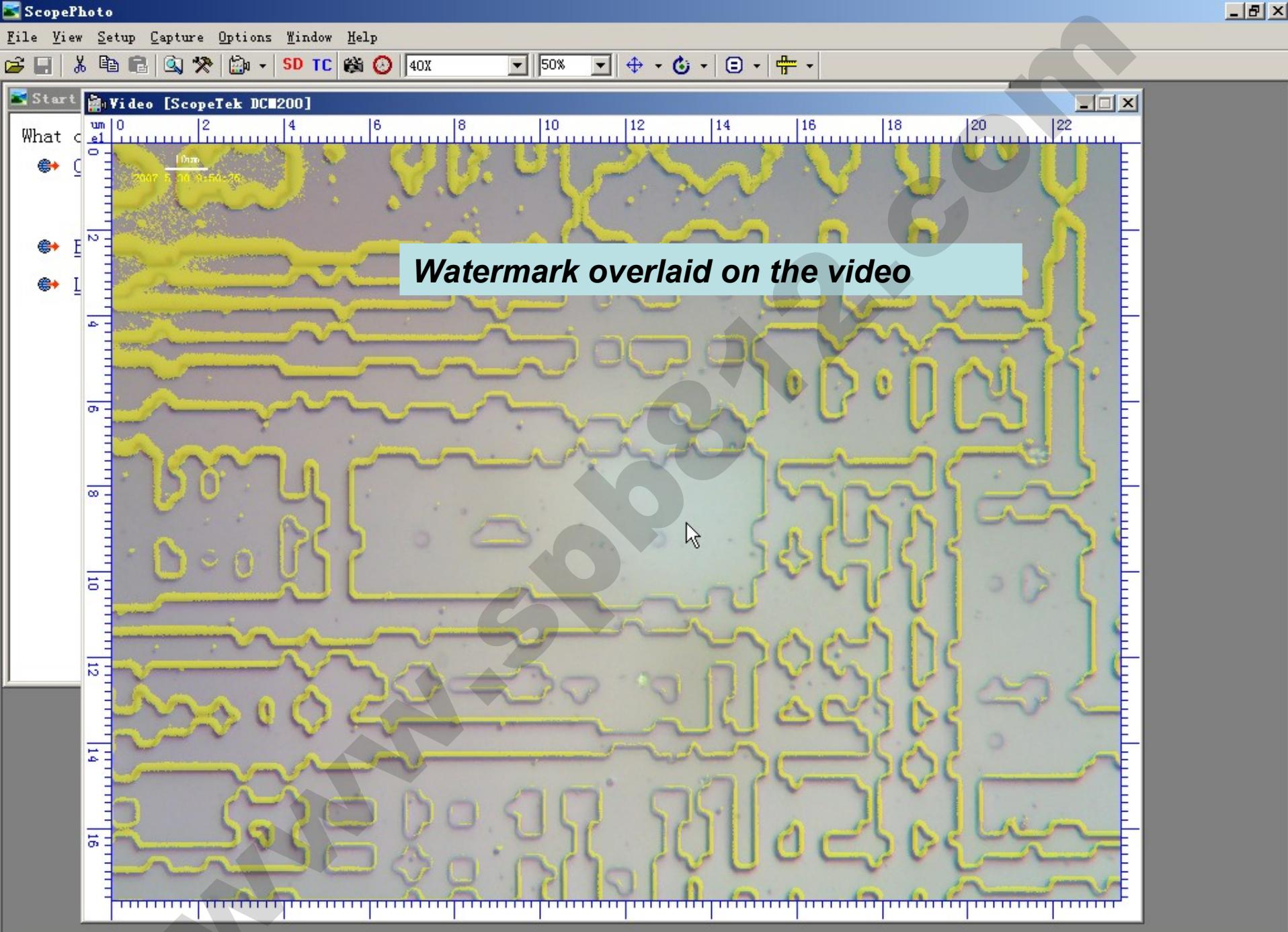
- Invert the image using ScopePhoto image tools
- Save image in 24 bit BMP format

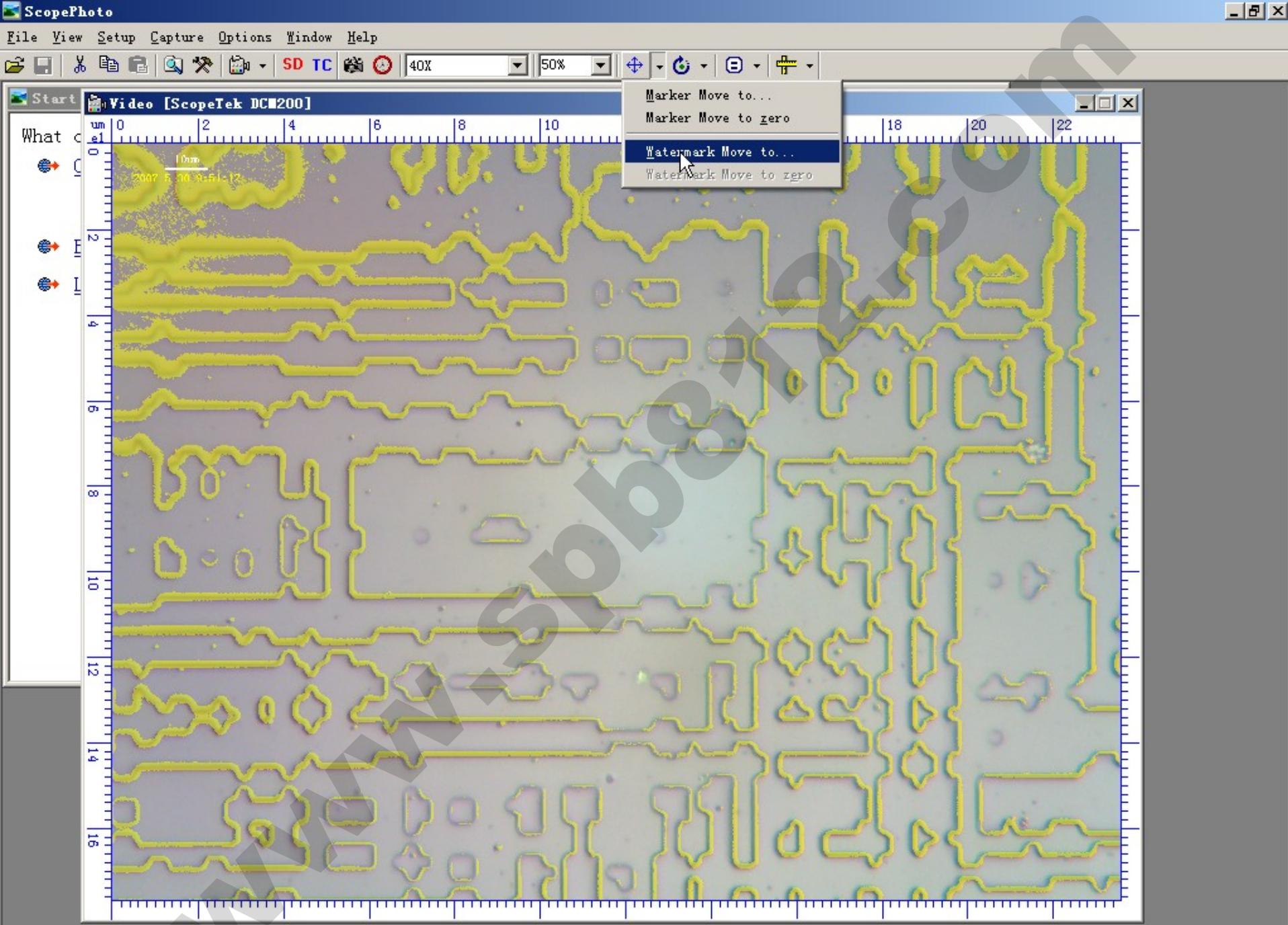


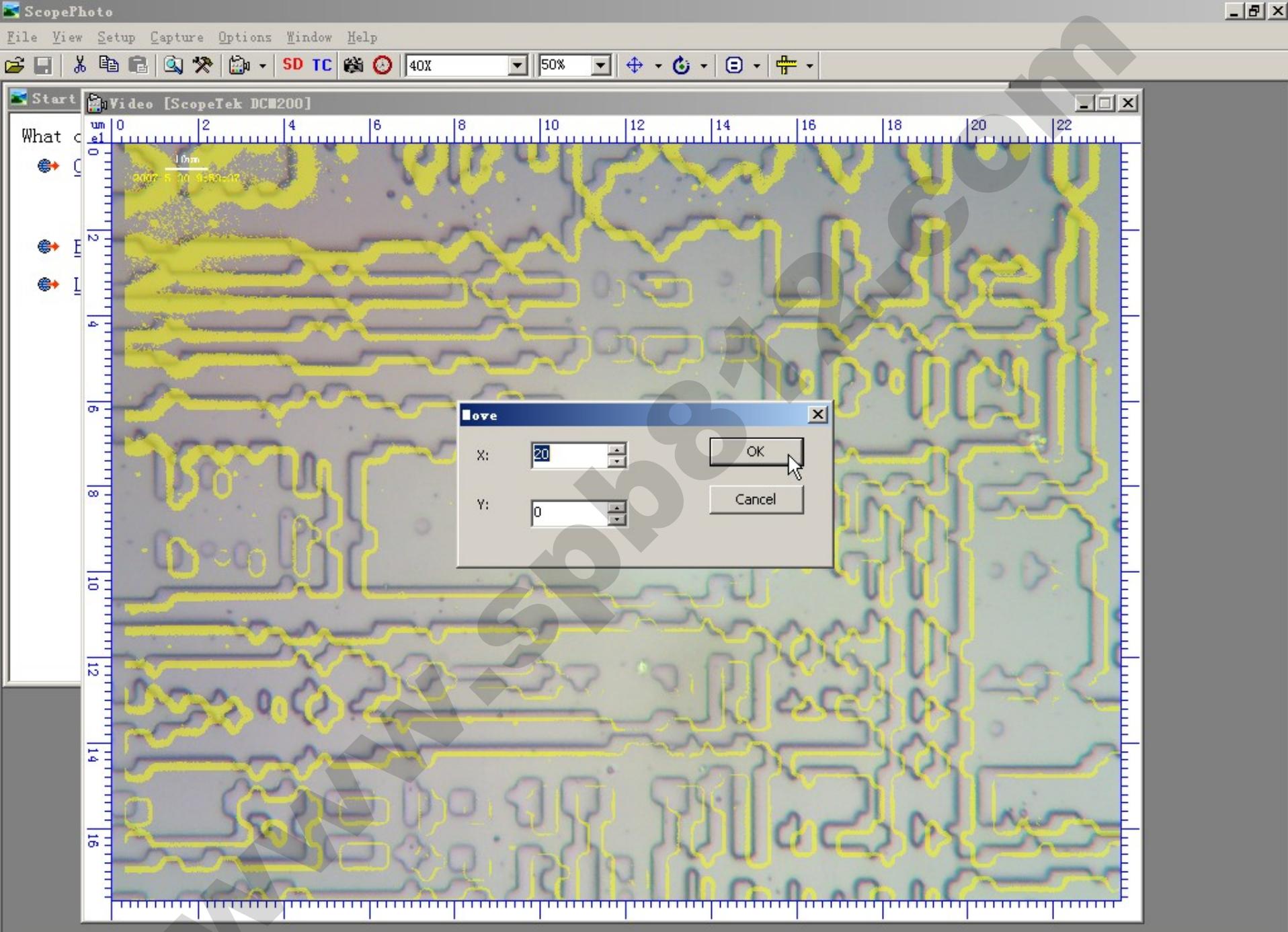


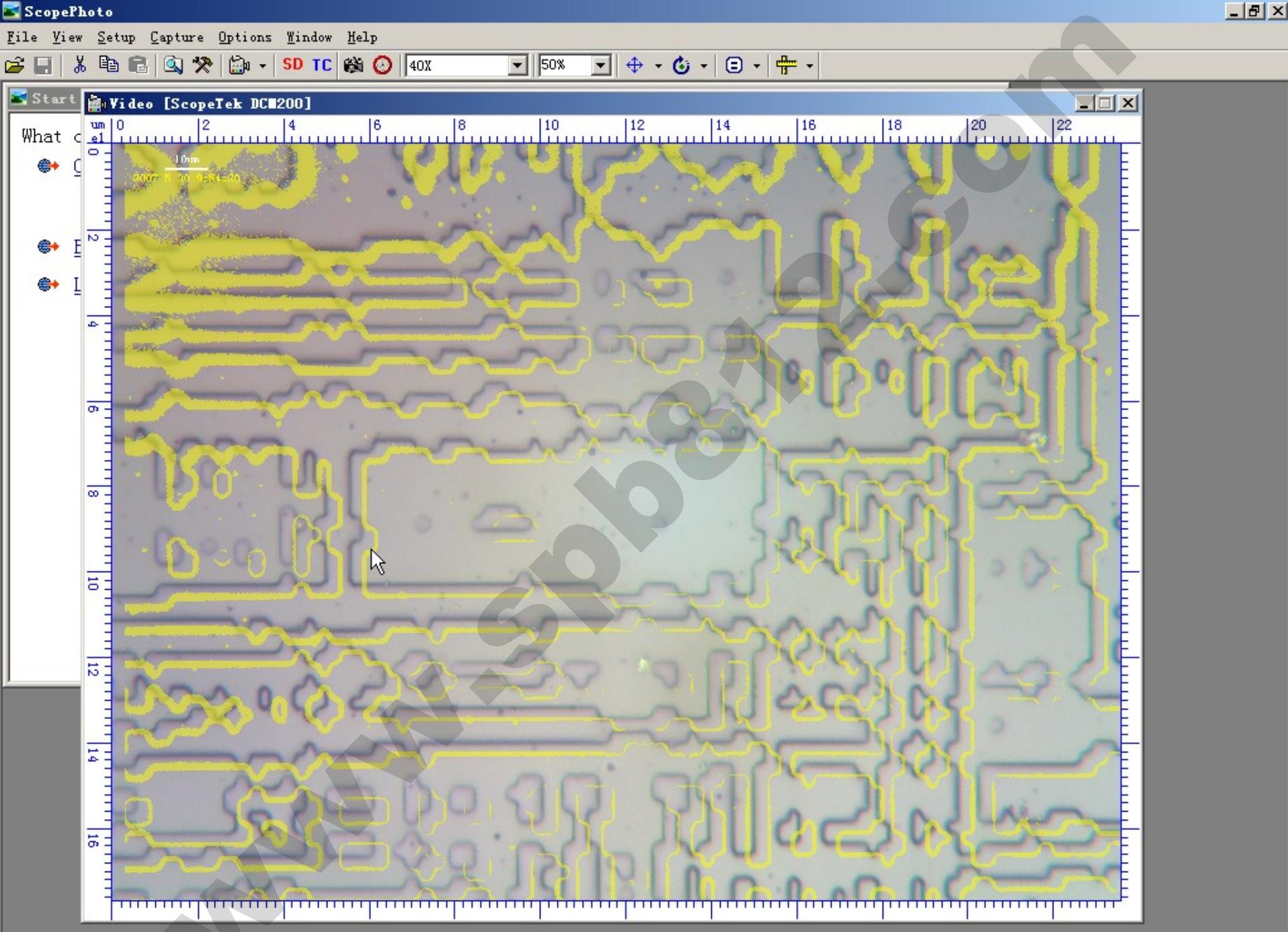


The pixel values in C:\test.bmp that are greater than the Threshold will be replaced with Watermark Color and overlay with the Video in 50 Transparent(%)

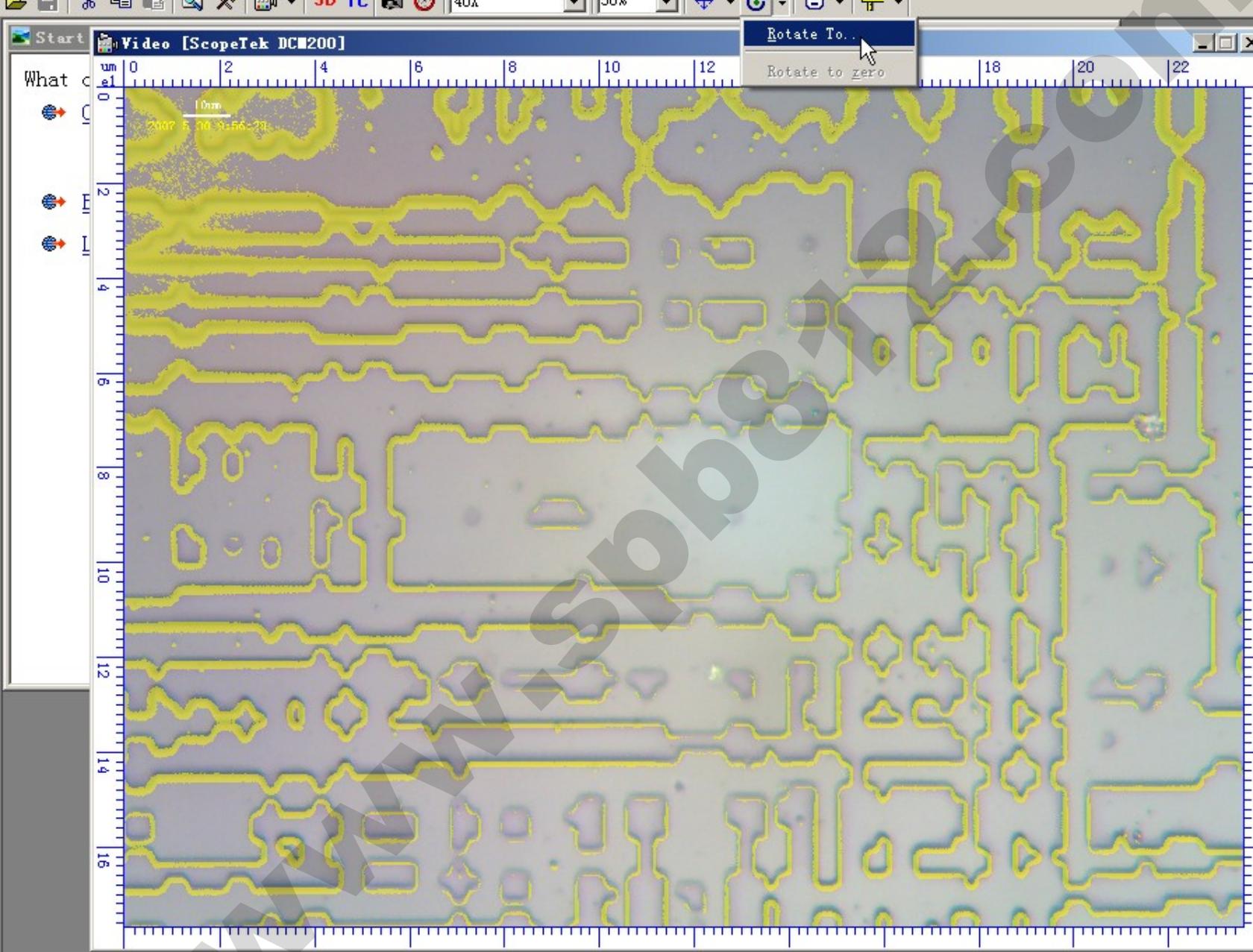


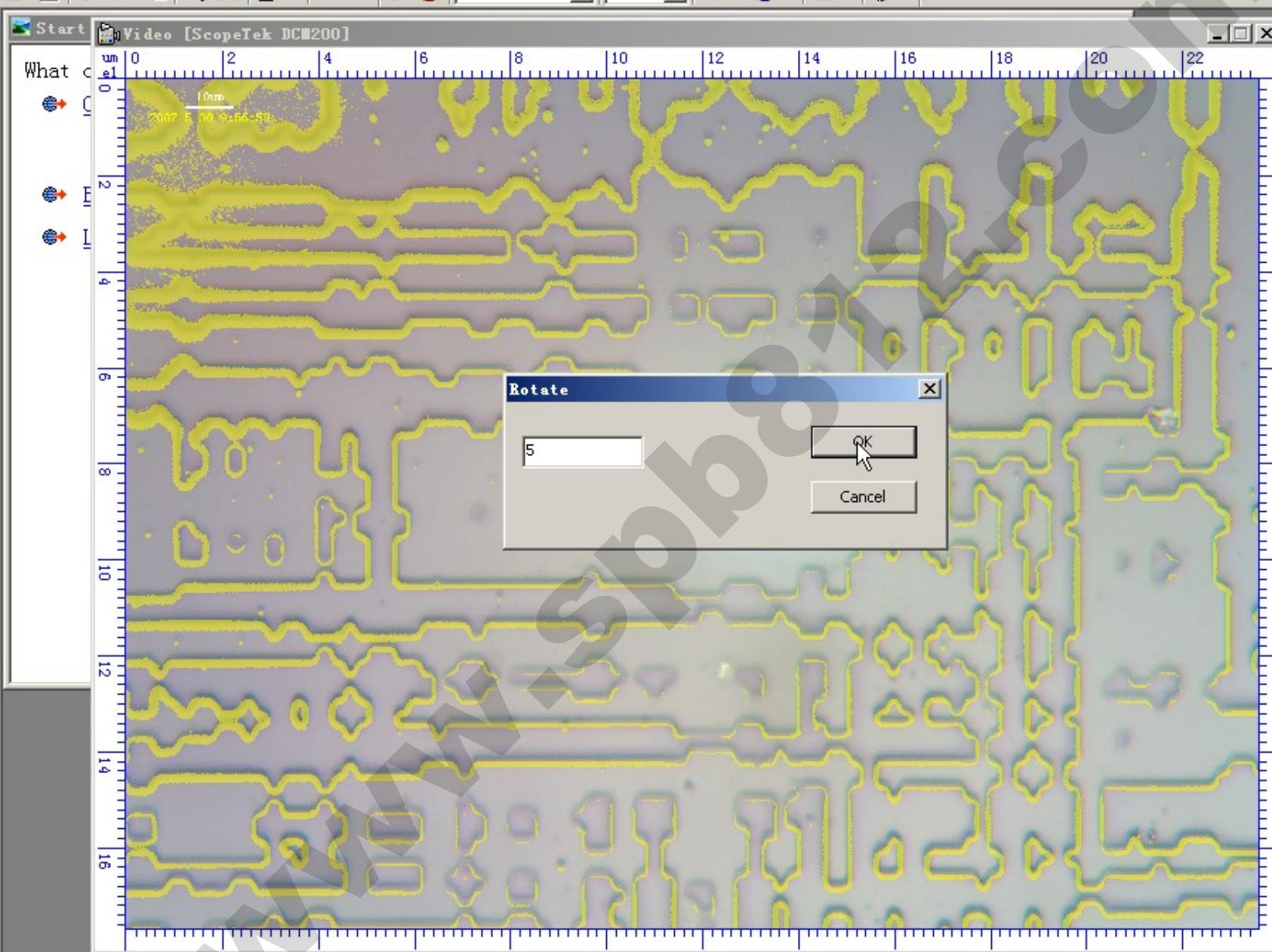


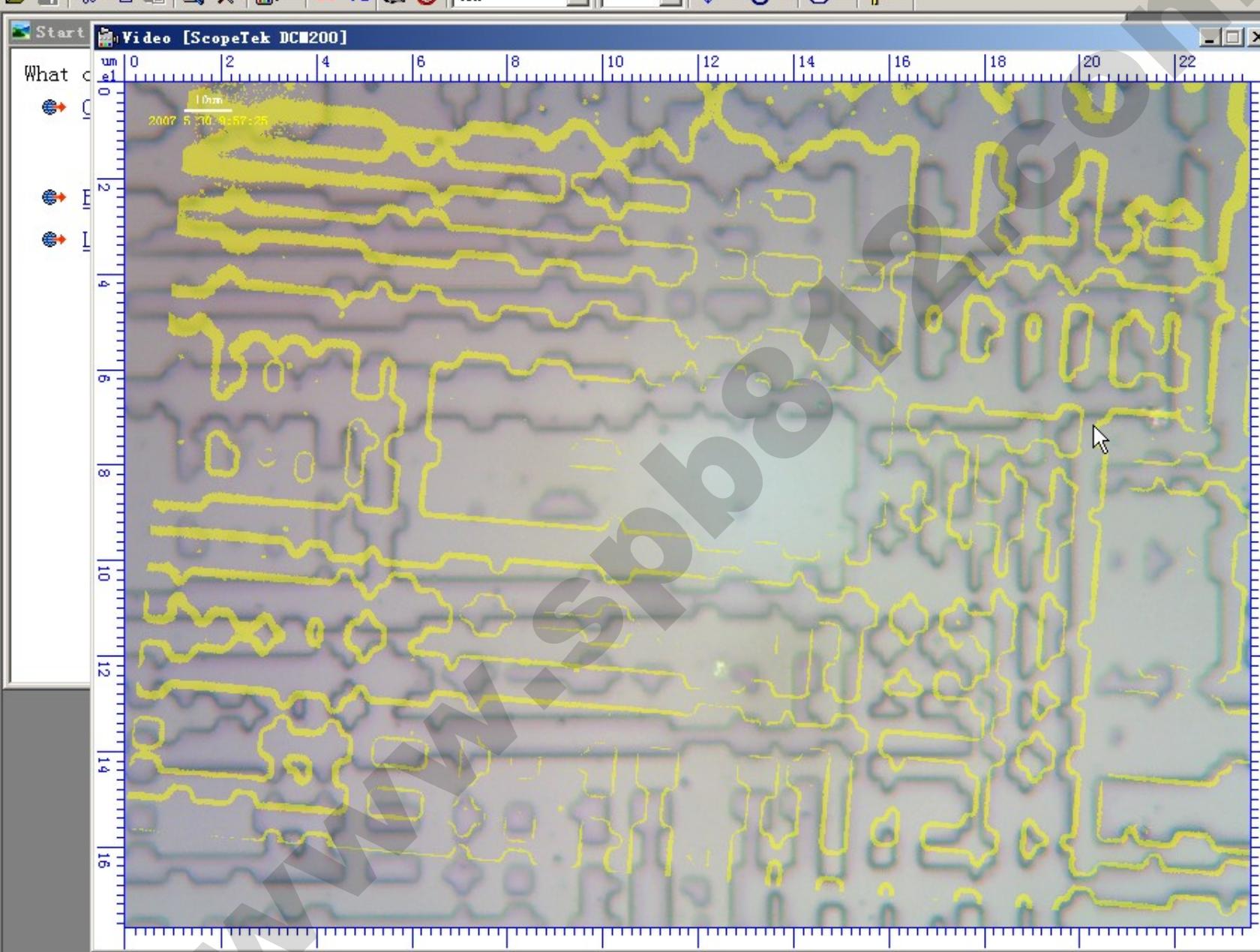


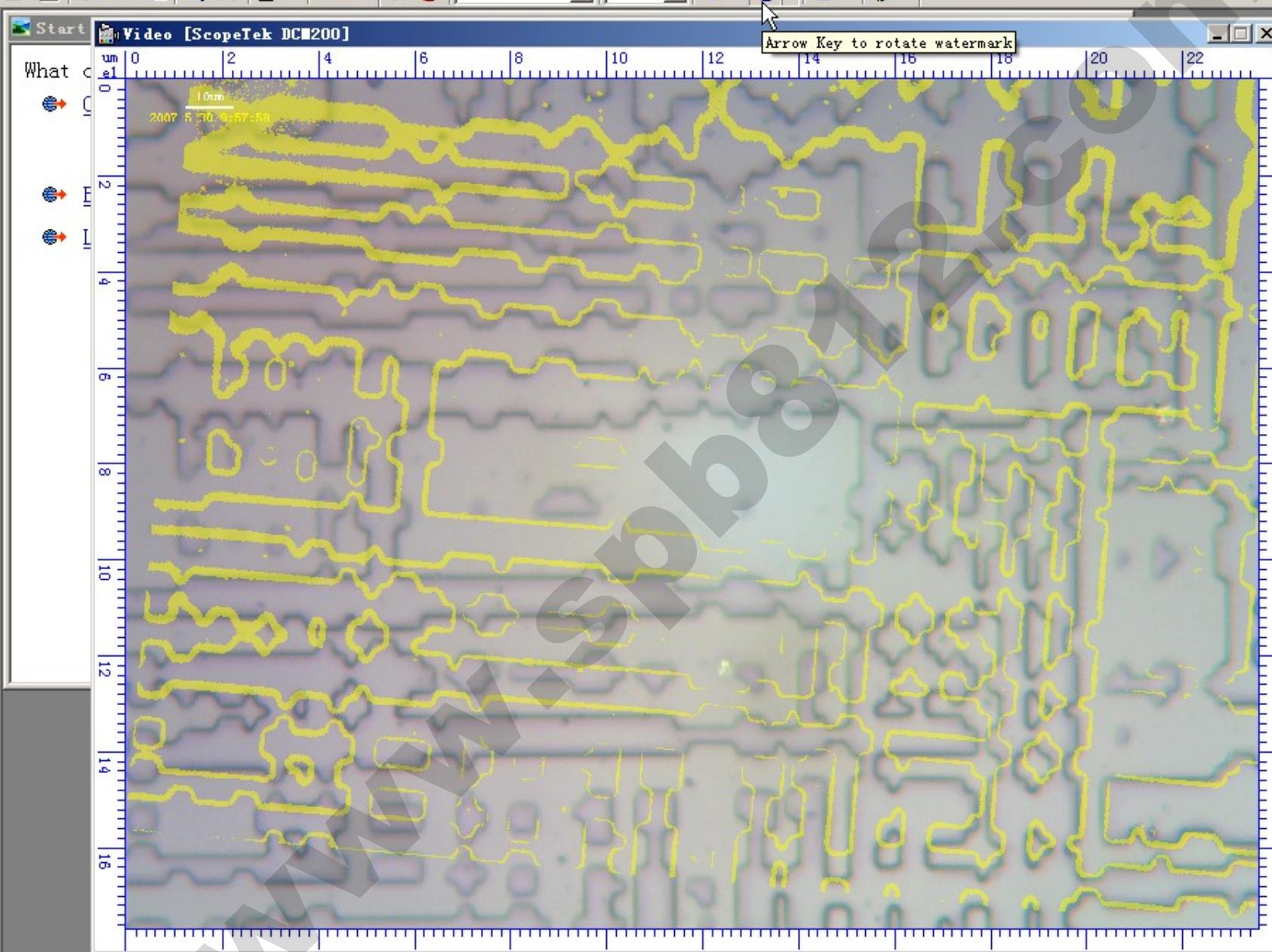




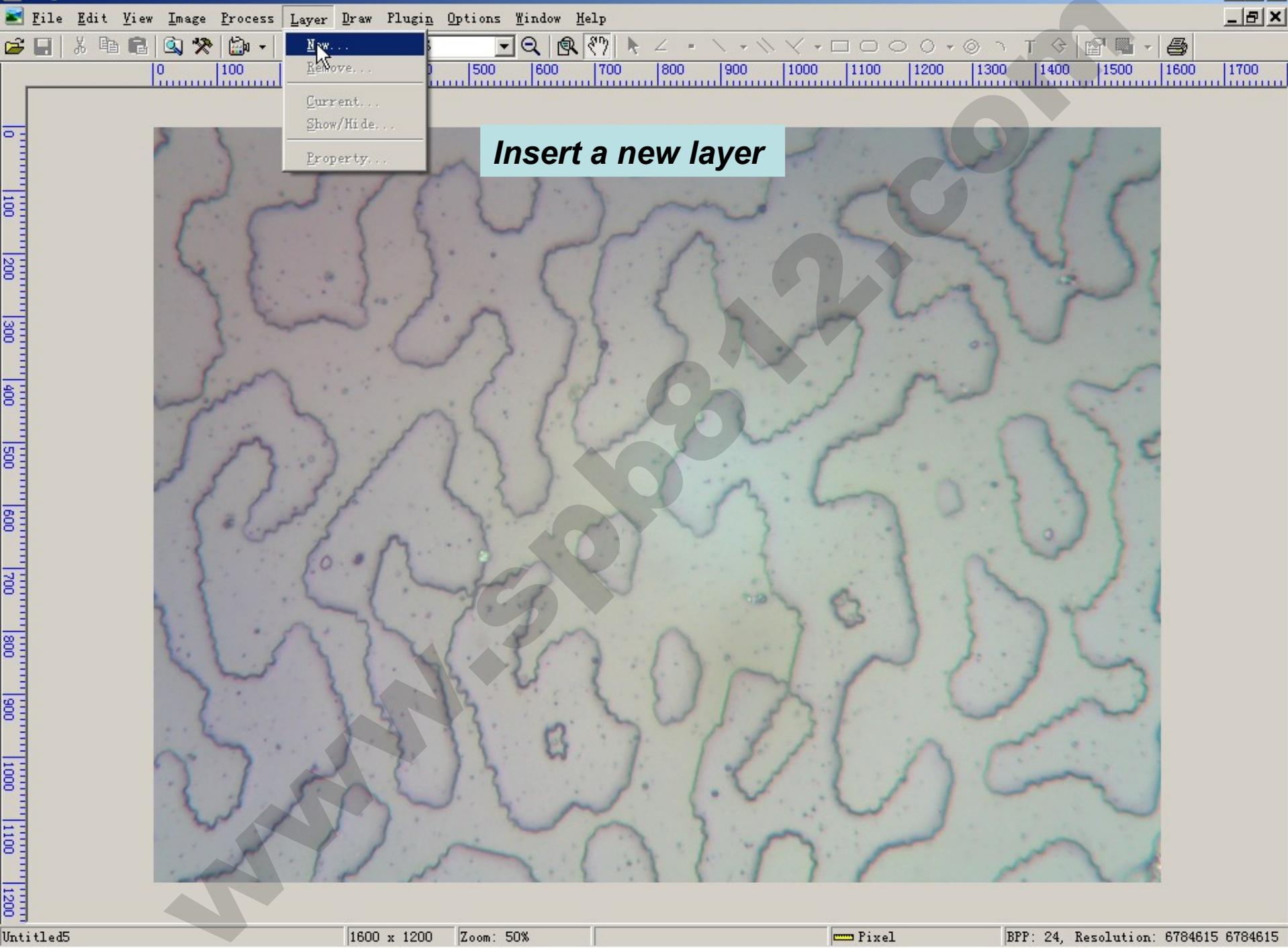


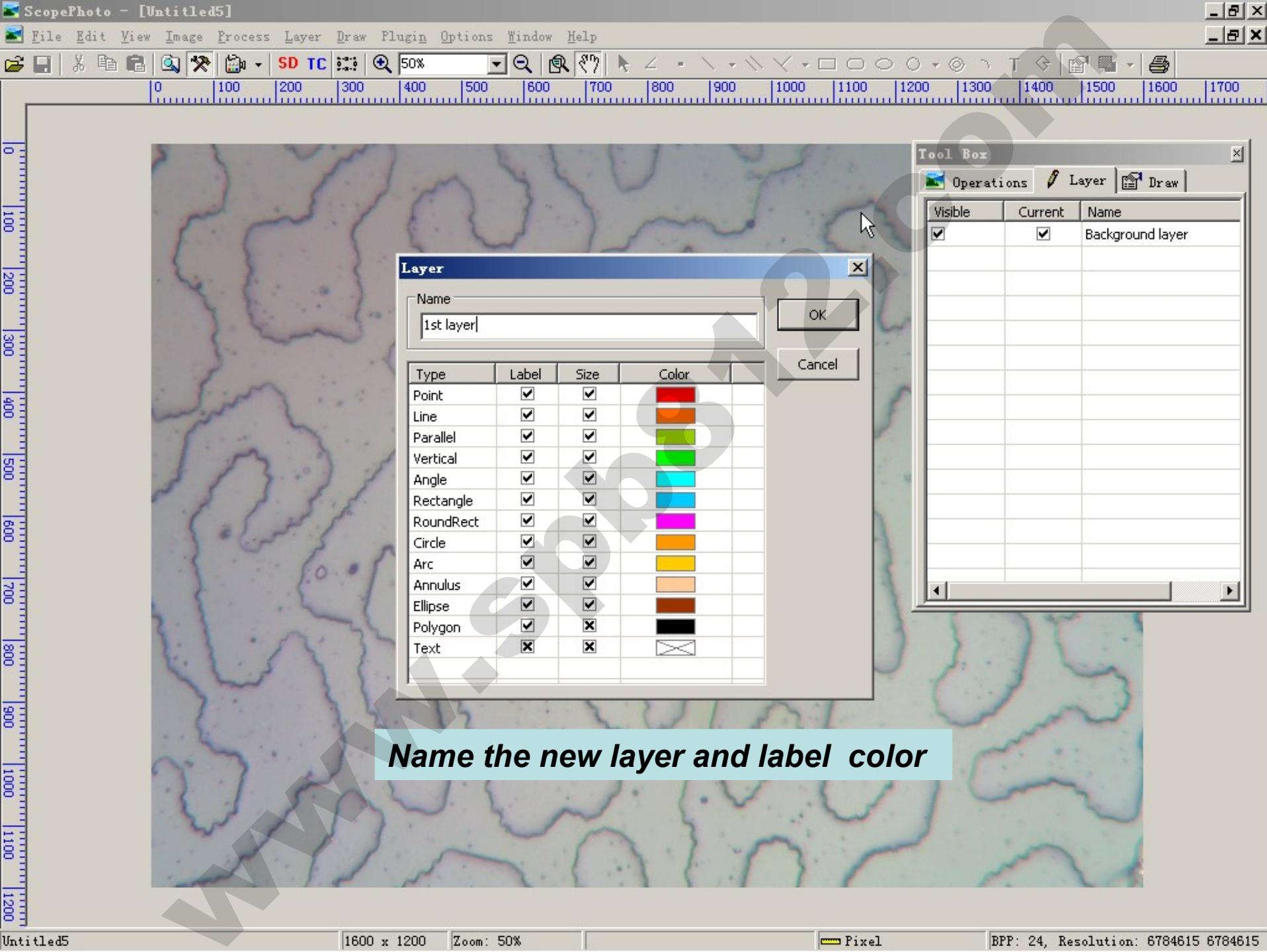


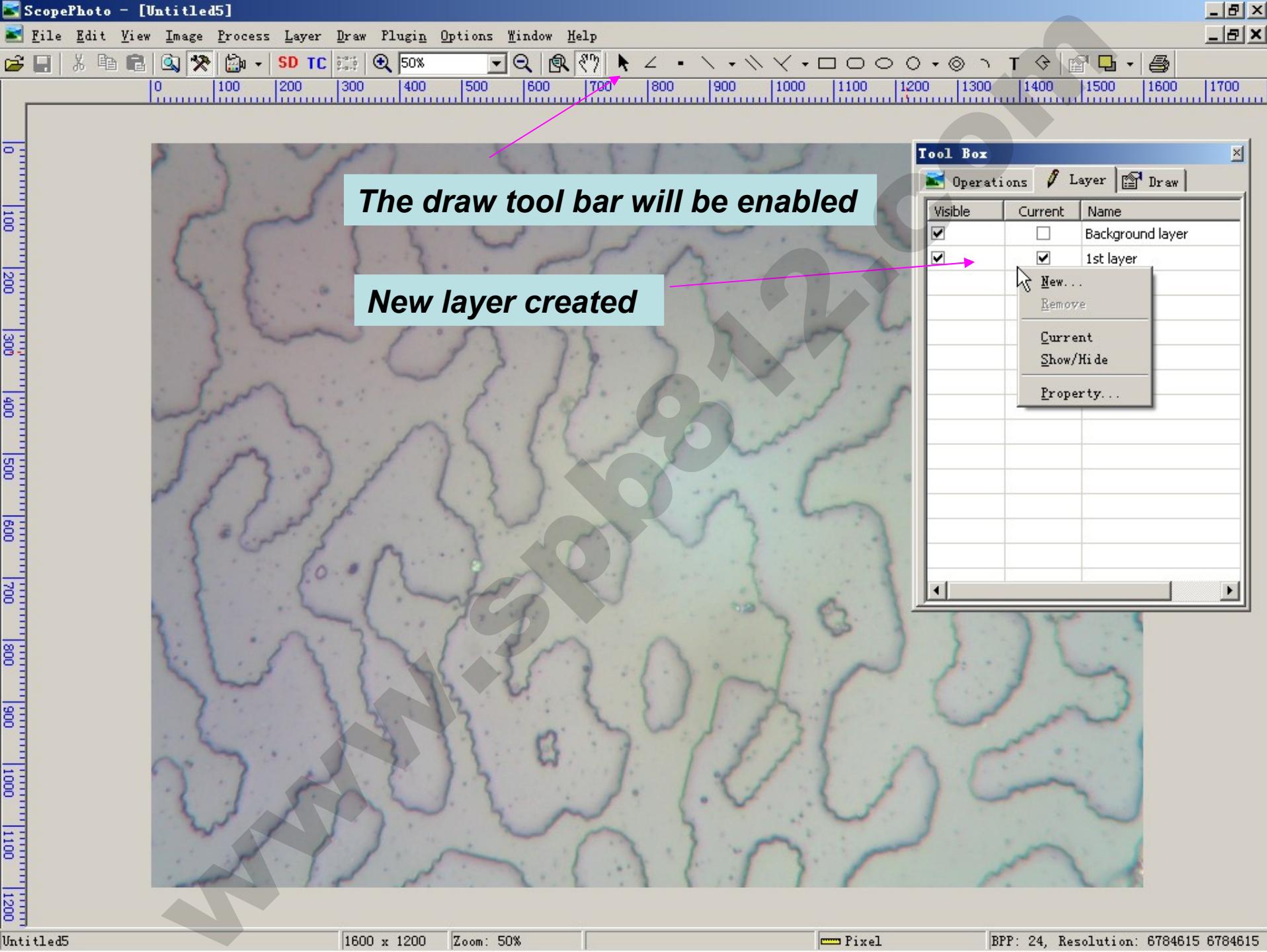


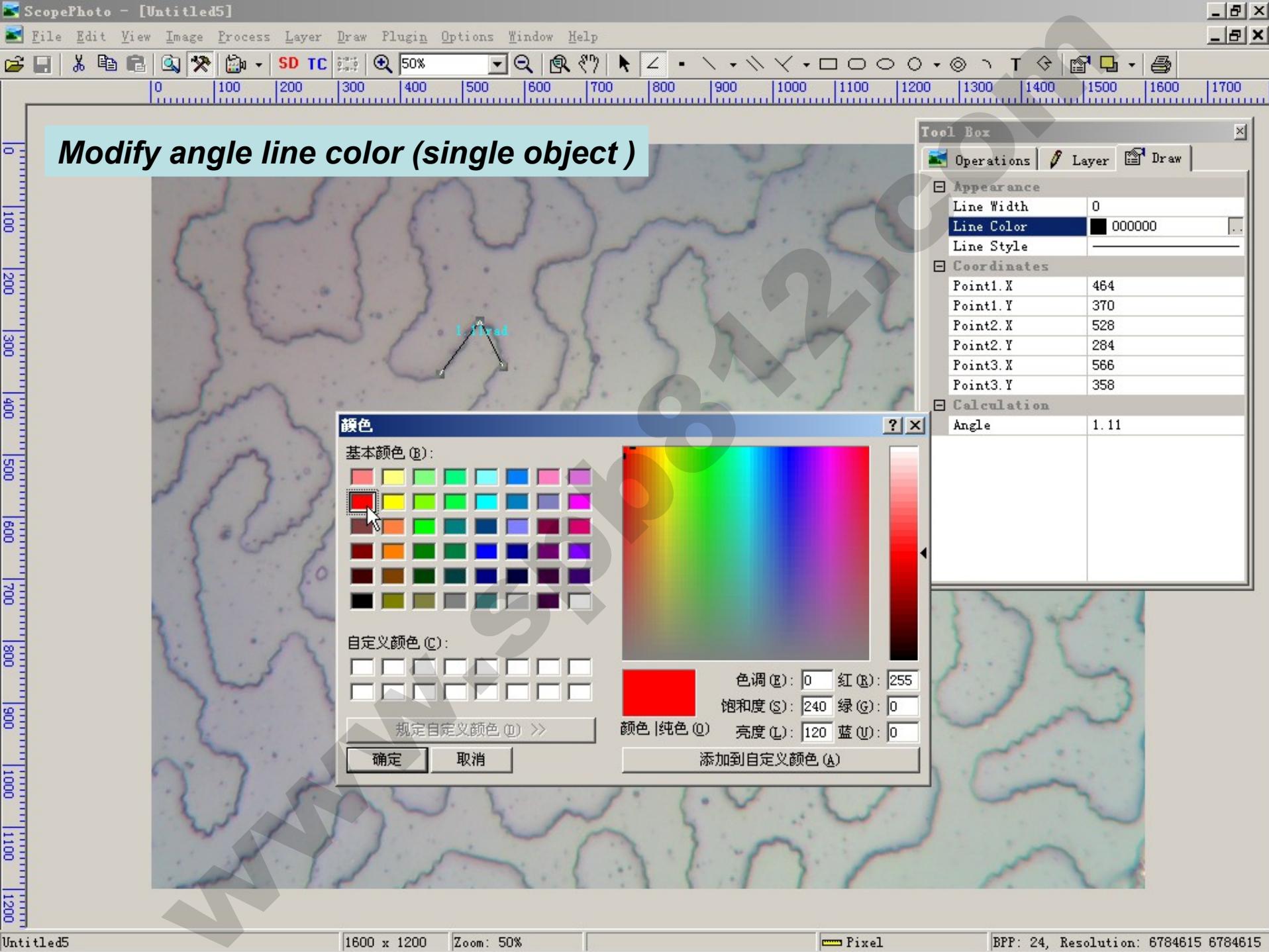


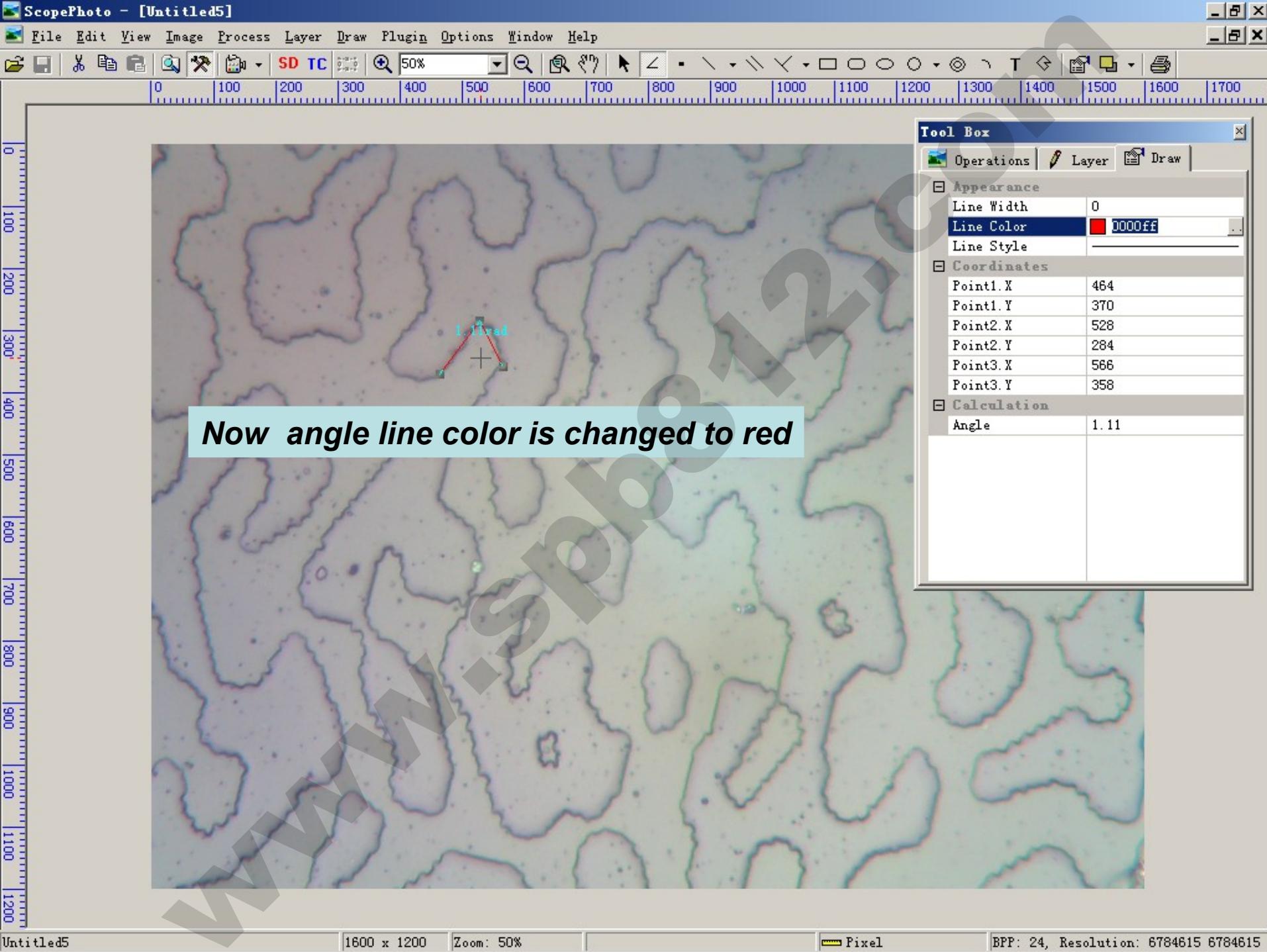
Layer and Draw

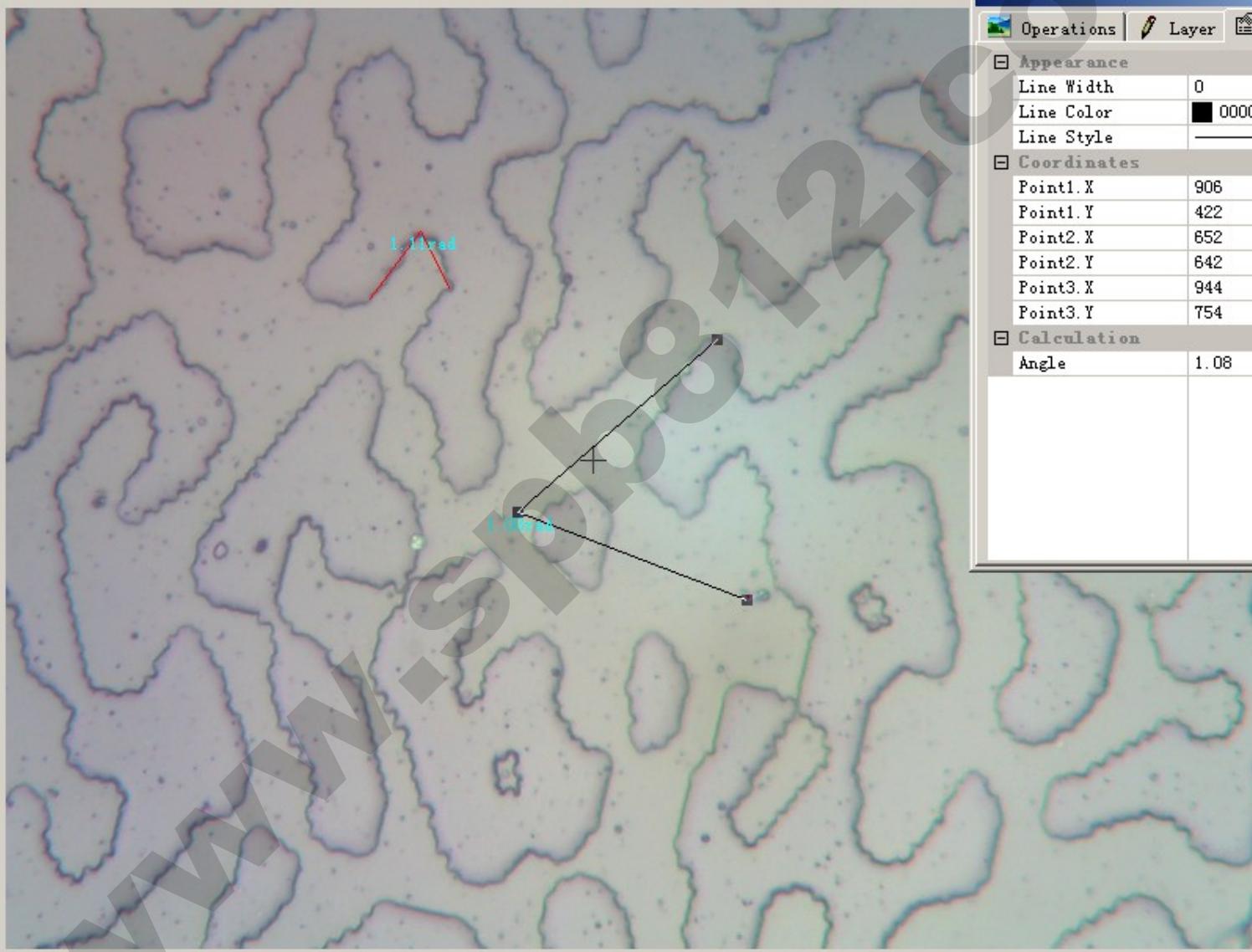












Tool Box

Operations | Layer | Draw

Appearance

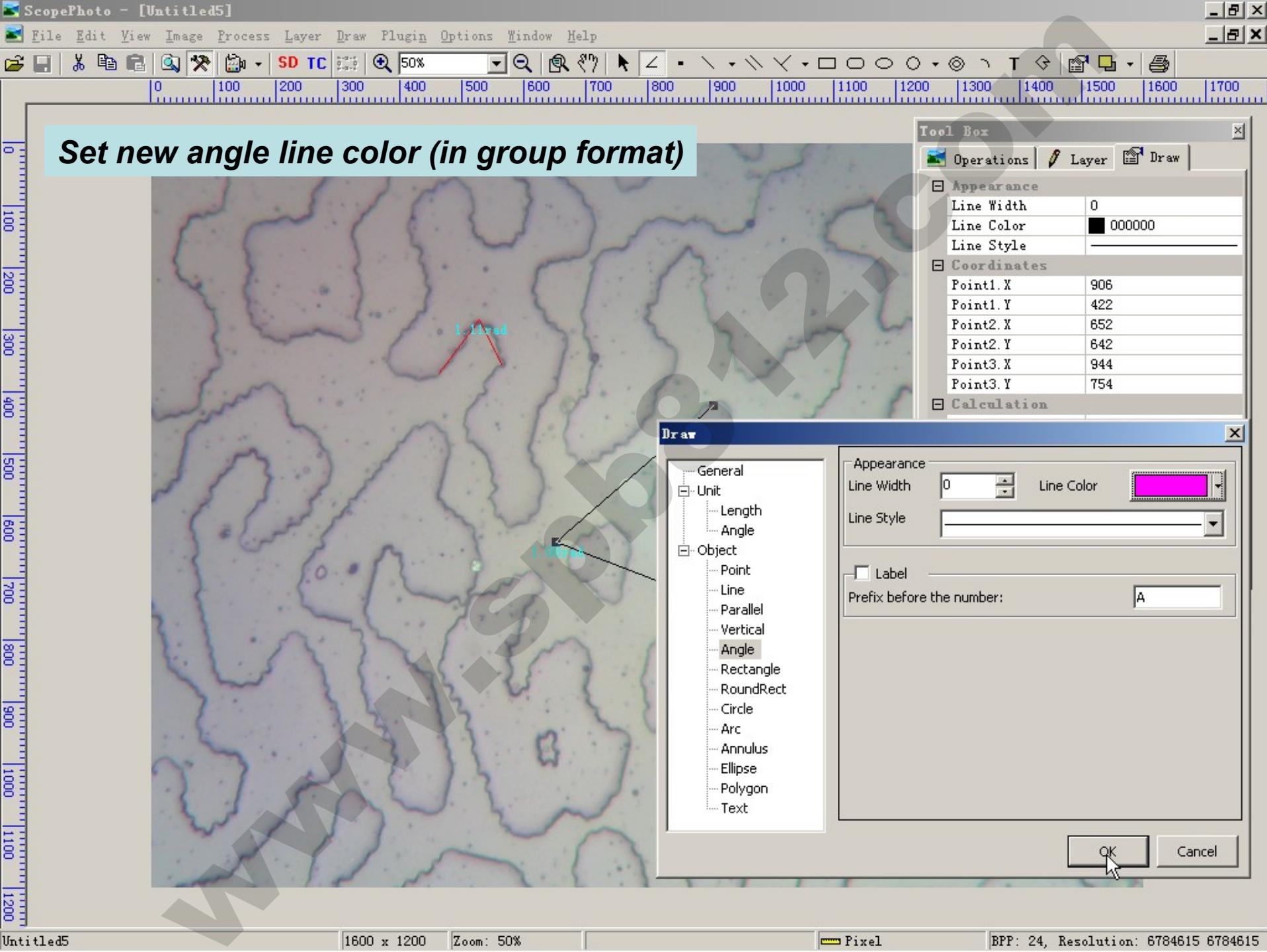
Line Width 0
Line Color #000000
Line Style

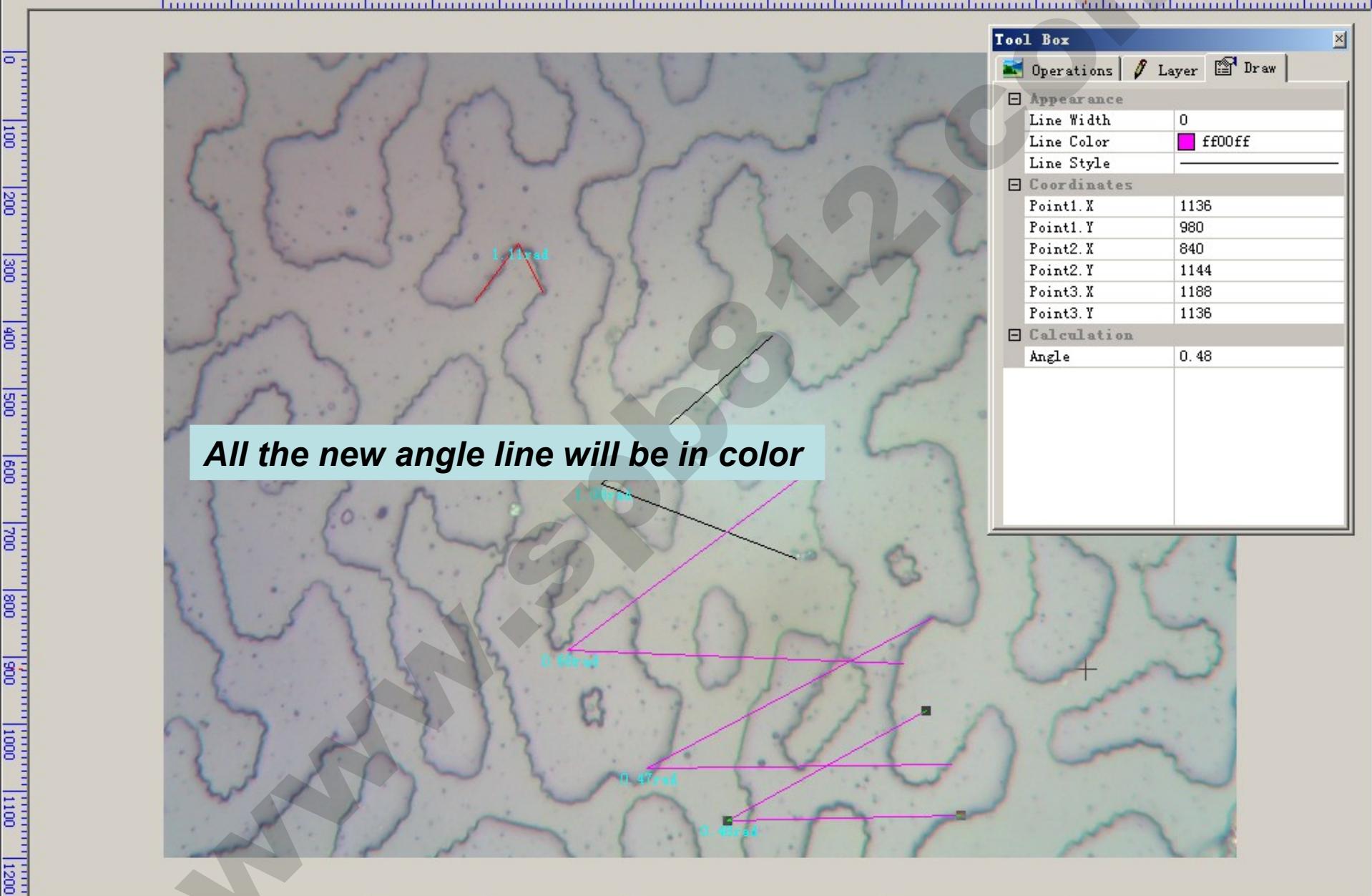
Coordinates

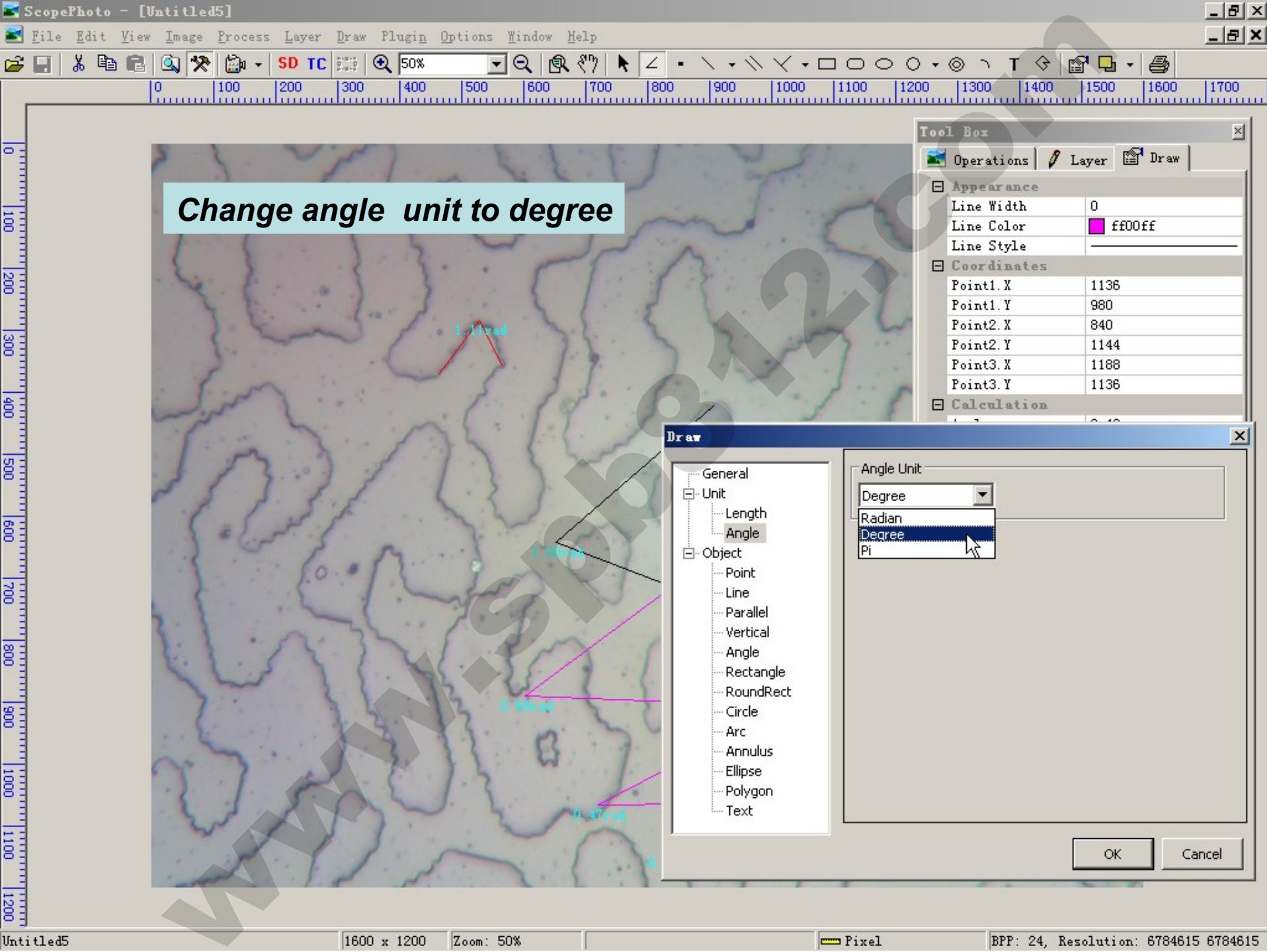
Point1.X 906
Point1.Y 422
Point2.X 652
Point2.Y 642
Point3.X 944
Point3.Y 754

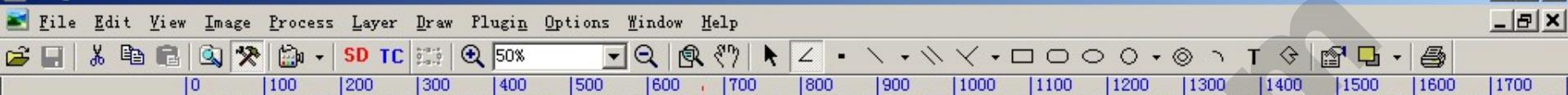
Calculation

Angle 1.08



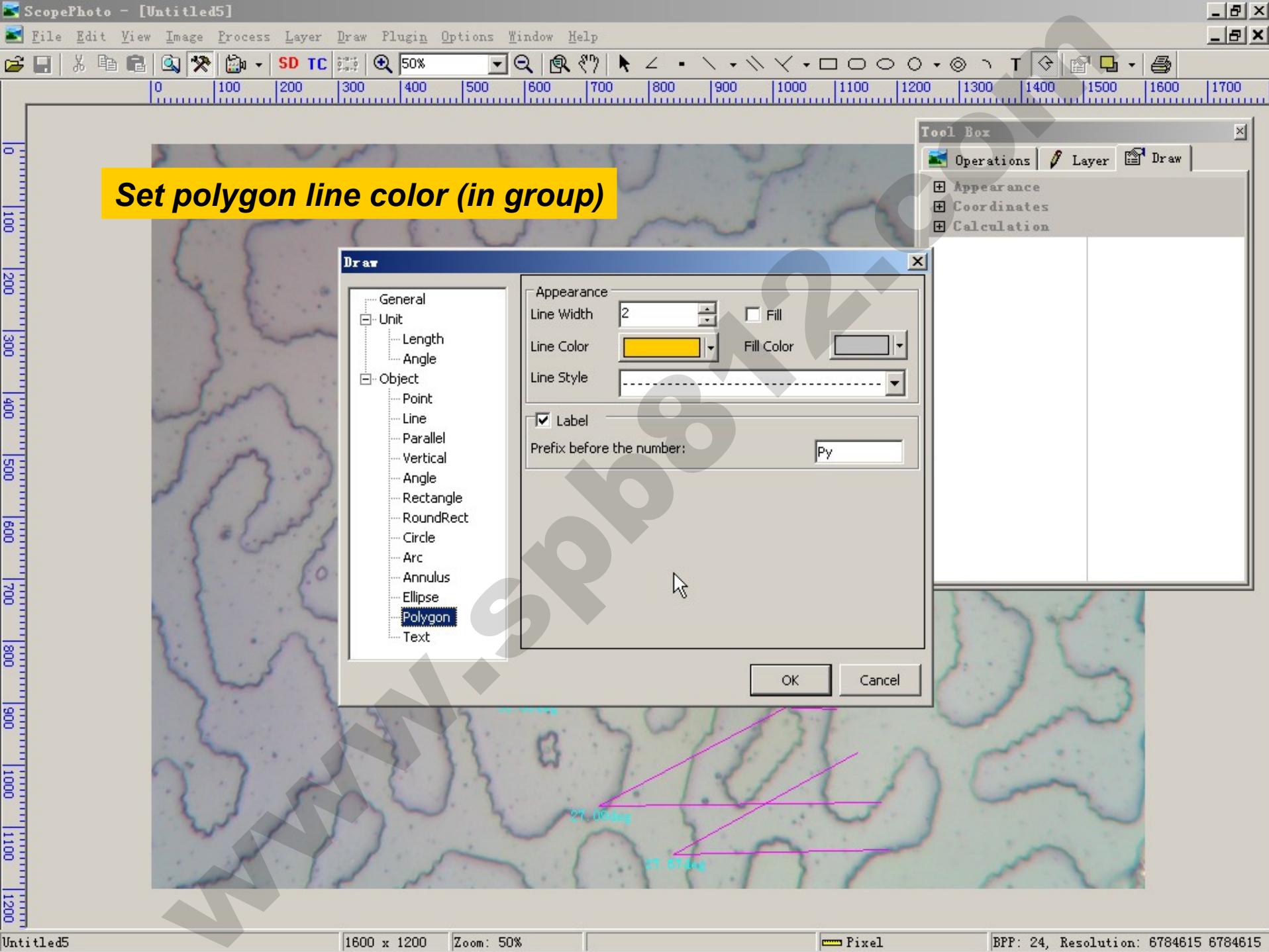


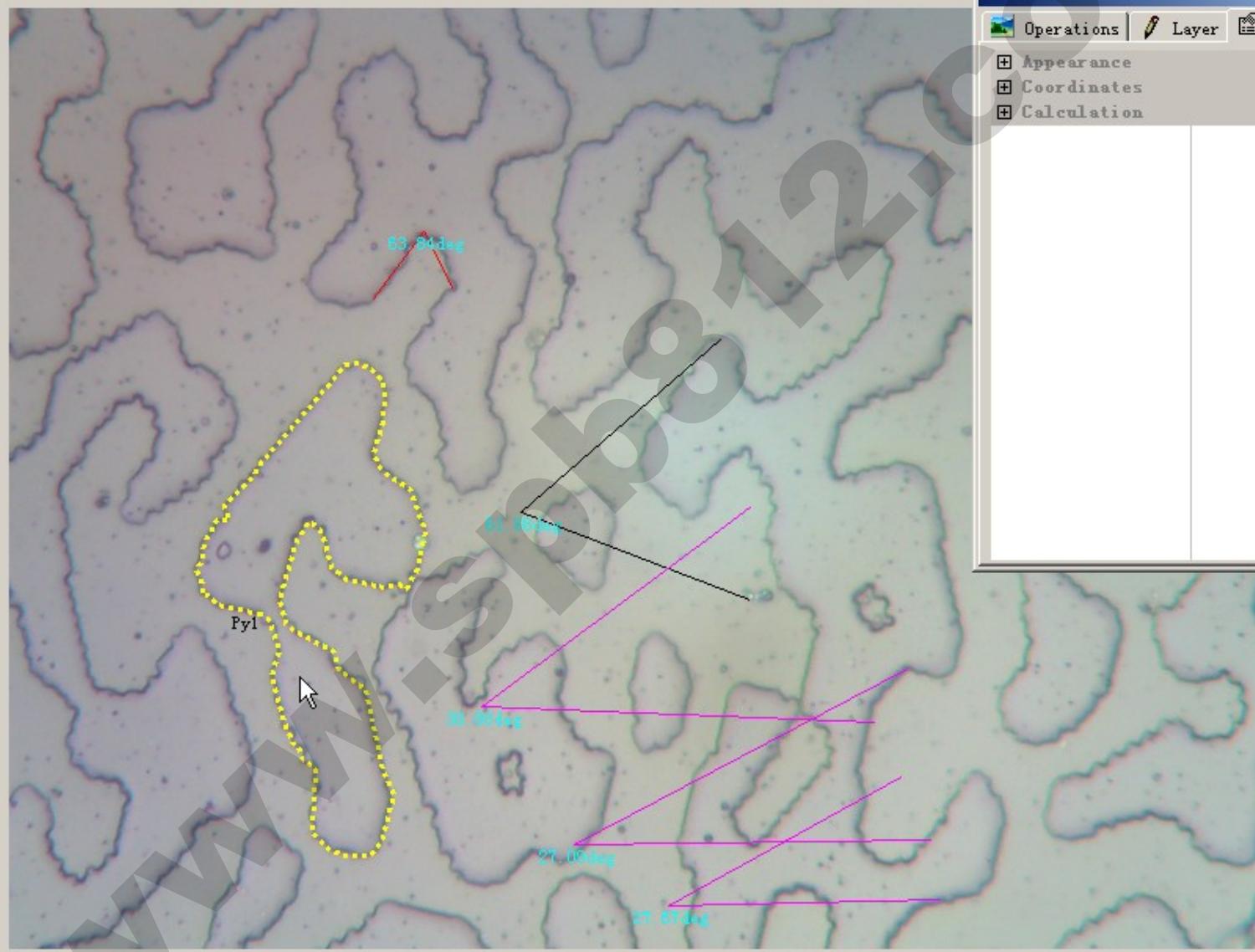




Now the angle is in degree

Tool Box	
Operations Layer Draw	
Appearance	
Line Width	0
Line Color	ff00ff
Line Style	
Coordinates	
Point1.X	1136
Point1.Y	980
Point2.X	840
Point2.Y	1144
Point3.X	1188
Point3.Y	1136
Calculation	
Angle	27.67

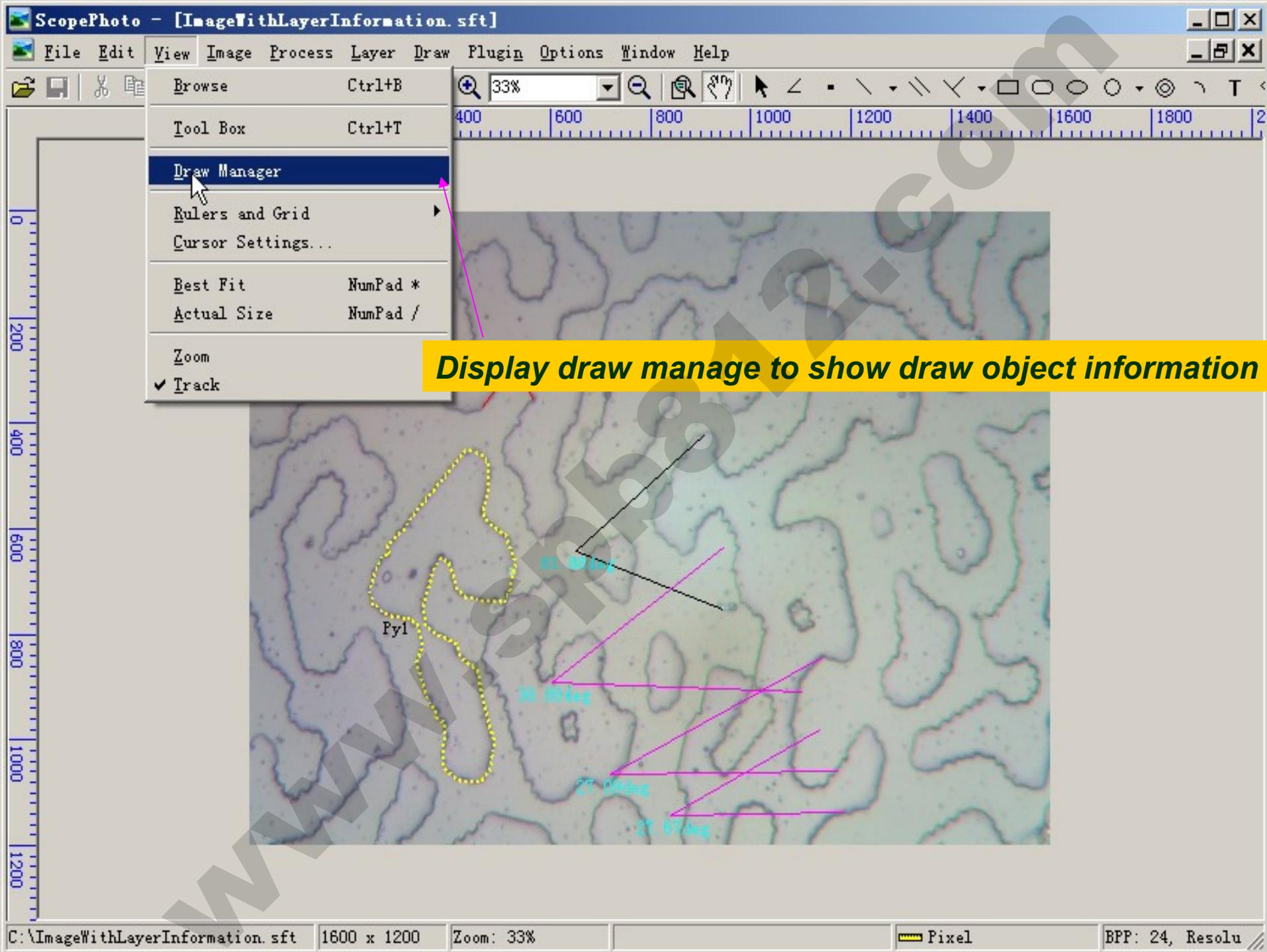


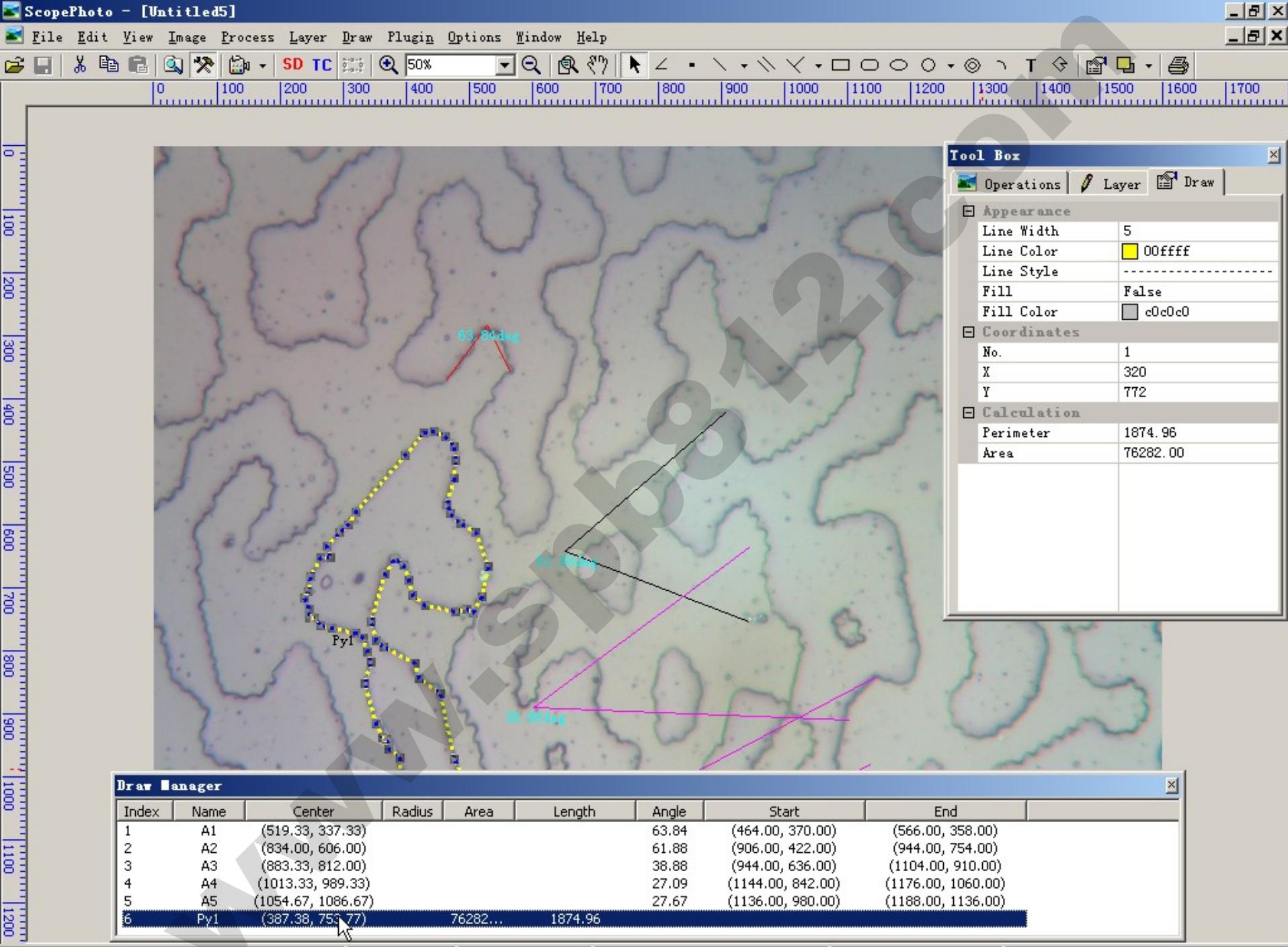


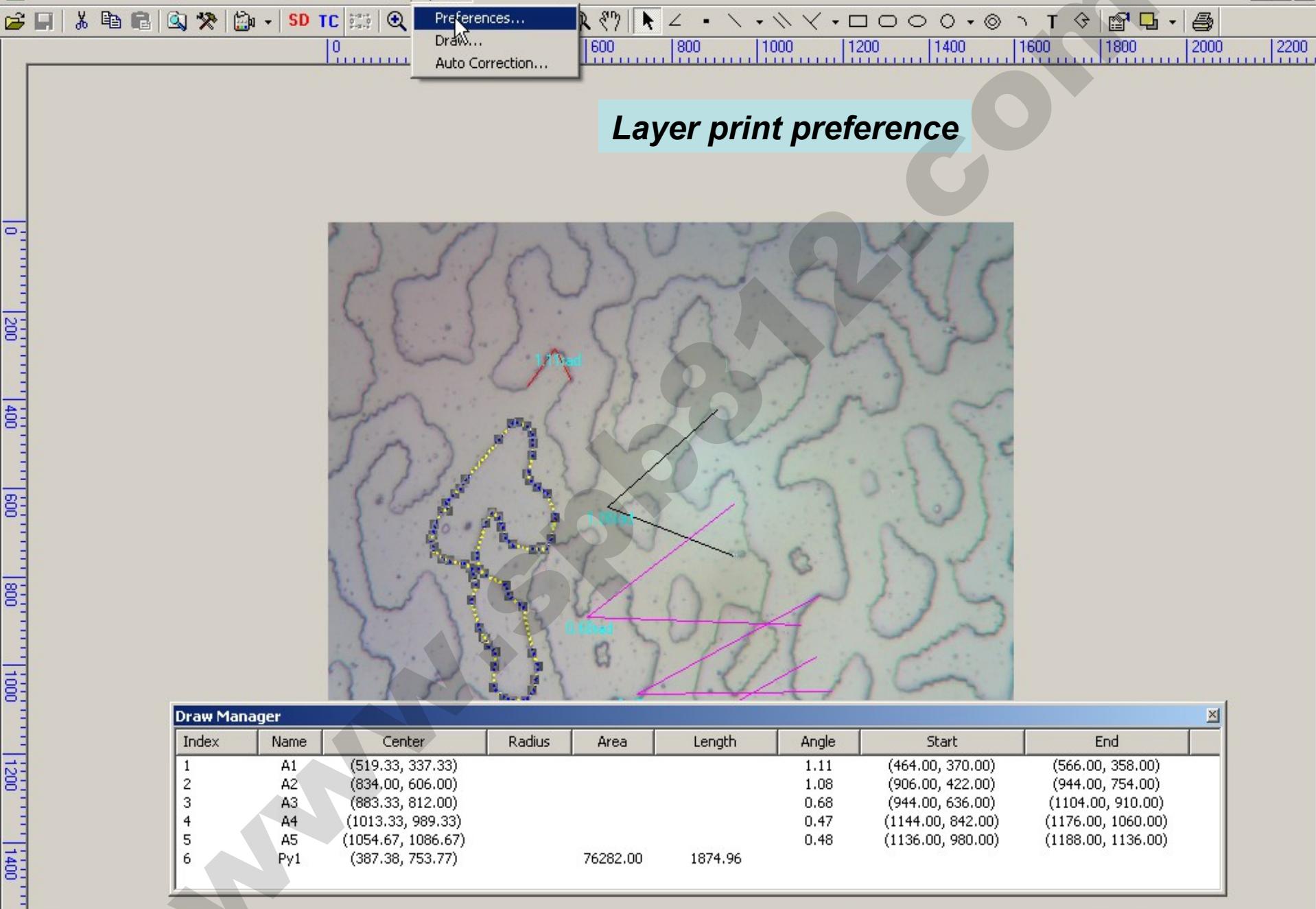
Tool Box

Operations | Layer Draw

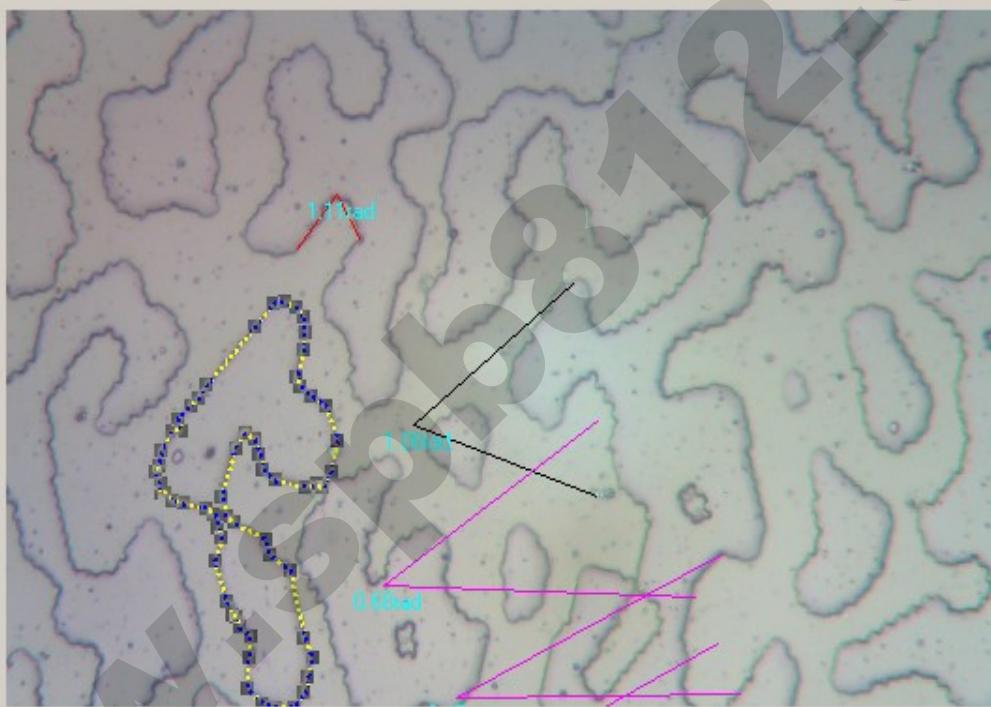
- Appearance
- Coordinates
- Calculation







Layer print preference



Index	Name	Center	Radius	Area	Length	Angle	Start	End
1	A1	(519.33, 337.33)				1.11	(464.00, 370.00)	(566.00, 358.00)
2	A2	(834.00, 606.00)				1.08	(906.00, 422.00)	(944.00, 754.00)
3	A3	(883.33, 812.00)				0.68	(944.00, 636.00)	(1104.00, 910.00)
4	A4	(1013.33, 989.33)				0.47	(1144.00, 842.00)	(1176.00, 1060.00)
5	A5	(1054.67, 1086.67)				0.48	(1136.00, 980.00)	(1188.00, 1136.00)
6	Py1	(387.38, 753.77)		76282.00	1874.96			

ScopePhoto - [ImageWithLayerInformation.sft]

File Edit View Image Process Layer Draw Plugin Options Window Help

SD TC 33% 0 200 400 600 800 1000 1200 1400 1600 1800 2000 2200

Print preference

Preferences

Print

Page Header: Page: &p/&P

Page Footer: &f Date: %Y-%m-%d

Print the measurement items

Print the measurement table

Page Usage: Auto

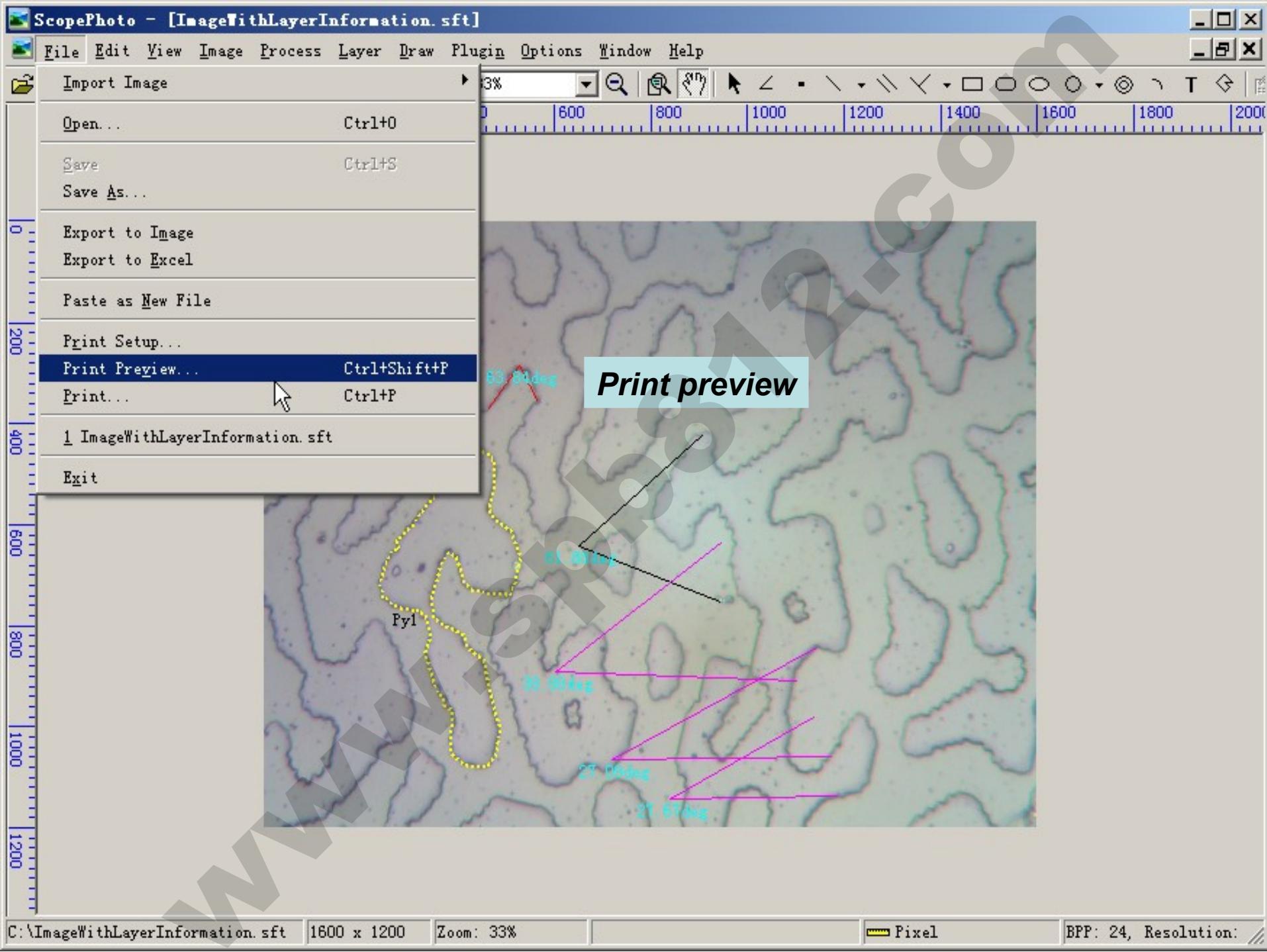
Always Use another paper
Auto
Don't use another paper

OK Cancel Apply

Draw Manager

Index	Name	Center	Radius	Area	Length	Angle	Start	End
1	A1	(519.33, 337.33)				1.11	(464.00, 370.00)	(566.00, 358.00)
2	A2	(834.00, 606.00)				1.08	(906.00, 422.00)	(944.00, 754.00)
3	A3	(883.33, 812.00)				0.68	(944.00, 636.00)	(1104.00, 910.00)
4	A4	(1013.33, 989.33)				0.47	(1144.00, 842.00)	(1176.00, 1060.00)
5	A5	(1054.67, 1086.67)				0.48	(1136.00, 980.00)	(1188.00, 1136.00)
6	Py1	(387.38, 753.77)		76282.00	1874.96			

G:\ImageWithLayerInformation.sft 1600 x 1200 Zoom: 33% Pixel BPP: 24, Resolution: 6784615 6784615



Print...

Next Page

Prey Page

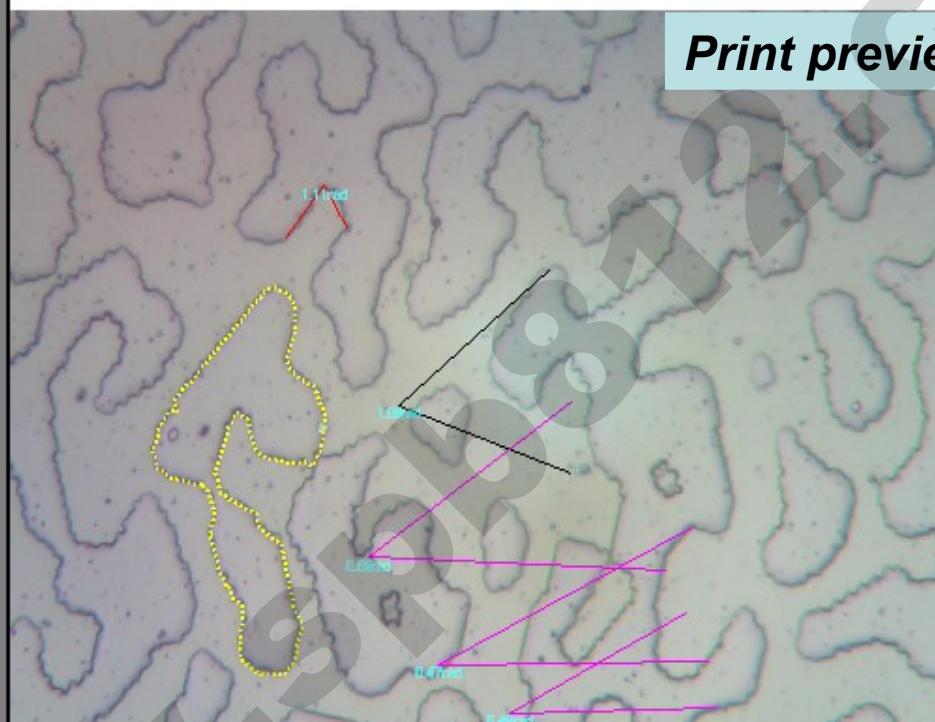
Two Page

Zoom In

Zoom Out

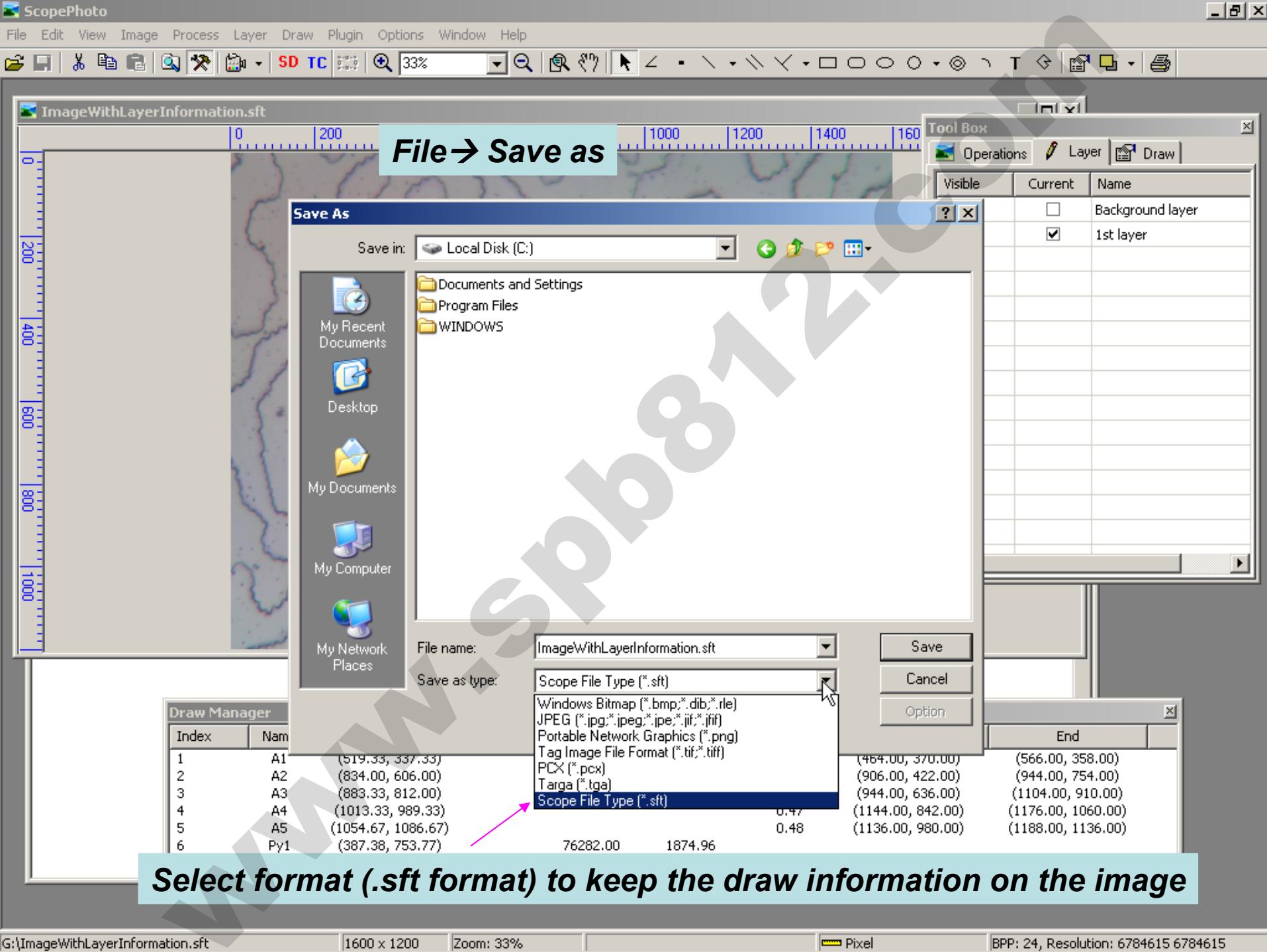
Close

Page: 1/1

Print preview

Index	Name	Center	Radius	Area	Length	Angle	Start	End
1st layer								
1	A1	(519.33, 337.33)				1.11	(464.00, 370.00)	(566.00, 358.00)
2	A2	(834.00, 608.00)				1.08	(908.00, 422.00)	(944.00, 754.00)
3	A3	(883.33, 812.00)				0.68	(944.00, 636.00)	(1104.00, 910.00)
4	A4	(1013.33, 989.33)				0.47	(1144.00, 842.00)	(1176.00, 1080.00)
5	A5	(1054.67, 1086.67)				0.48	(1136.00, 980.00)	(1188.00, 1136.00)
6	Py1	(387.38, 753.77)		7628200	1874.96			

ImageWithLayerInformation.sft Date: 2007-05-30



Import Image

Open...

Ctrl

Save

Ctrl+S

Save As...

Export to Image

Export to Excel

Paste as New File

Print Setup...

Print Preview...

Ctrl+Shift+P

Print...

Ctrl+P

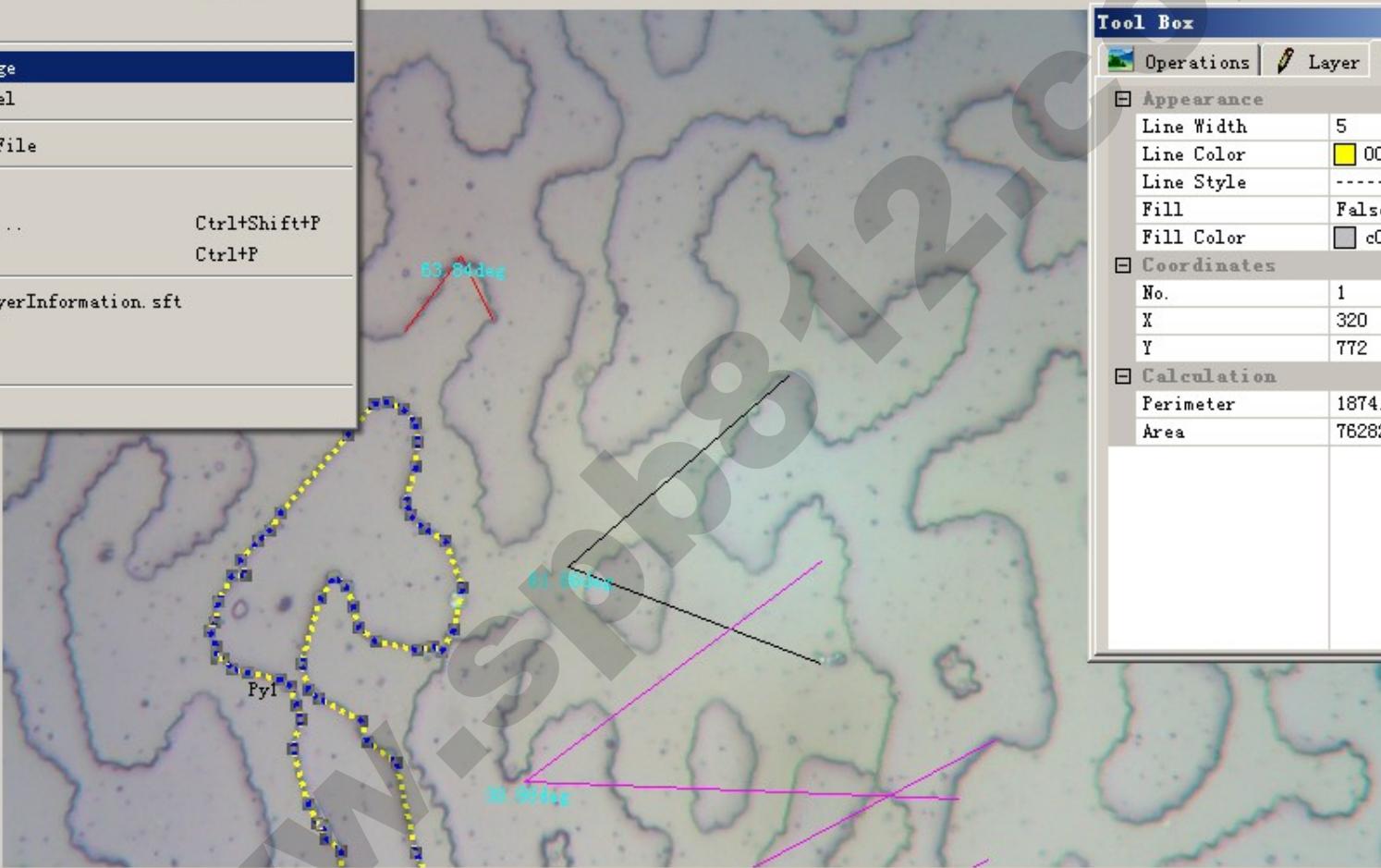
1 ImageWithLayerInformation.sft

2 C:\test.bmp

3 test.bmp

Exit

Export data to Image (unrecoverable)



Tool Box

Operations | Layer | Draw |

Appearance

Line Width: 5

Line Color: #00ffff

Line Style: -----

Fill: False

Fill Color: #c0c0c0

Coordinates

No.: 1

X: 320

Y: 772

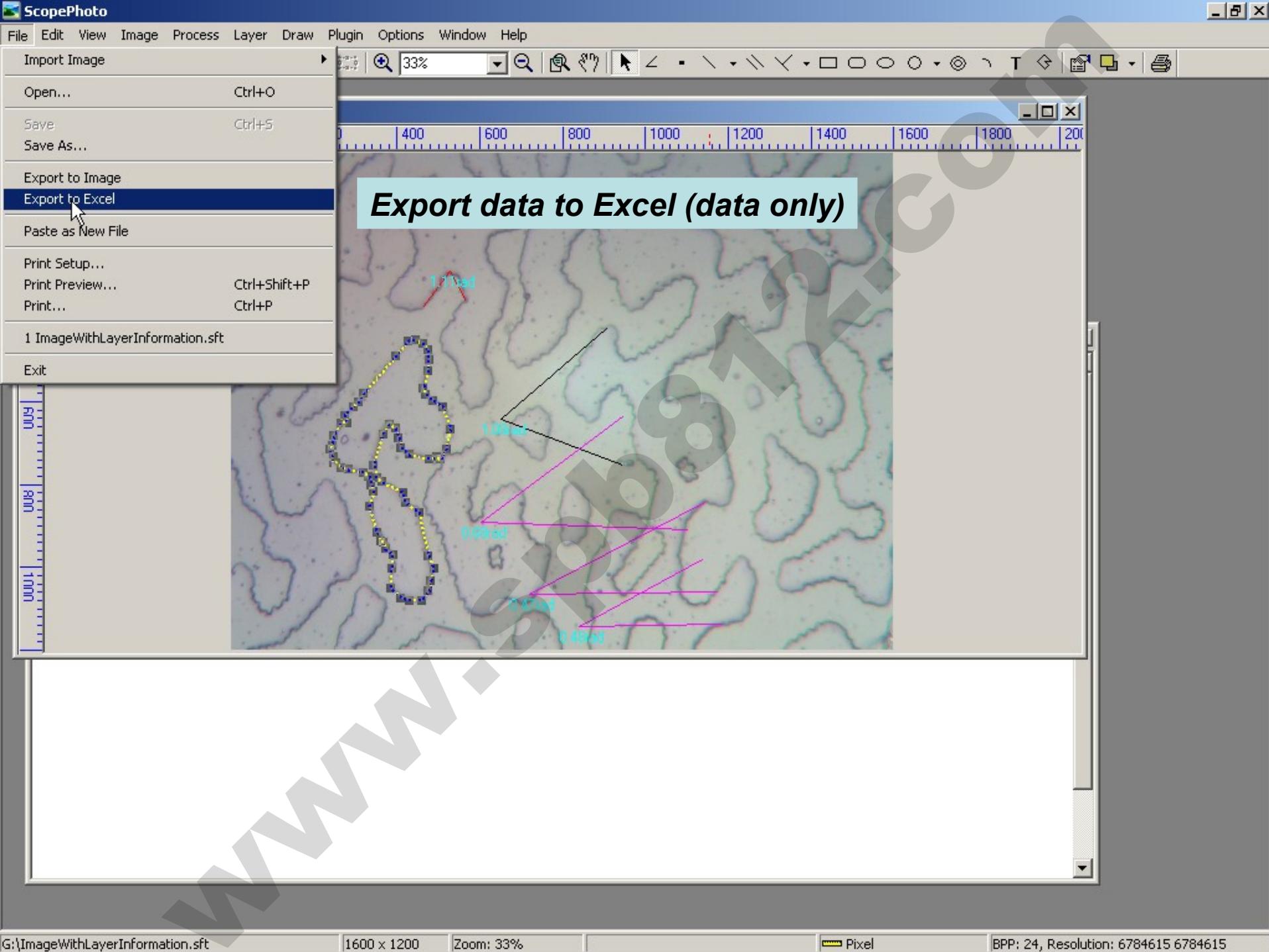
Calculation

Perimeter: 1874.96

Area: 76282.00

Draw Manager

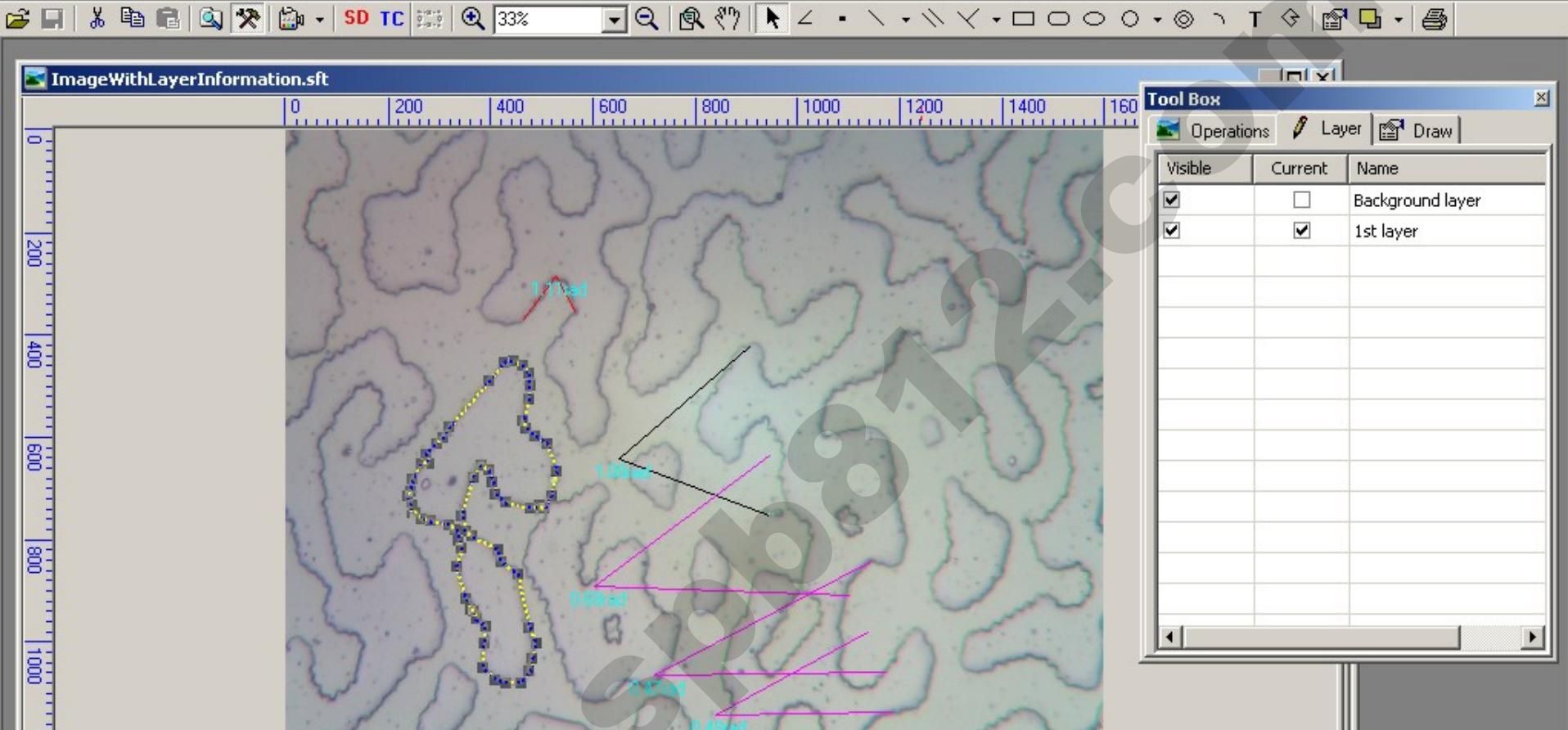
Index	Name	Center	Radius	Area	Length	Angle	Start	End
1	A1	(519.33, 337.33)				63.84	(464.00, 370.00)	(566.00, 358.00)
2	A2	(834.00, 606.00)				61.88	(906.00, 422.00)	(944.00, 754.00)
3	A3	(883.33, 812.00)				38.88	(944.00, 636.00)	(1104.00, 910.00)
4	A4	(1013.33, 989.33)				27.09	(1144.00, 842.00)	(1176.00, 1060.00)
5	A5	(1054.67, 1086.67)				27.67	(1136.00, 980.00)	(1188.00, 1136.00)
6	Py1	(387.38, 753.77)		76282...	1874.96			



Microsoft Excel - Sheet1

Type a question for help

	A	B	C	D	E	F	G	H	I	J	K	L	M
1													
2	Name	Center	Radius	Area	Length	Angle	Start	End					
3	A1	(519.33, 337.33)				1.11	(464.00, 370.00)	(566.00, 368.00)					
4	A2	(834.00, 606.00)				1.08	(906.00, 422.00)	(944.00, 754.00)					
5	A3	(883.33, 812.00)				0.68	(944.00, 636.00)	(1104.00, 910.00)					
6	A4	(1013.33, 989.33)				0.47	(1144.00, 842.00)	(1176.00, 1060.00)					
7	A5	(1054.67, 1086.67)				0.48	(1136.00, 980.00)	(1188.00, 1136.00)					
8	Py1	(387.38, 753.77)		76282	1874.96								
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
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28													
29													
30													
31													
32													
33													
34													
35													
36													
37													



Export data to HTML (data only)

Draw Manager

Index	Name	Center	Radius	Area	Length
1	A1	(519.33, 337.33)			
2	A2	(834.00, 606.00)			
3	A3	(883.33, 812.00)			
4	A4	(1013.33, 989.33)			
5	A5	(1054.67, 1086.67)			
6	Py1	(387.38, 753.77)			

File Import...
File Save...
Export ▾
To Clipboard ▾
To Html File
To Excel...
Settings...

Start	End
(566.00, 358.00)	(566.00, 358.00)
(944.00, 754.00)	(944.00, 754.00)
(1104.00, 910.00)	(1104.00, 910.00)
(1176.00, 1060.00)	(1176.00, 1060.00)
(1188.00, 1136.00)	(1188.00, 1136.00)



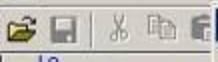
Layer Name	Index	Name	Center	Radius	Area	Length	Angle	Start	End
1st layer	1	A1	(519.33, 337.33)	¶	¶	¶	1.11	(464.00, 370.00)	(566.00, 358.00)
	2	A2	(834.00, 606.00)	¶	¶	¶	1.08	(906.00, 422.00)	(944.00, 754.00)
	3	A3	(883.33, 812.00)	¶	¶	¶	0.68	(944.00, 636.00)	(1104.00, 910.00)
	4	A4	(1013.33, 989.33)	¶	¶	¶	0.47	(1144.00, 842.00)	(1176.00, 1060.00)
	5	A5	(1054.67, 1086.67)	¶	¶	¶	0.48	(1136.00, 980.00)	(1188.00, 1136.00)
	6	Py1	(387.38, 753.77)	¶	76282.00	1874.96	¶	¶	¶

Length Unit:Pixel, Angle Unit:radian



Image Processing

www.Sp812.com



Mode

Color Quantize...

Adjust

Grayscale

Rotate

Crop

Image Scale...

Histogram...

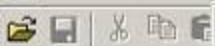
Resolution...

Grayscale

ScopePhoto - [Untitled4]

File Edit View Image Process Layer Draw Plugin Options Window Help





Mode

TC

100%

Zoom

100%

Search

Search

Pan

Crop

Select

Transform

Text

Image

Print

Save

Save As

Print Preview

Exit

Adjust

Rotate

Crop

Image Scale...

Histogram...

Resolution...

Curve...

Auto Level

Auto Contrast

Auto Color

Histogram Equalization

Brightness/Contrast...

Color...

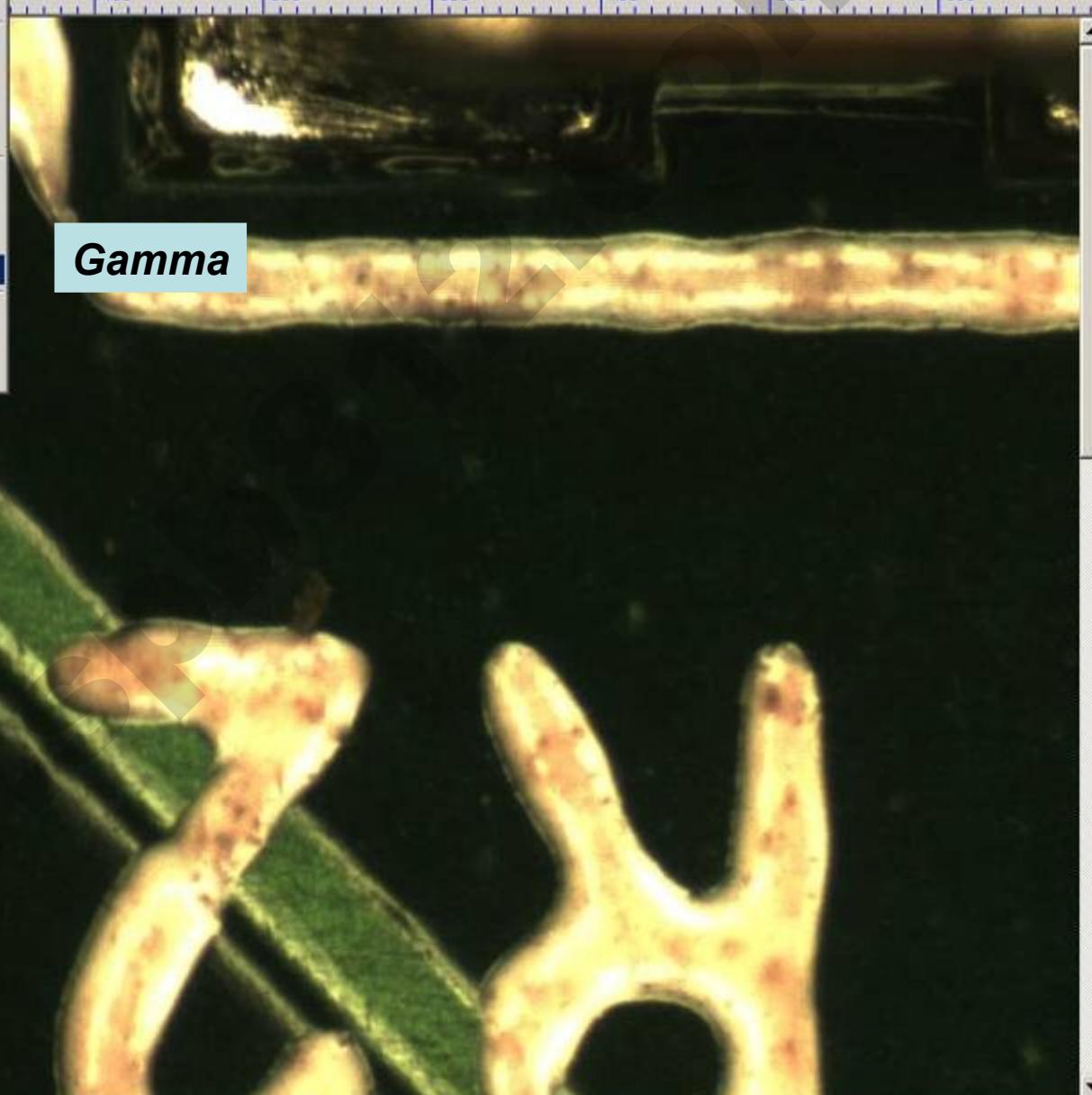
HMS...

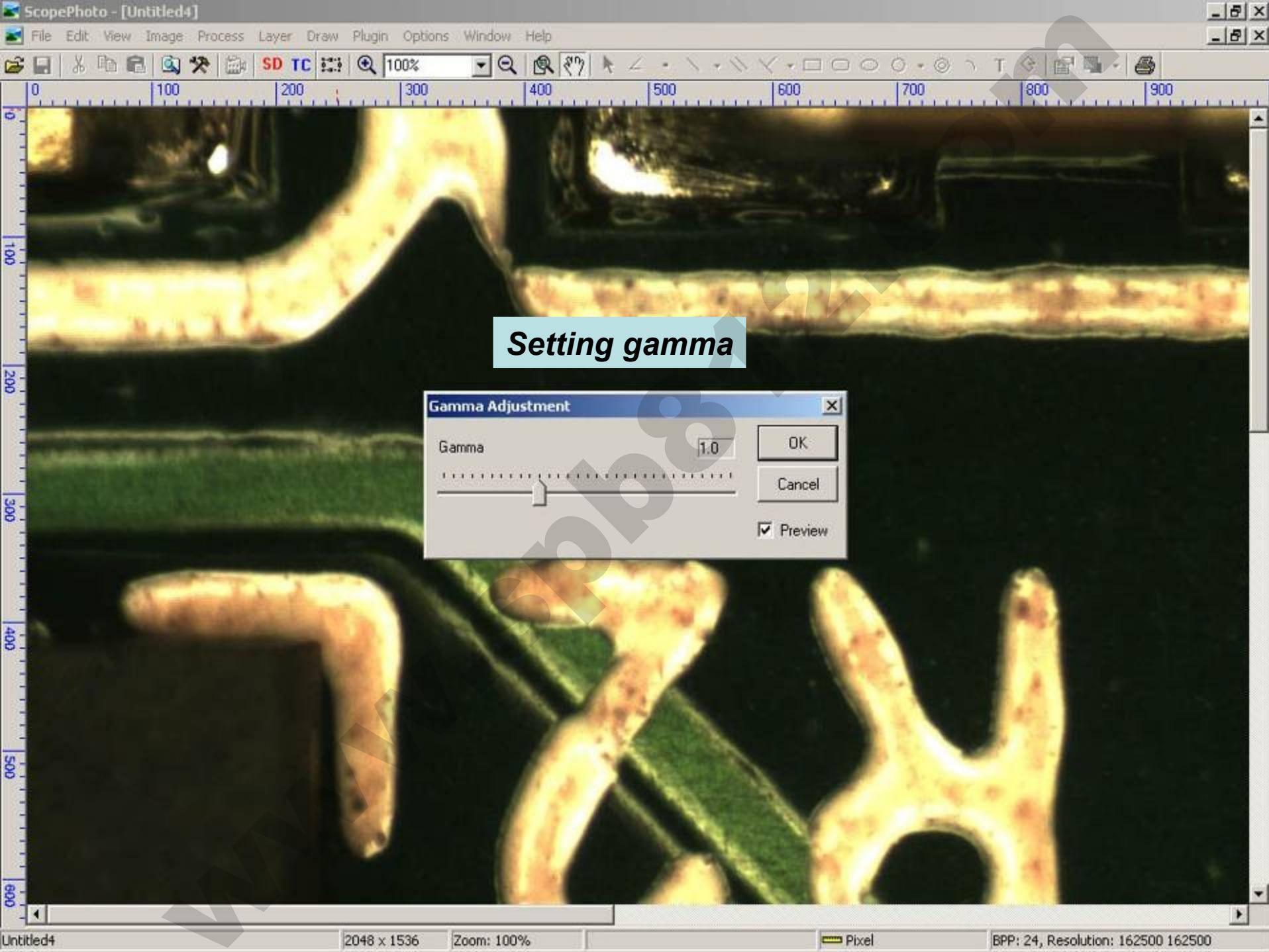
Gamma...

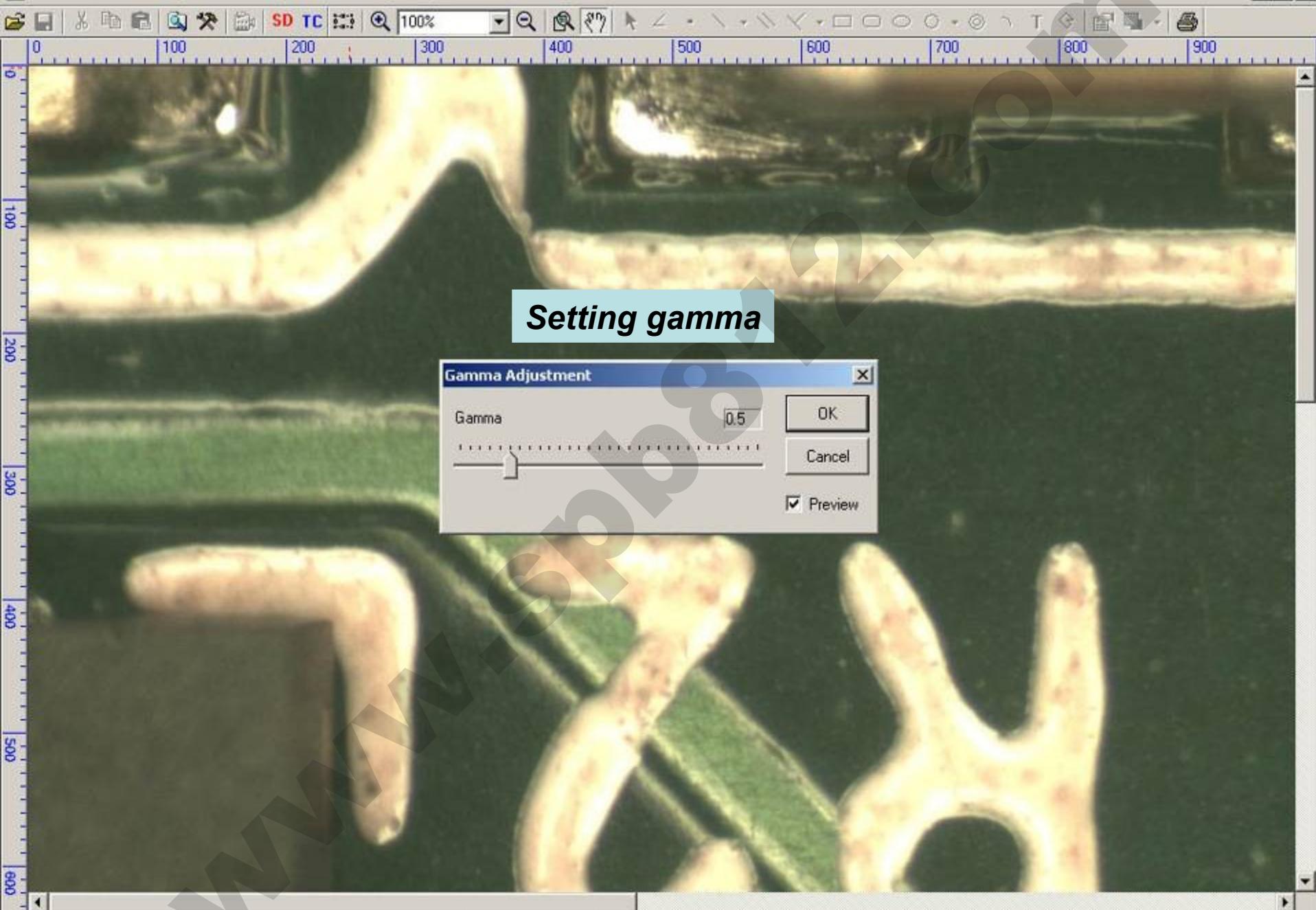
Filter Color...

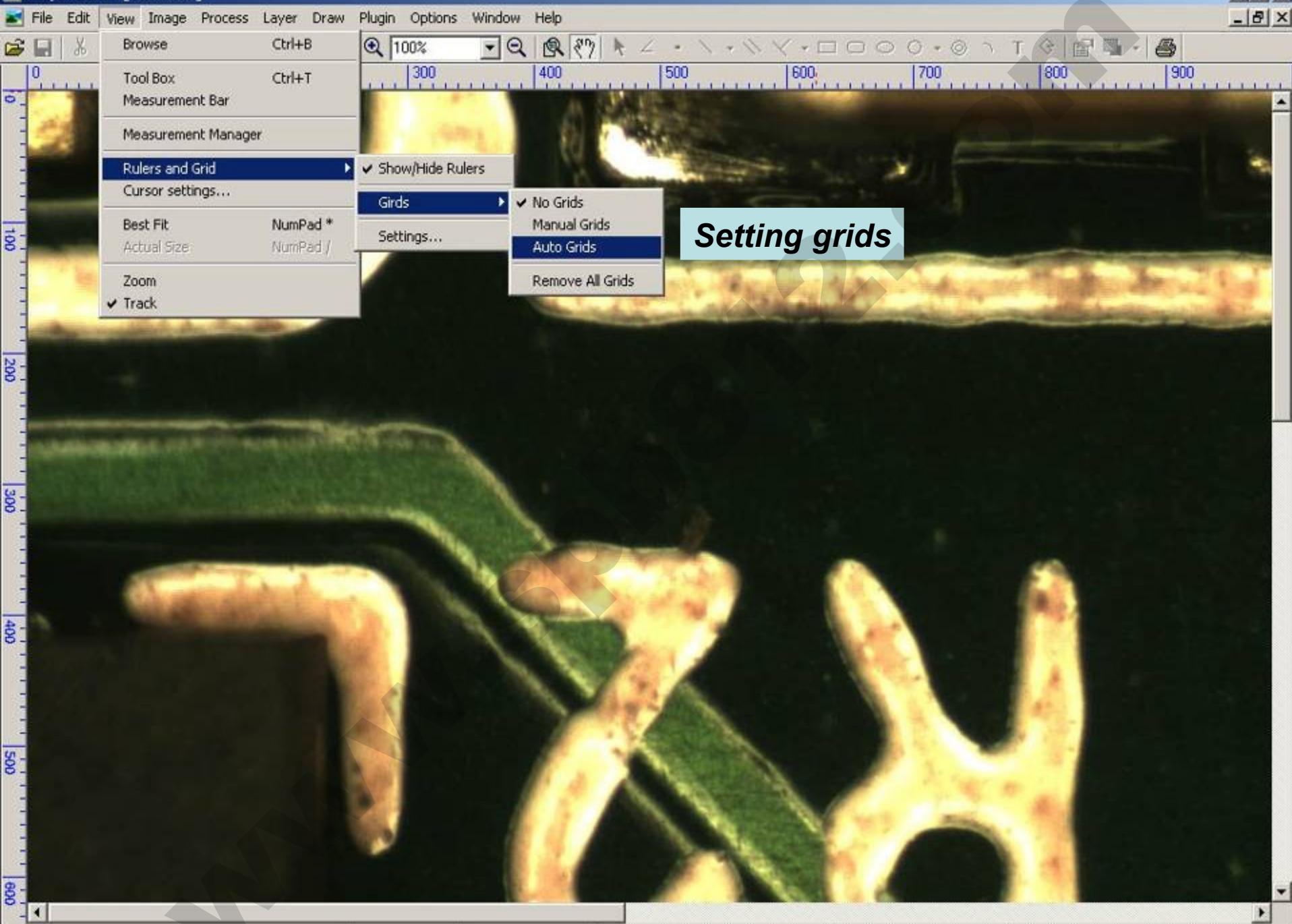
Extract Color...

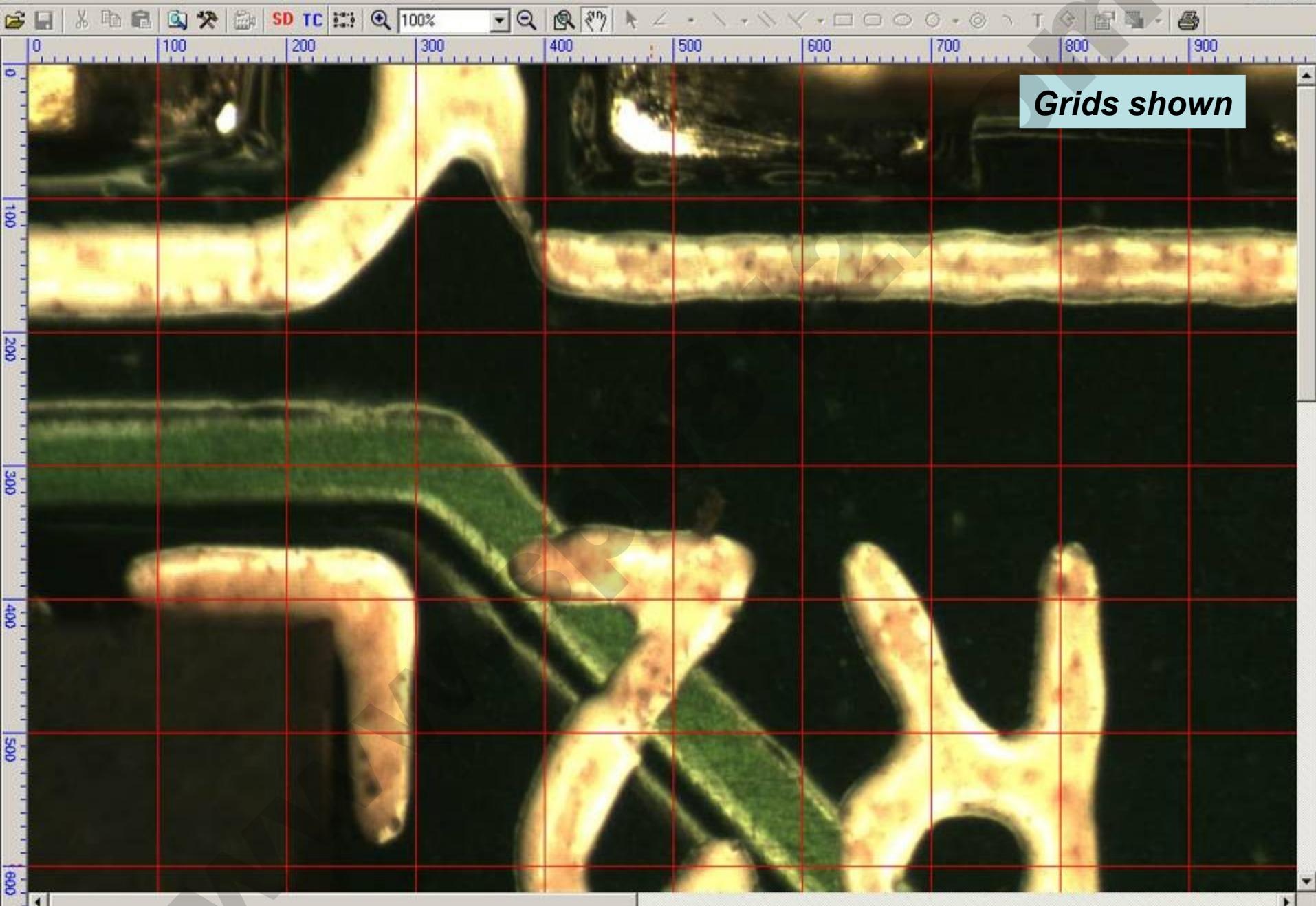
Invert









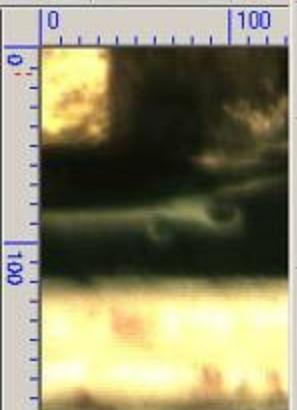


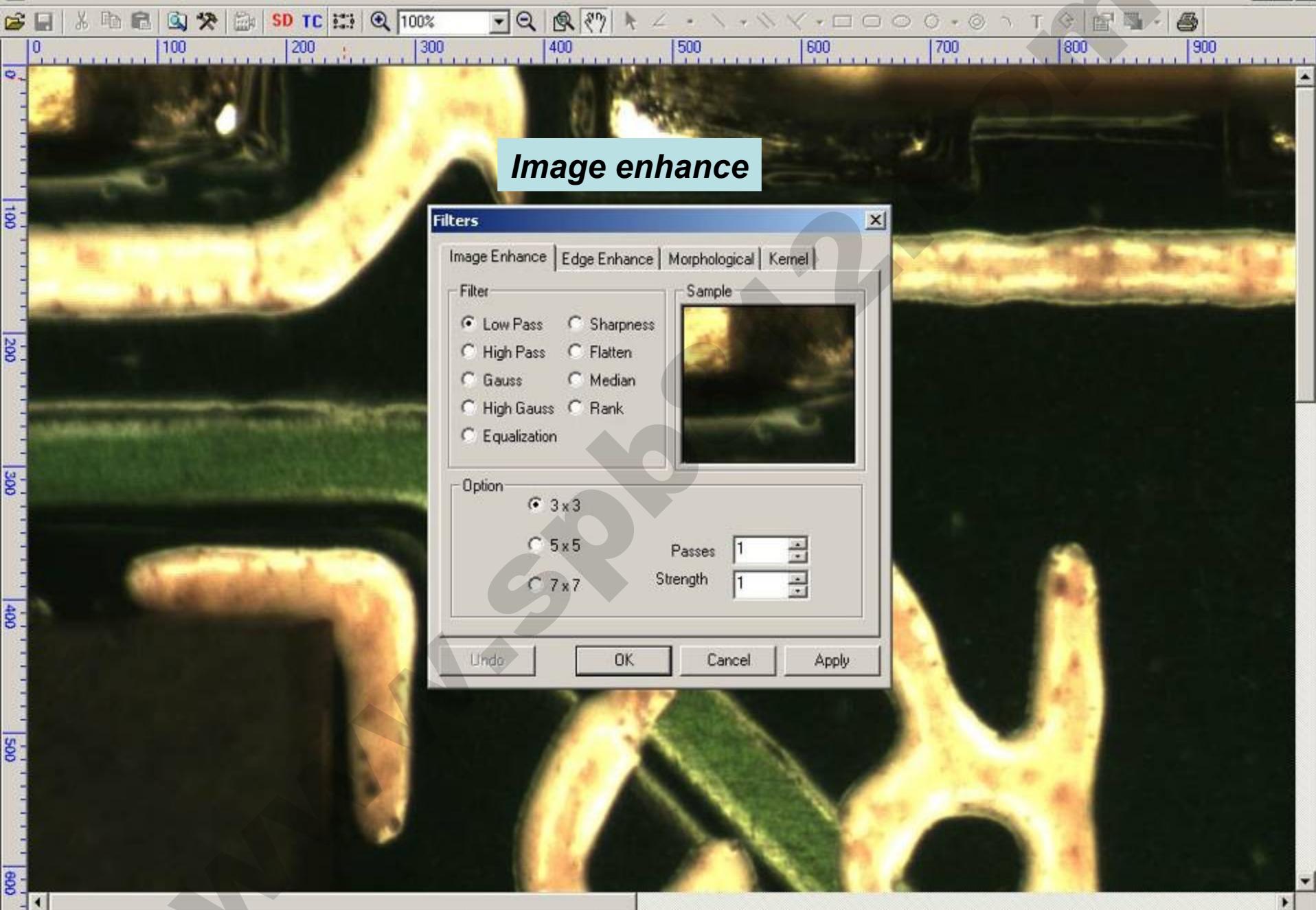
Grids shown

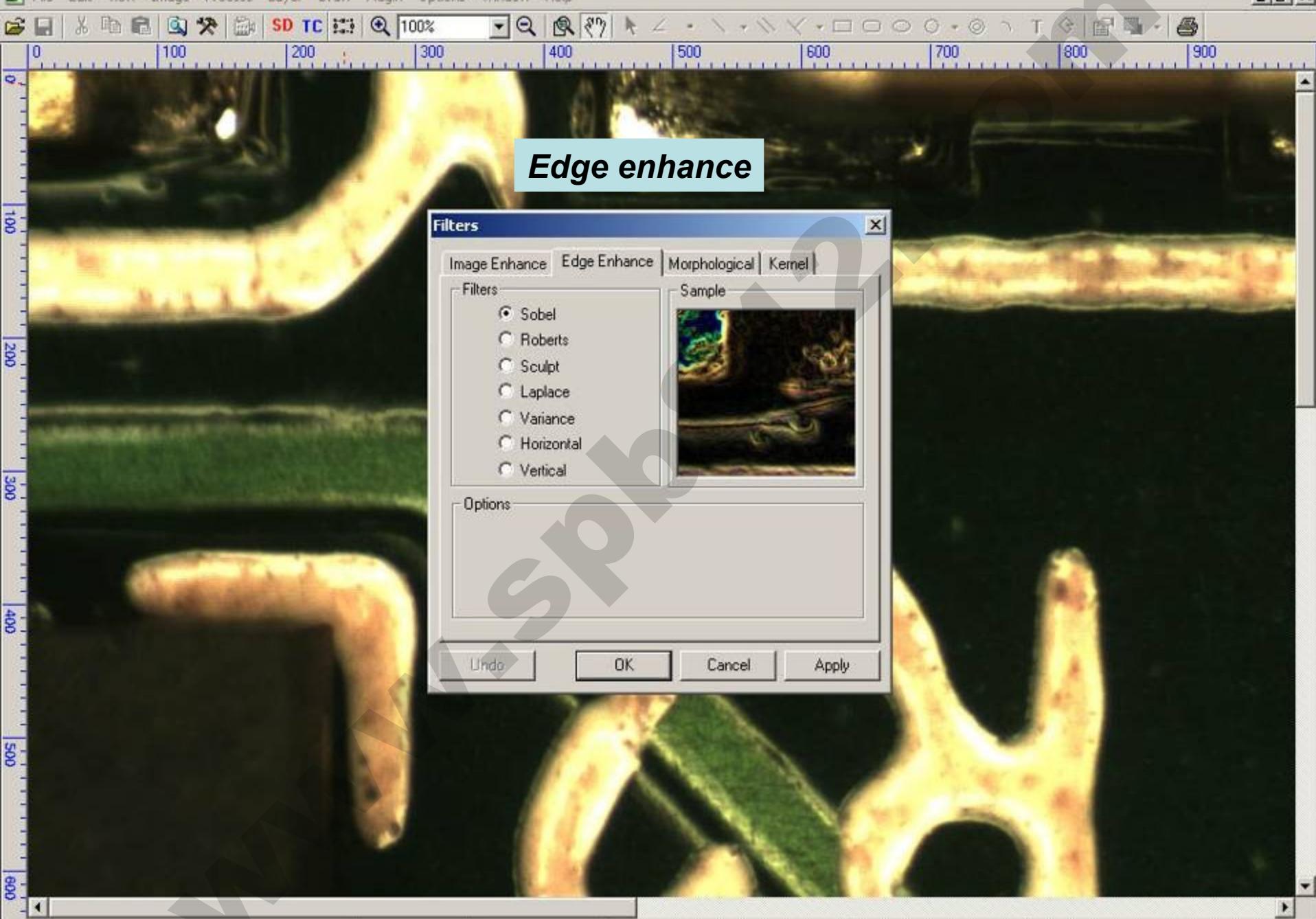
Filter...

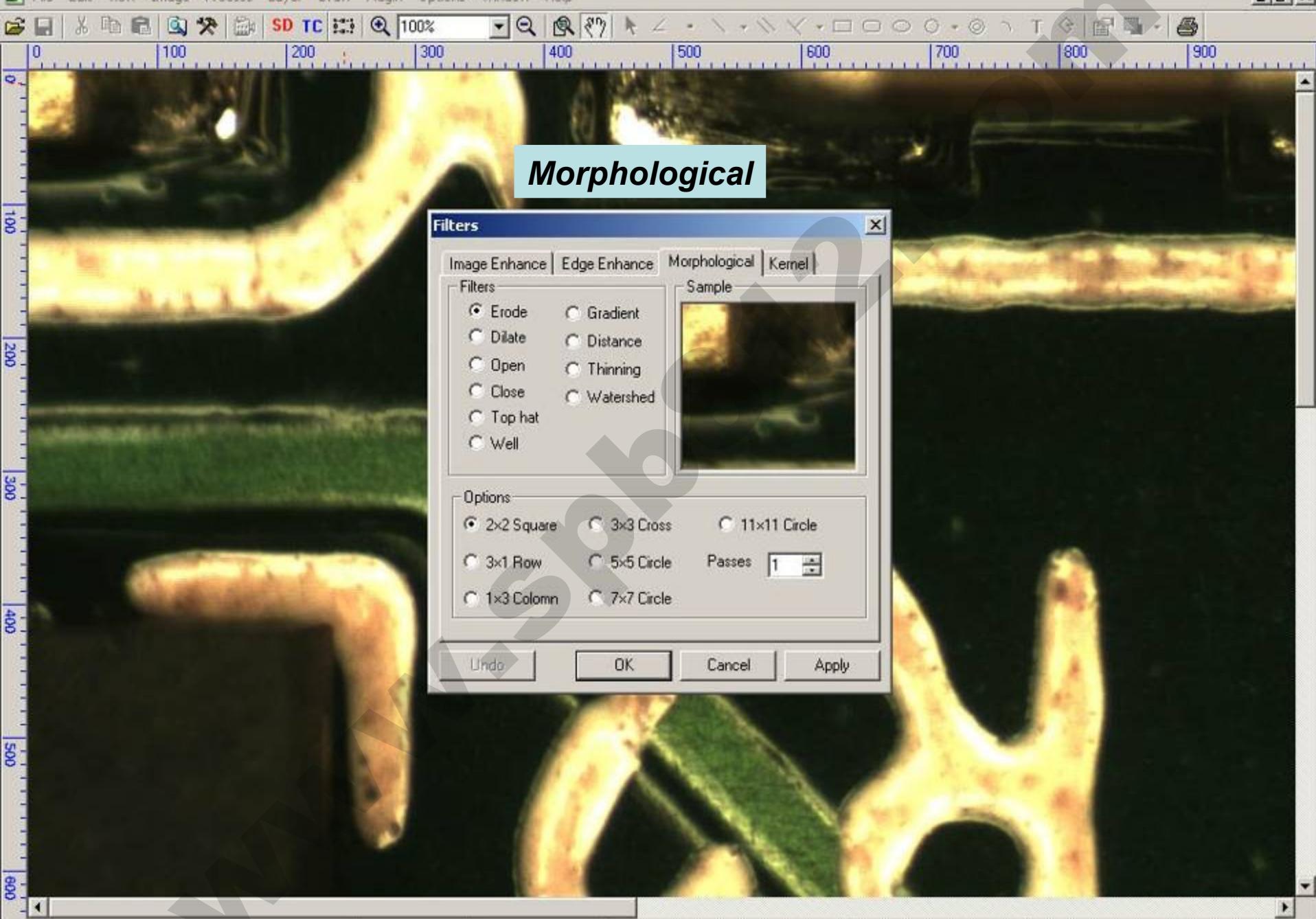
- Range...
- Segmentation...
- Binary...
- Emboss...
- Pseudo Color...
- Surface Plot...
- Line Profile...
- Diffuse...
- Granulate...
- Image Mosaic...
- Image Fusion...

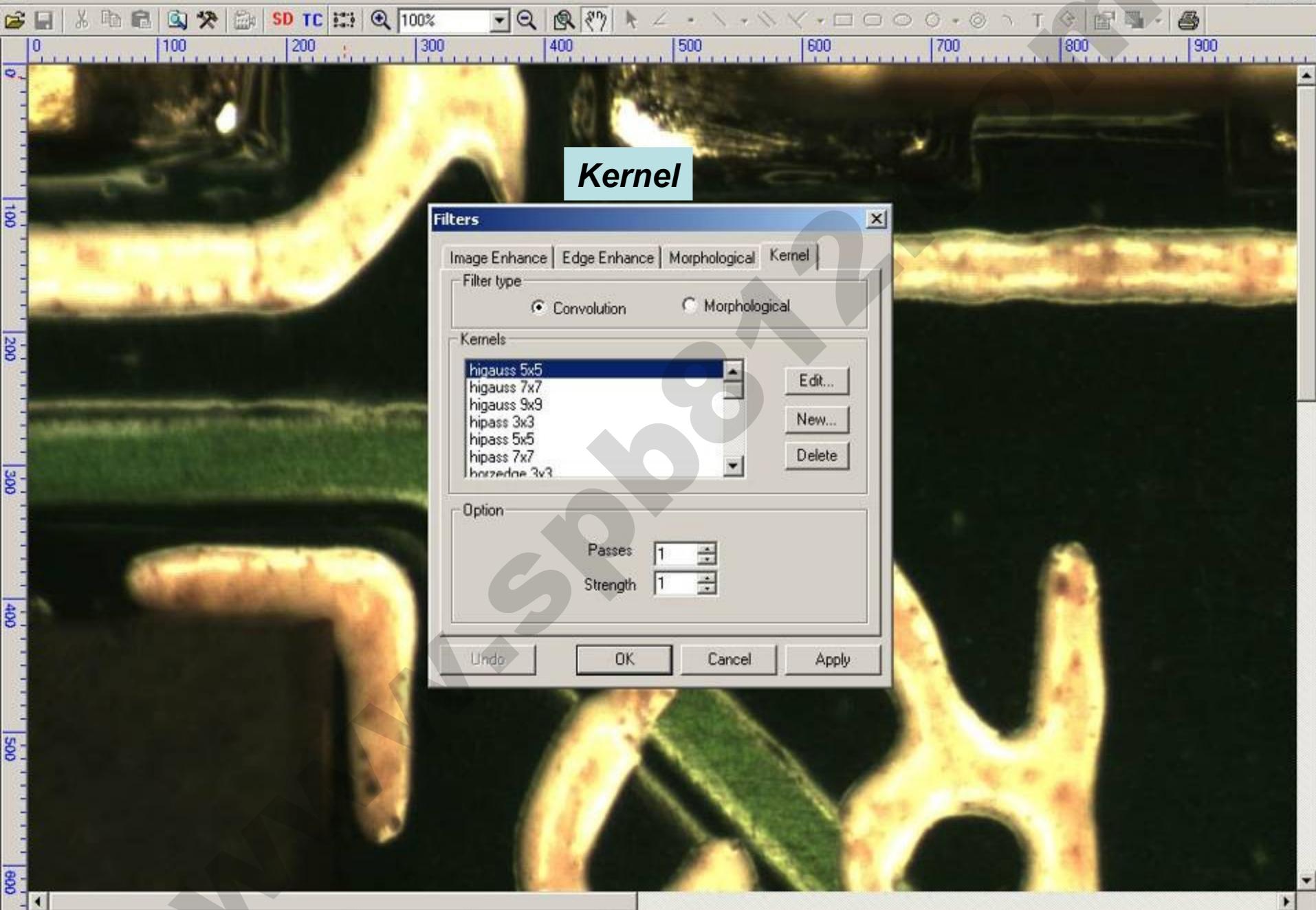
Filter operations







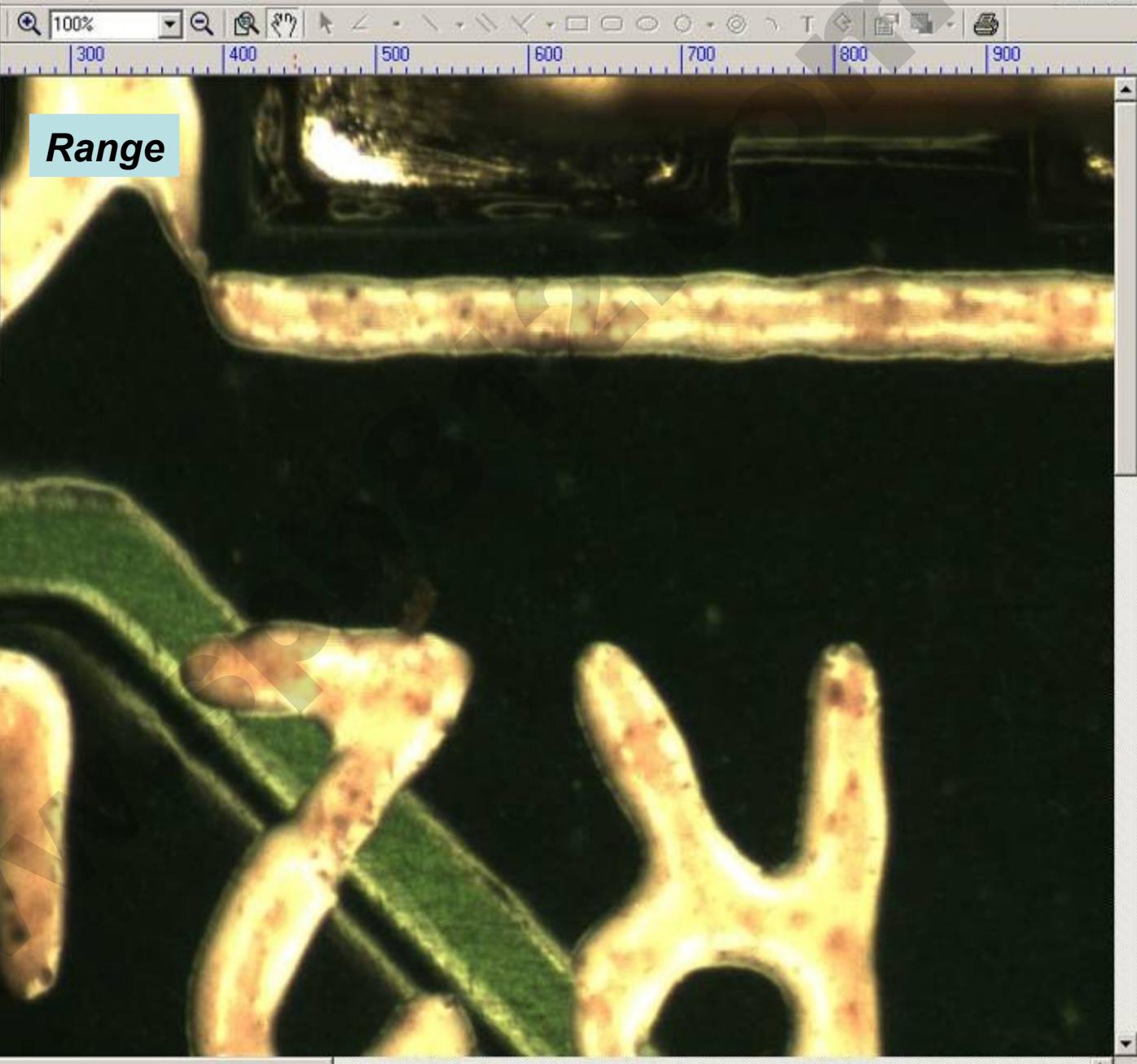


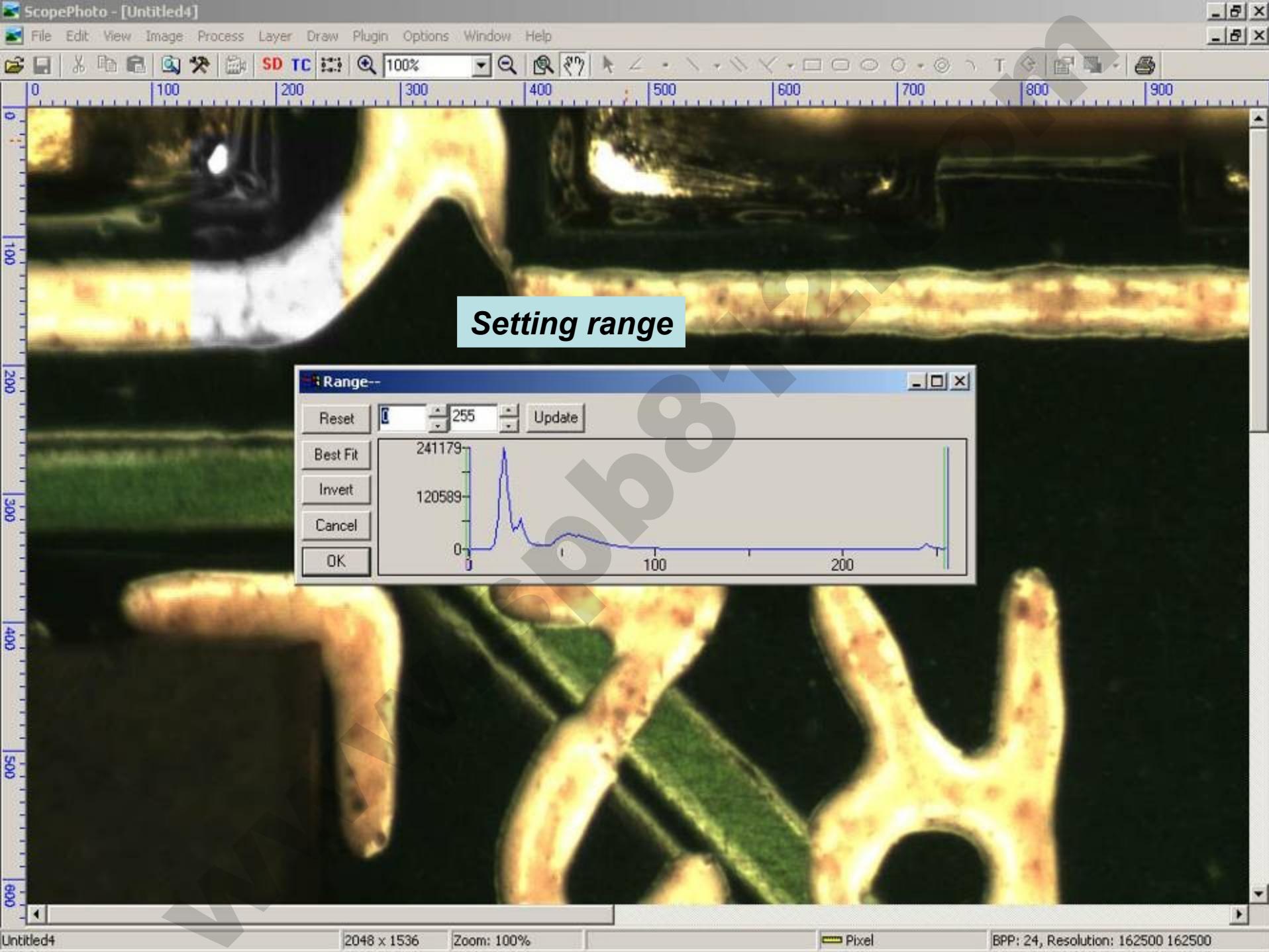


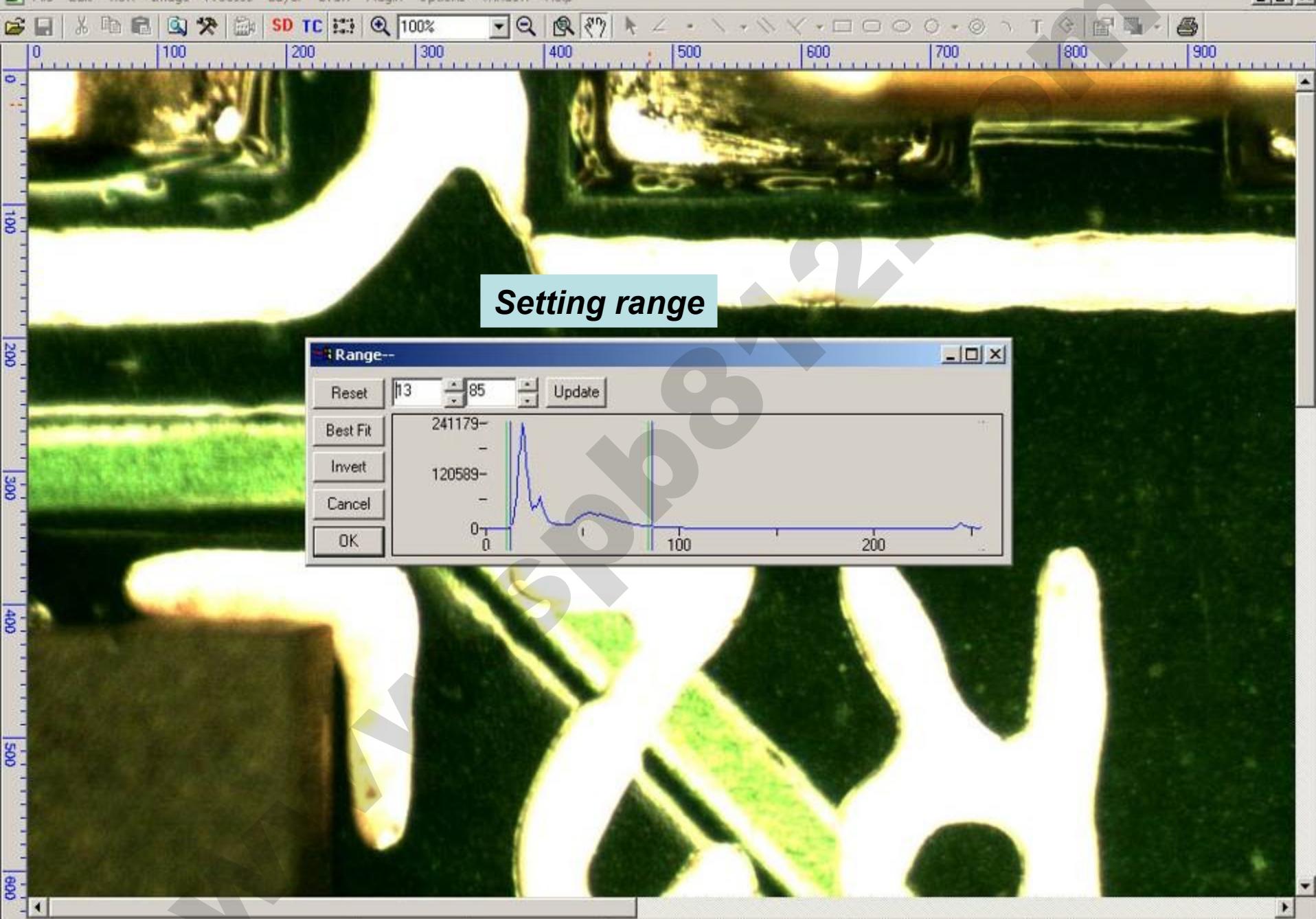


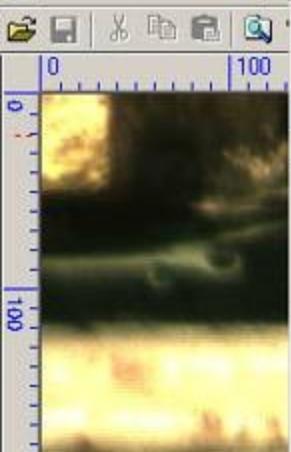
Filter...

- Range...
- Segmentation...
- Binary...
- Emboss...
- Pseudo Color...
- Surface Plot...
- Line Profile...
- Diffuse...
- Granulate...
- Image Mosaic...
- Image Fusion...

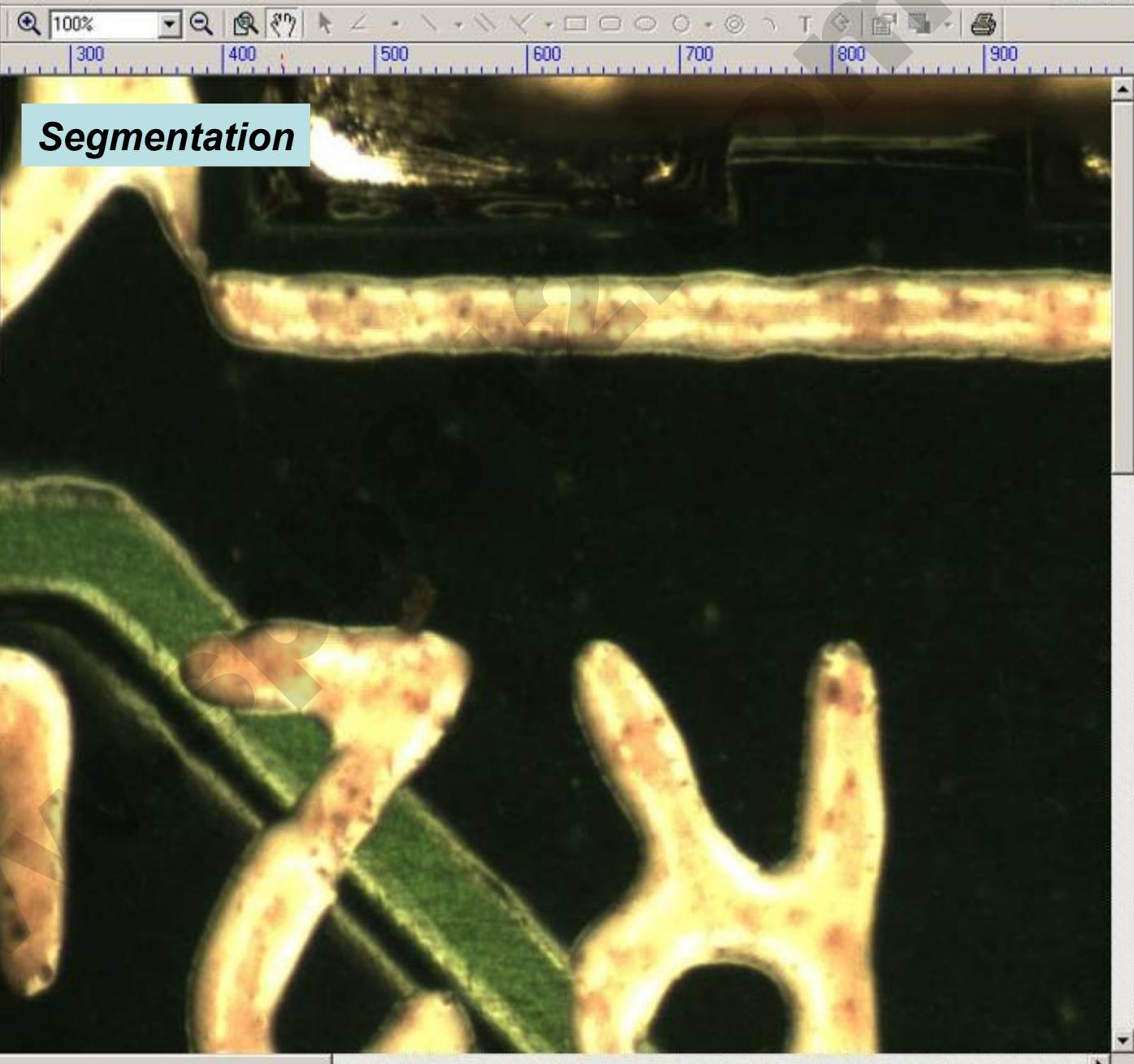


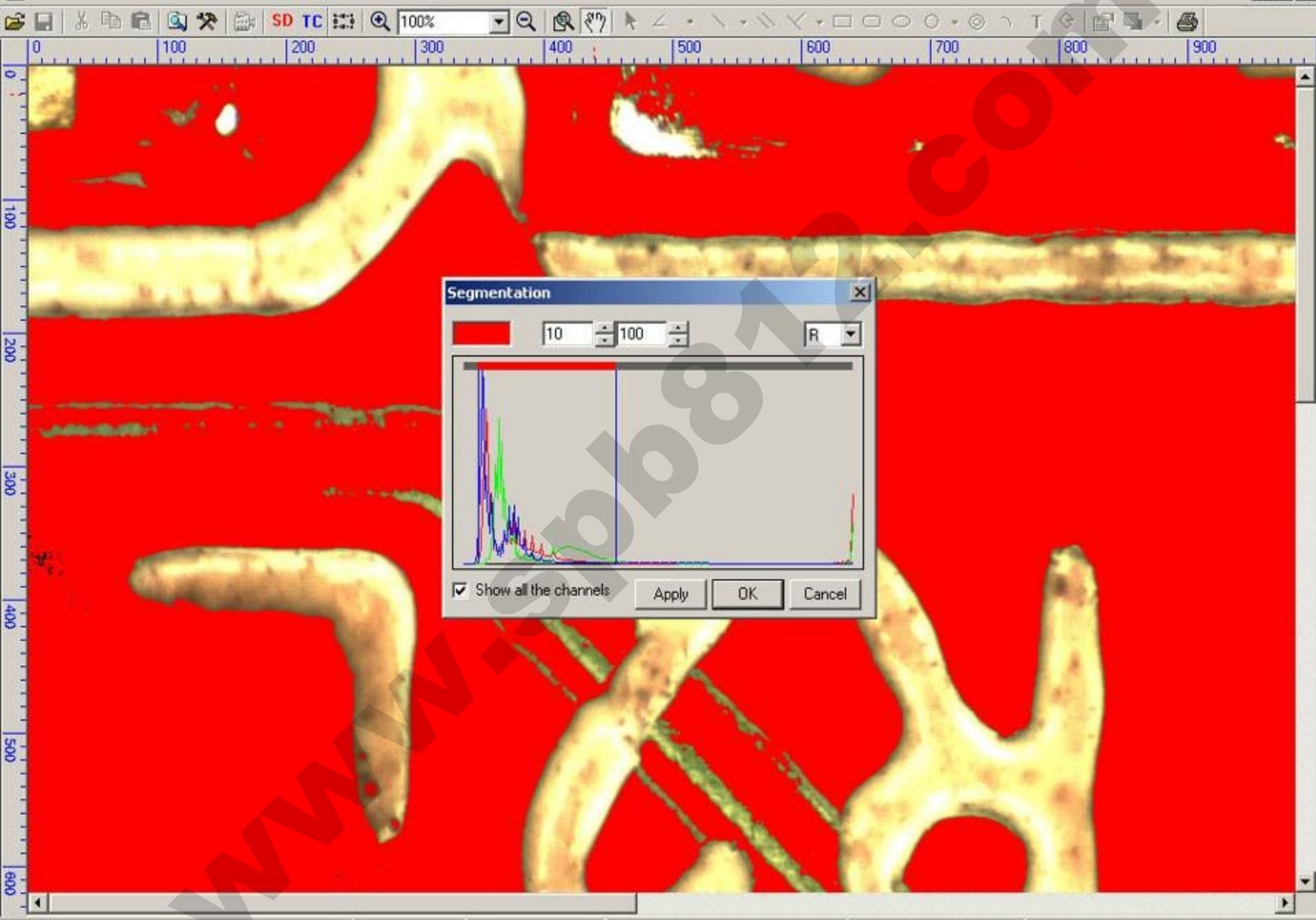


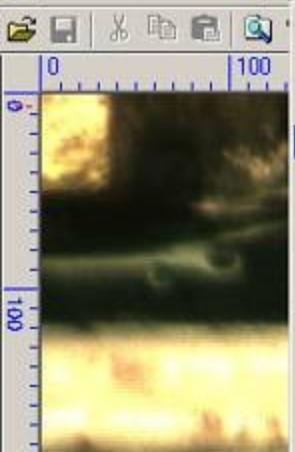




- Filter...
- Range...
- Segmentation...**
- Binary...
- Emboss...
- Pseudo Color...
- Surface Plot...
- Line Profile...
- Diffuse...
- Granulate...
- Image Mosaic...
- Image Fusion...







Filter...

100%



Range...

Segmentation...

Binary...

Emboss...

Pseudo Color...

Surface Plot...

Line Profile...

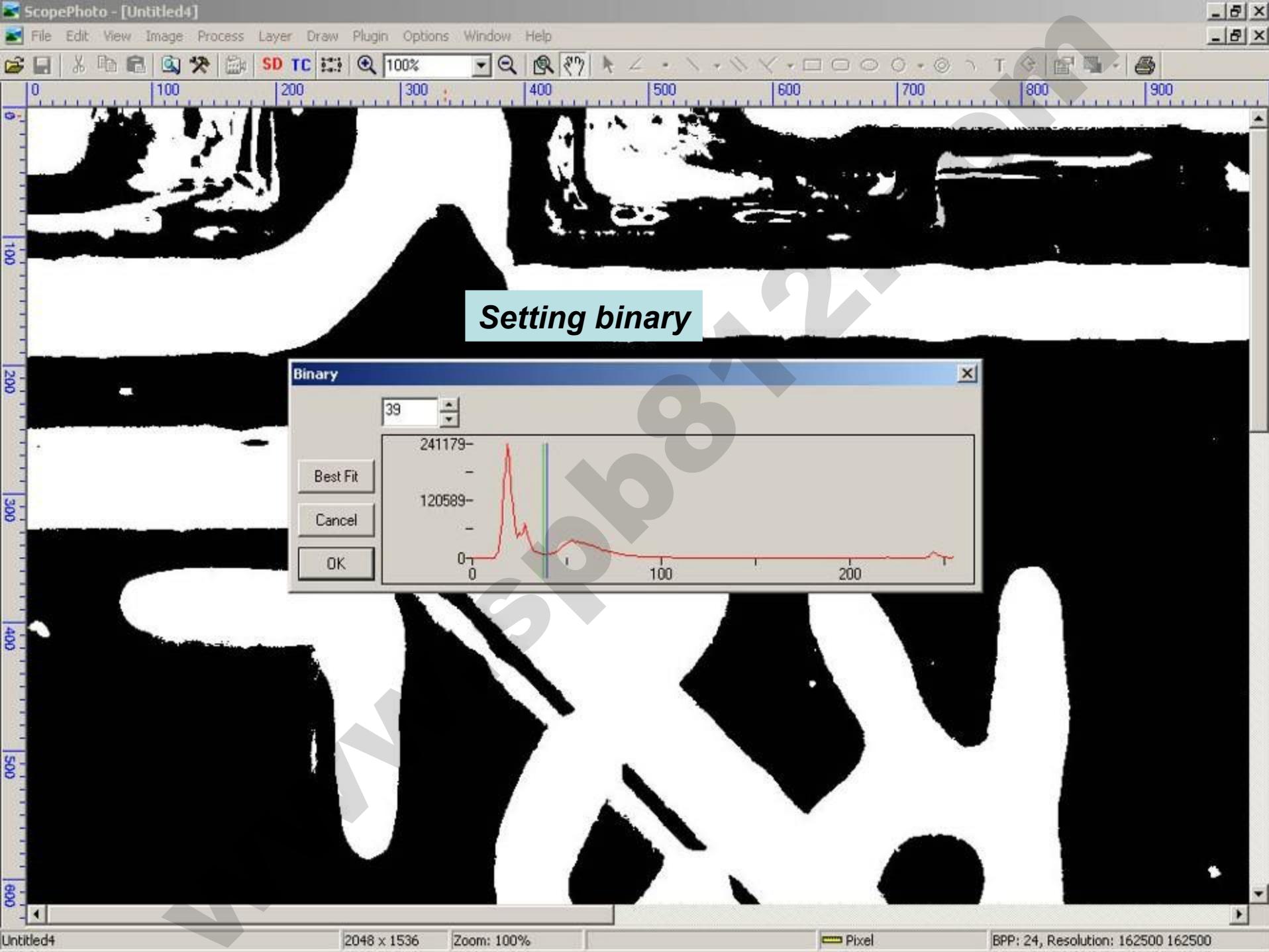
Diffuse...

Granulate...

Image Mosaic...

Image Fusion...

Binary



Filter...

100%



Range...

Segmentation...

Binary...

Emboss...

Pseudo Color...

Surface Plot...

Line Profile...

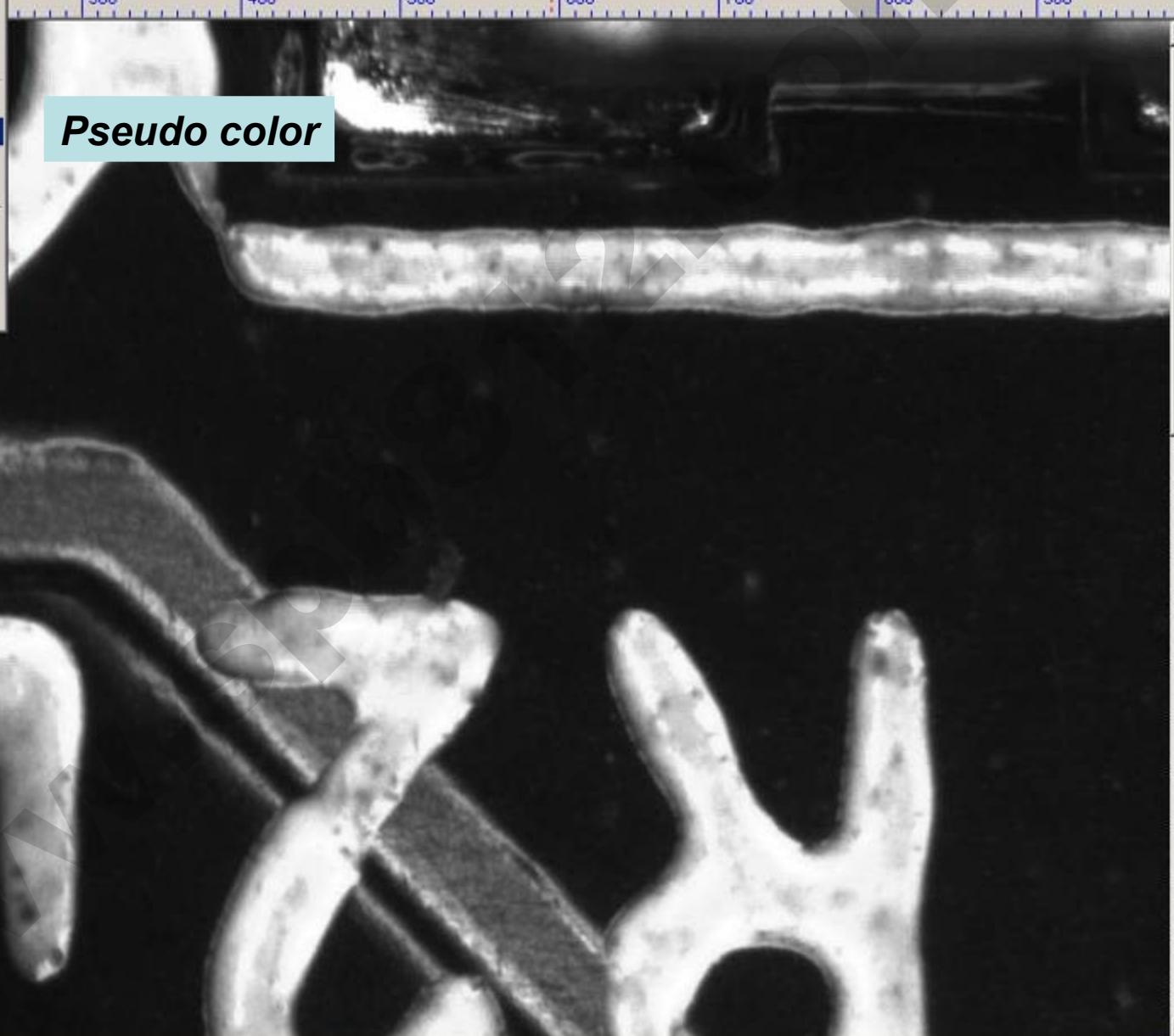
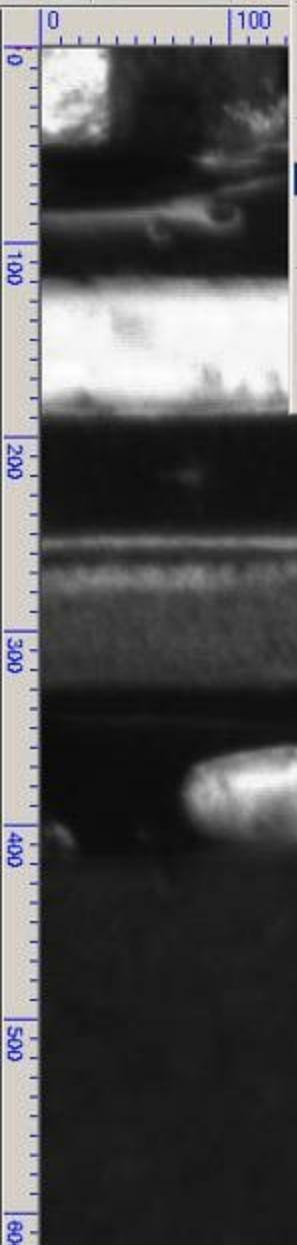
Diffuse...

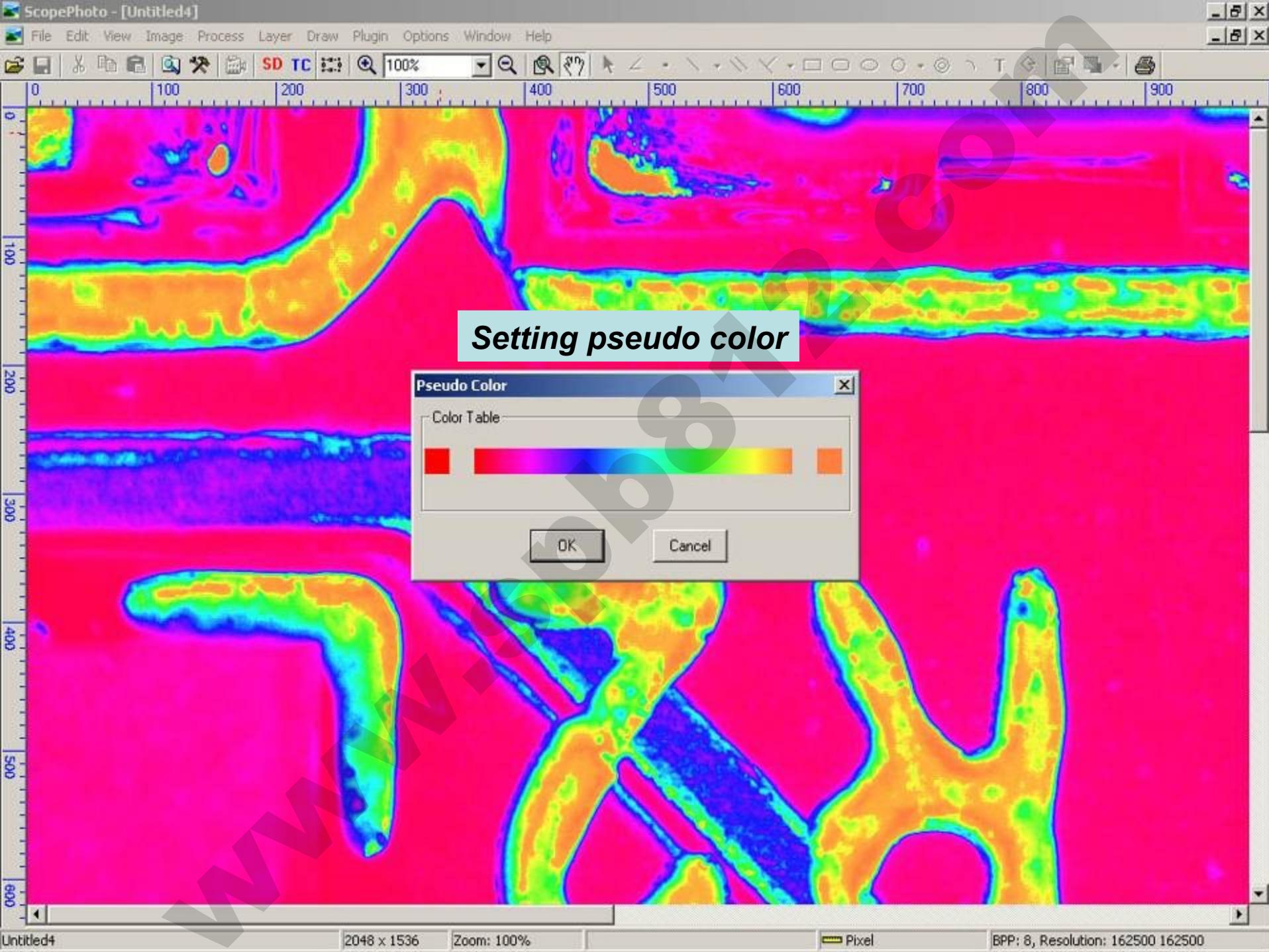
Granulate...

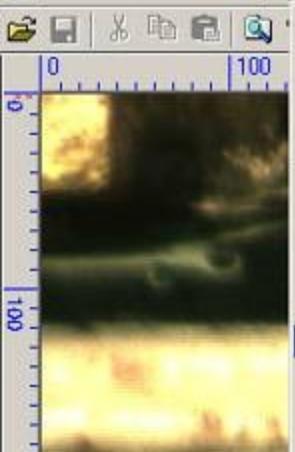
Image Mosaic...

Image Fusion...

Pseudo color







Filter...

100%



Range...

Segmentation...

Binary...

Emboss...

Pseudo Color...

Surface Plot...

Line Profile...

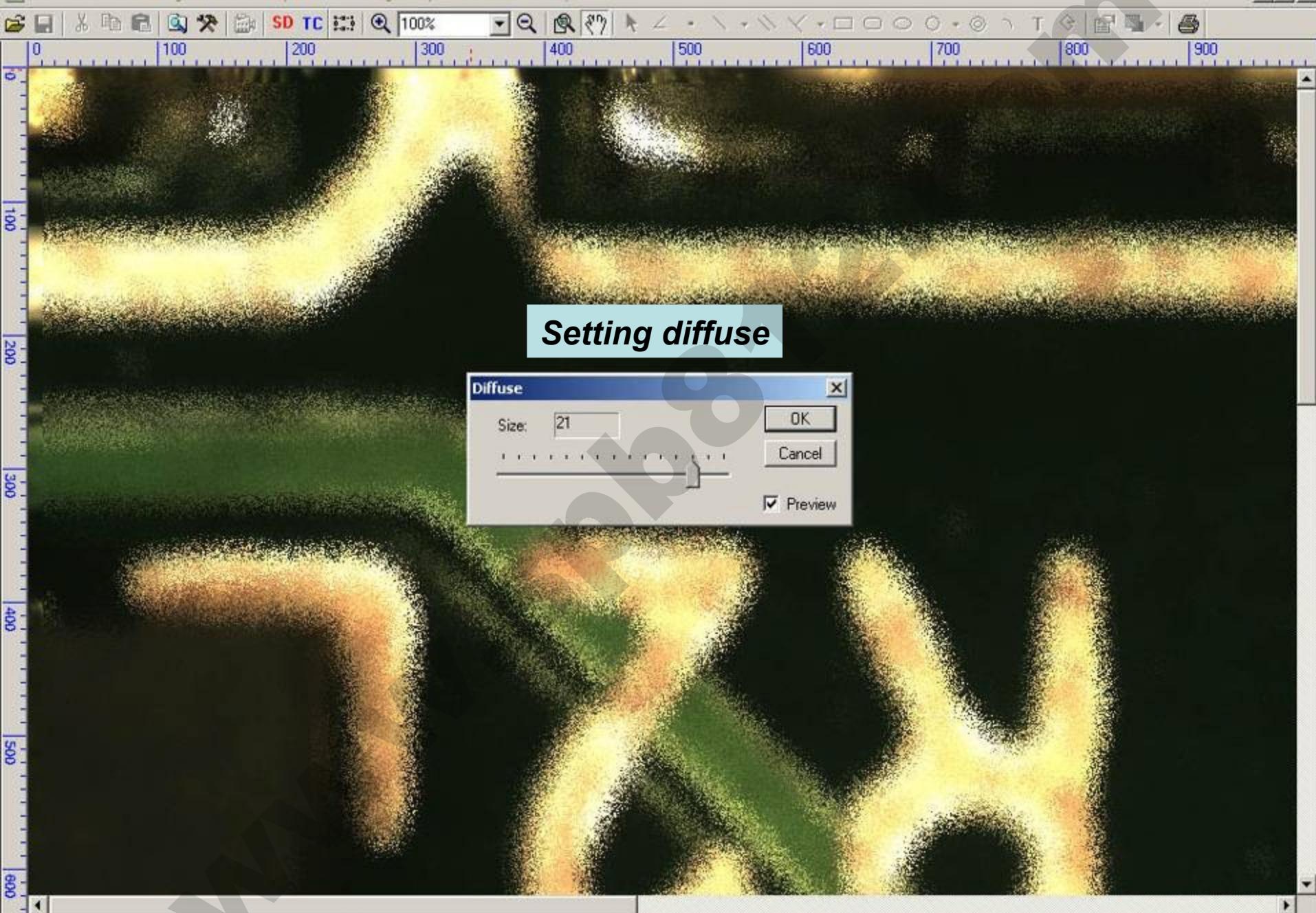
Diffuse...

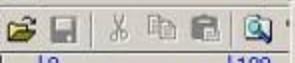
Granulate...

Image Mosaic...

Image Fusion...

Diffuse





Filter...

100%



Range...

Segmentation...

Binary...

Emboss...

Pseudo Color...

Surface Plot...

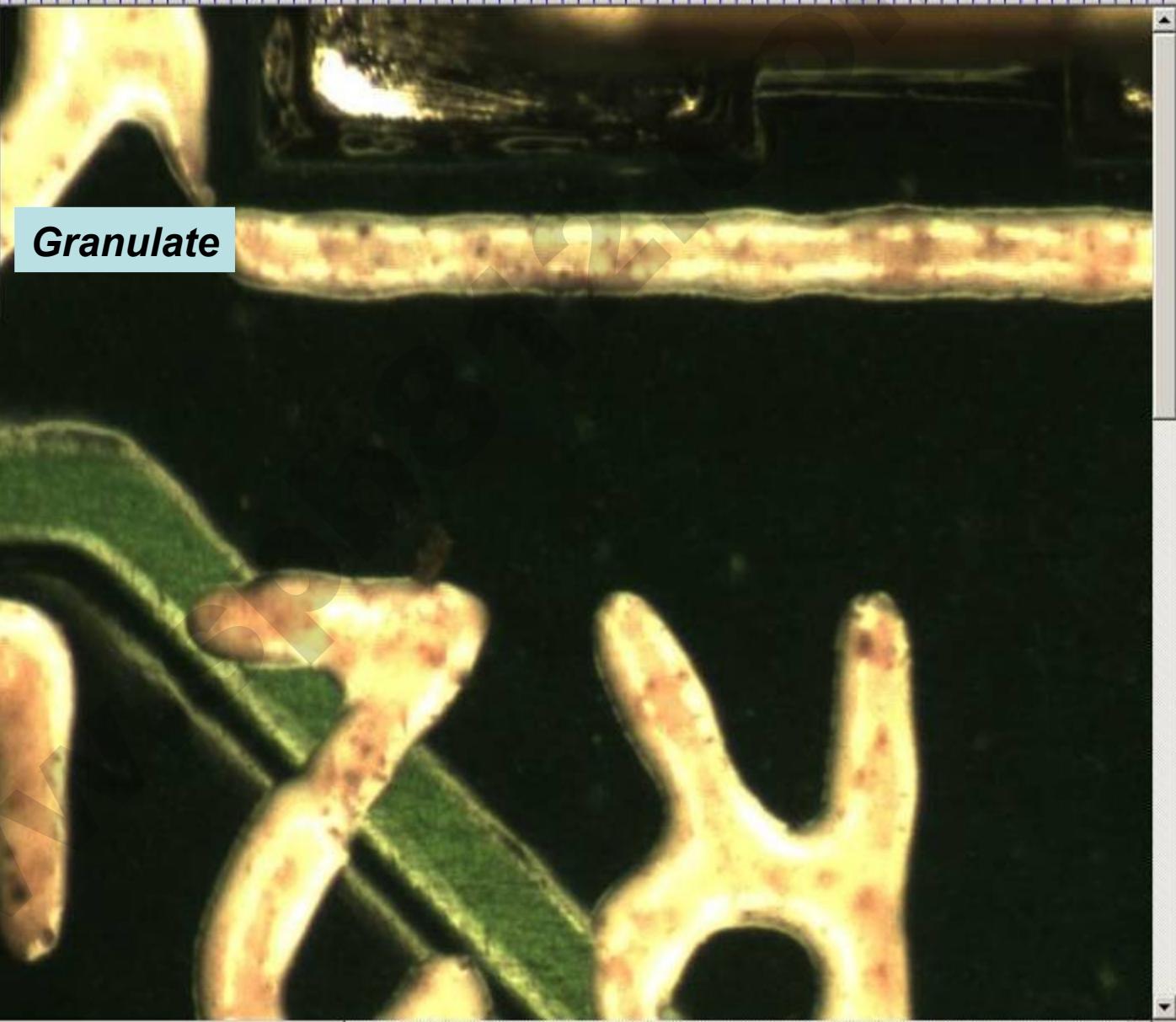
Line Profile...

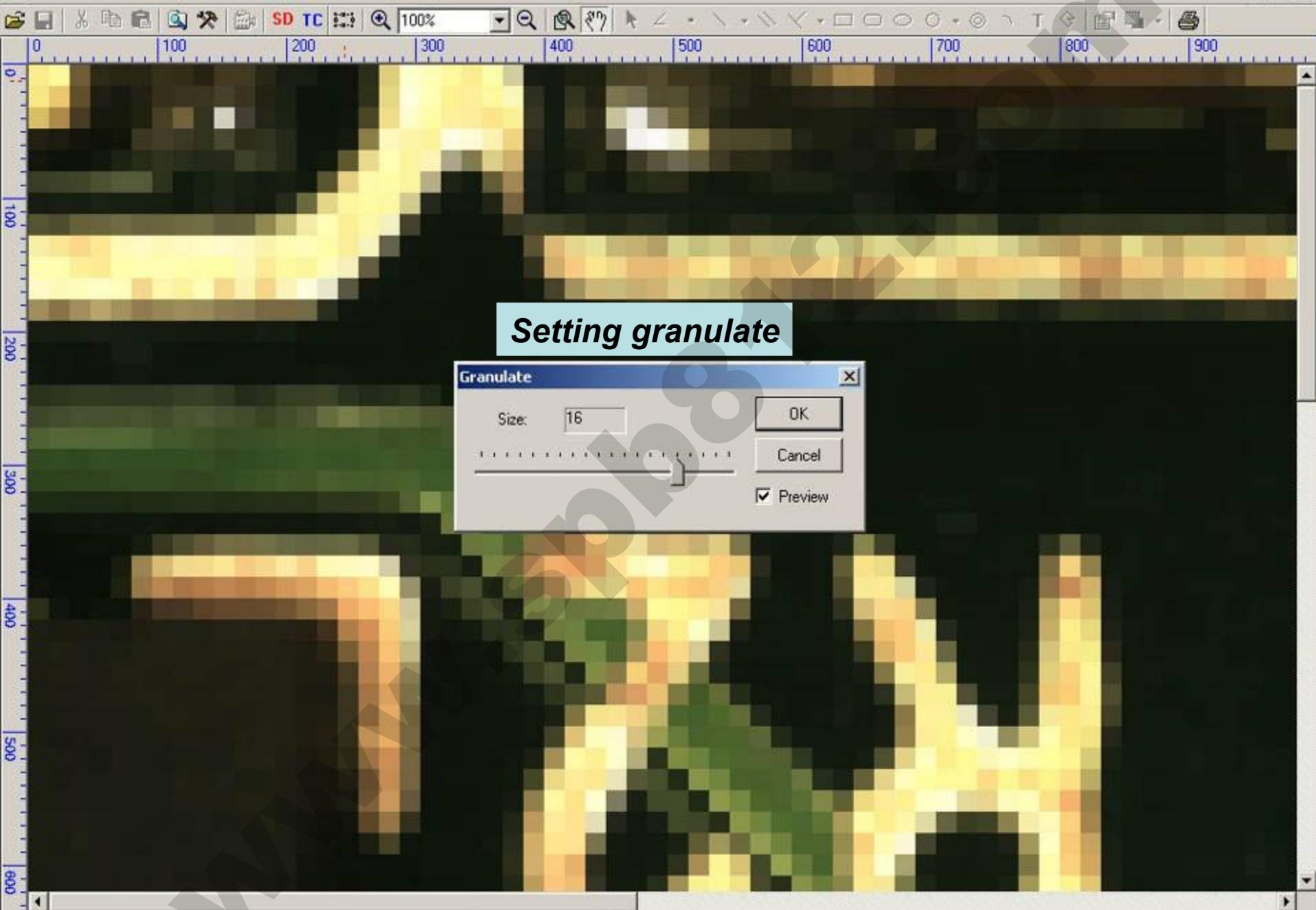
Diffuse...

Granulate...

Image Mosaic...

Image Fusion...

**Granulate**



Setting granulate

Granulate

Size:

Preview

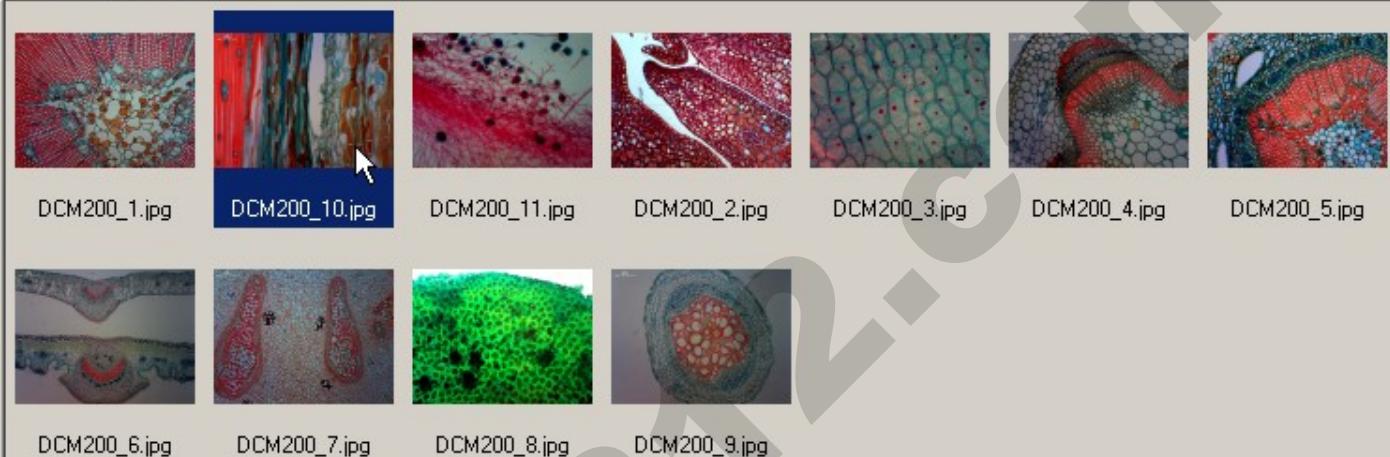
Image browse

www.Spp812.com



Folders

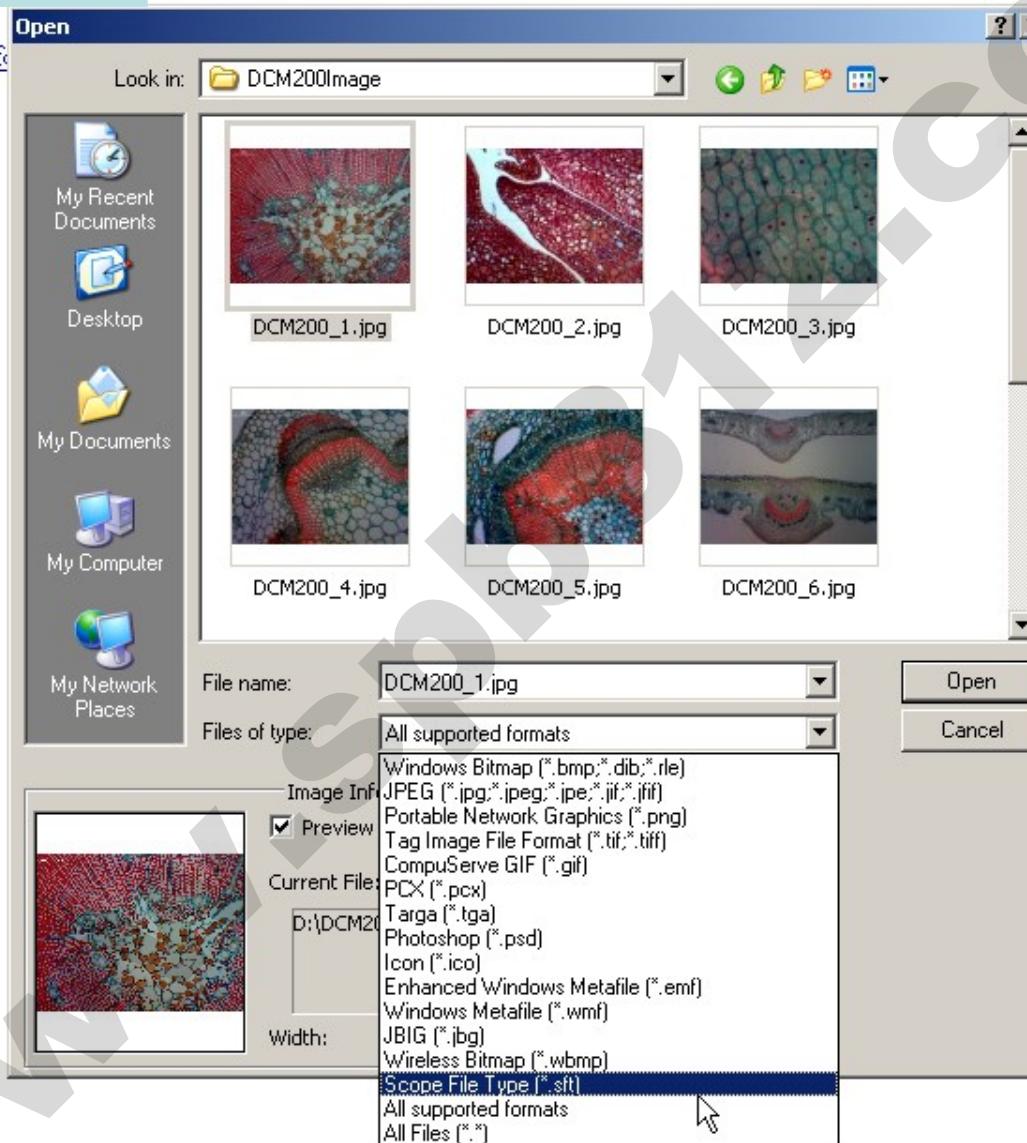
- Desktop
- + My Documents
- My Computer
 - + 3½ Floppy (A:)
 - + Local Disk (C:)
 - Local Disk (D:)
 - + codeV_V95
 - DCM200Image
 - HyperSnap 6
 - + MSOCache
 - + OCAD
 - + Snap
 - + software
 - + SW
 - + DVD Drive (E:)
 - + Removable Disk (F:)
 - + NIKON D50 (G:)
 - + DVD Drive (H:)
 - + Control Panel
 - + Shared Documents
 - + feihong's Documents
 - + My Network Places
 - + Recycle Bin



1. Image browse

2. Image open

- [Open image file](#)
 - [G:\ImageWithLayerInfo](#)
- [Browse Folder](#)
- [Live Capture](#)
 - [ScopeTek DCM200](#)



Show this start page on startup.

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What can ScopePhoto do for you?

- Open image file

- D:\DCM200\Raw\Scopes\10000000.spt

- G:\ImageWithLayerInformation.spt

- Browse Folder

- Live Capture

- ScopeTek DCM200

**Help contents, find more information
about how to use ScopePhoto**

Show this start page on startup.



Application Window

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Image Processing Menu

[File](#)[Edit](#)[View](#)[Image](#)[Process](#)[Layer](#)[Draw](#)[Plugin](#)[Options](#)[Window](#)[Help](#)

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Image Capture

Techniques

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ScopePhoto 3.0

for Image Processing

Quick Index

This is a quick index of ScopePhoto application . This index is designed for those who wish to master the ScopePhoto operations in a short time.

How to display the video from the video devices?	1.To get the video from Twain Acquire (its shortcuts are and on Image Window Toolbar). 2.To use DirectShow Capture Technique . Its shortcut is . 3. File->Import Image->DirectShow Capture... 4. File->Import Image->Twain Acquire...
How to define the Software Power ?	1.Display the video using DirectShow Capture Technique first. 2.According to Software Power Setup to define your own Software Power step by step.
How to perform the measurement operation (we use term Draw in the	1.Define your own Software Power according to Software Power Setup , otherwise, the unit will be Pixel only for the captured image. 2.Select the right Software Power from list on DirectShow Capture Window Toolbar and let this Software Power equal to your real microscope objective lens power you are using to capture the image . 3.Capture an image using button on the DirectShow Capture Window Toolbar . 3.Make a new layer on the Background layer using Draw->New menu or Tool Box Layer Page . The Draw Toolbar and Draw menu will become active.



SD TC

What can ScopePhoto do for you:

- [Open image file](#)
 - [D:\DCM200Image\DCM200_1.jpg](#)
 - [G:\ImageWithLayerInformation.sft](#)
- [Browse Folder](#)
- [Live Capture](#)
 - [ScopeTek DCM200](#)

ScopePhoto support address



Show this start page on startup.