

U500X Digital Microscope User Manual

([English](#))

([中文](#))

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前 言

首先非常感谢贵司（您）购买了**U500X**数码显微镜

数码显微镜应用范围非常广泛,主要有以下方面.

1工业方面:

- a 工业检视, 例如电路板、精密机械等
- b 印刷检视, SMT焊接检查
- c 纺织检视
- d IC表面检查

.....

2美容方面

- a皮肤检视
- b发根检视
- c红外理疗 (特定产品)

.....

3生物应用

- a微生物观察
- b动物切片观察

.....

4其它

- a扩视器, 协助视障人士阅读
- b宝石鉴定

.....

U500X数码显微镜使用简单, 只需要同计算机USB接口连接就可以使用, 本产品还配备测量软件, 可做简单的量测, 非常的方便。为了更详细的介绍本产品, 敬请耐心的阅读下面的产品介绍, 使用方法, 注意事项。

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部位说明规格



规格:

传感器：高性能感光芯片

主控芯片：专用主控24Bit DSP

放大倍率：50X ~ 500X

拍照/录像：内置

辅助光源：8颗白光LED灯

静态分辨率：640x480,最高可达1600x1200(可按需定制)

数码变焦：5段式

成像距离：手动调节0~40mm

影像分辨率：标准640*480

固定底座： 万向金属底座

光盘： 内含驱动，测量软件，说明书

支持系统： WIN XP/VISTA；WIN 7 32位和64位

电源： USB (5V DC)

计算机界面： USB 2.0 & USB 1.1 相容

动态帧数： 30f/s Under 600 LUX Brightness

照度范围： 0 ~ 30000LUX线控可调

硬件需求： 奔腾 主频700M Hz或以上；1G硬盘 CD ROM 光驱；
64MB 内存

支持语言： 中文（简体），中文（繁体），英(其它语言需要定制)

产品颜色： 磨砂黑色，其它颜色可定制

主体尺寸 112 mm (长) 33 mm (外径)

单机包装重量 380g

安全警告及注意事项

1. 勿自行拆解本产品，以避免静电击穿精密芯片。
2. 勿用酒精等有机溶剂清洁产品。
3. 勿用手指触摸镜头，以免表面造成刮痕和脏污。
4. 户外使用时应避免高温和高湿环境中，防电子器件短路。
本产品不具有防水功能，请应避免淋雨和进水。
5. 本产品的使用和存储温适度范围：0°C ~ 40°C，相对湿度：45%RH ~ 85%RH
6. 若不慎使异物或水份/液体 进入数产品内部，请先拔除USB 线。并送至维修中心检修，切勿自行处理。
- 7 设备测量精度仅供参考，由测量误差引起的纠纷与本产品无关。

配件说明

1. 数码显微镜主体 (1台)
2. USB 连接线 (1.5m)
3. 万向底座 (1个)
4. 光盘(驱动程序, 测量软件, 安装说明书)

硬件要求

Windows 2000、XP、VISTA、WIN 7 操作系统。奔腾 IV 1.5G, Celeron, AMD 或以上的CPU。64MB 内存。150MB 以上之硬盘空间(安装驱动程序及应用软件) 支持16-bit的显示卡, CD-ROM 光机, USB2.0或USB1.1

安装说明

U500X数码显微镜为无驱动产品, 如果不需要一些特殊操作的话, 在windows2000以上版本可直接运行。

1直接将本产品同过USB线连接到计算机上, 然后点击



2双击红色标示内的设备图标就可以正常使用。

如需要特殊的操作, 请参考本产品附送光盘, 安装步骤 (以Win XP为例) 将安装光盘放入光驱后, 安装程序将自动执行, 出现如下画面 (如果无法自动执行, 可点击光驱图标手动操作)



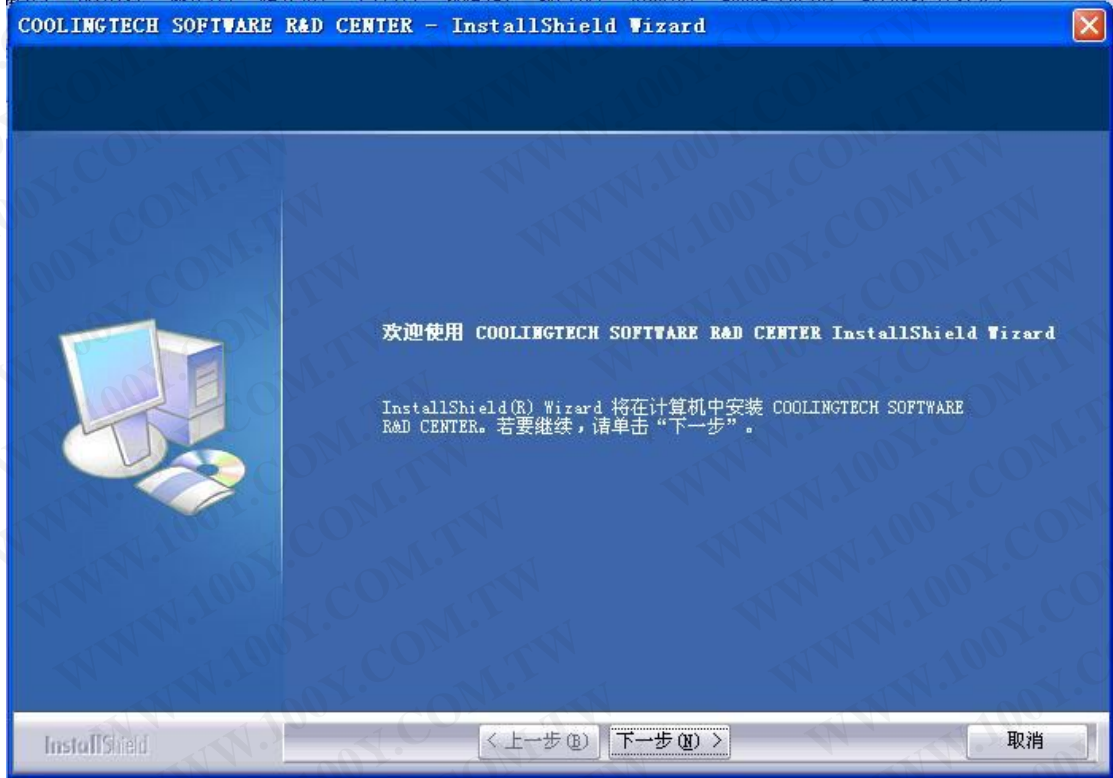
1 驱动安装



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几秒钟后




2选择'下一步'



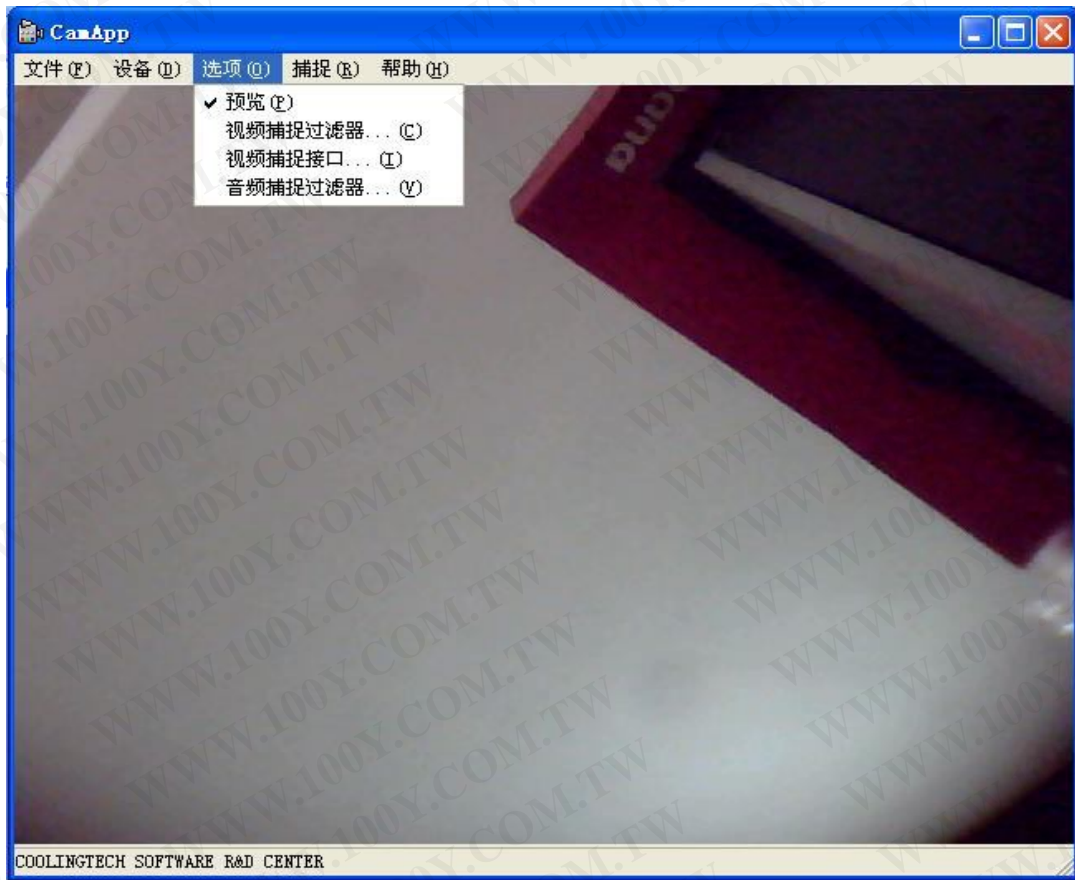
3.选择'安装'



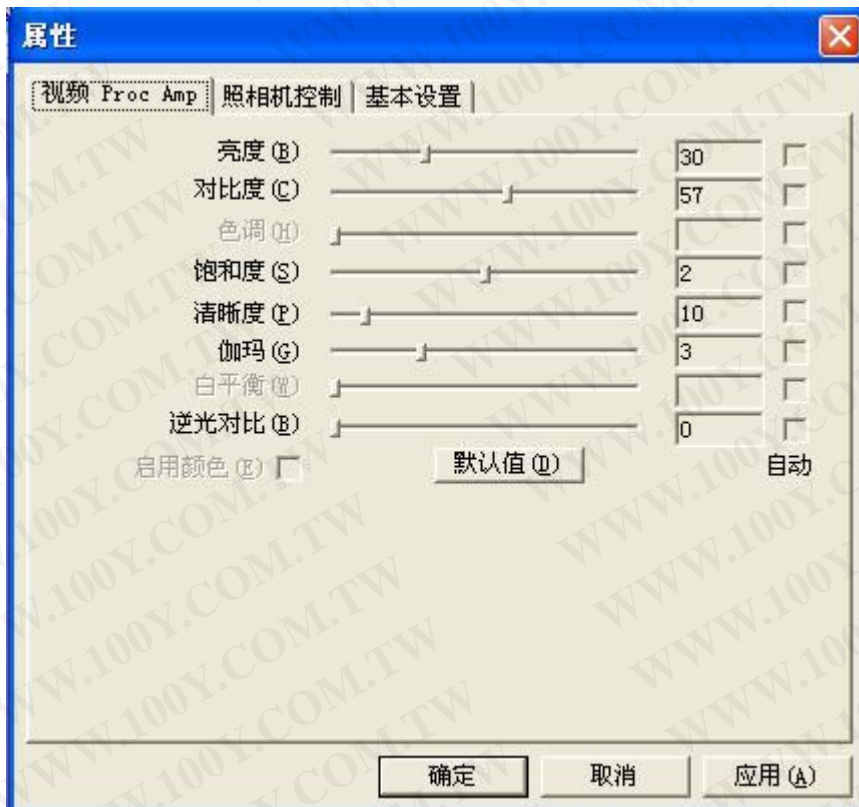
4,驱动“完成”，驱动安装完成，如果是初次安装，建议重启计算机。若在驱动安装过程中出现警告信息，请直接点选“仍然继续”即可

5,驱动安装完成后，桌面上会出现如下图标 ，双击显示





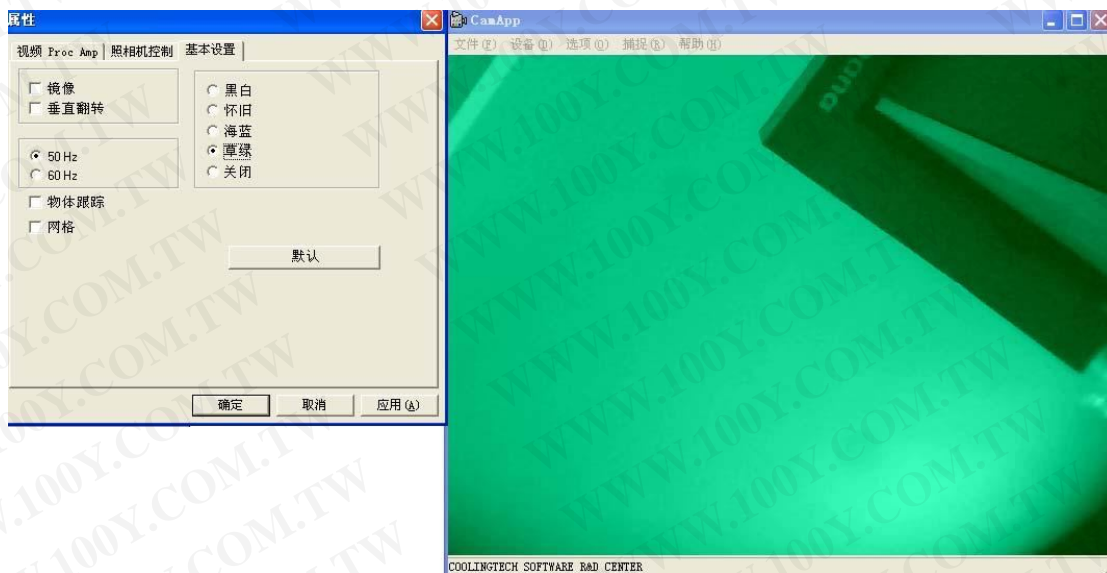
5. 菜单栏中的选项可根据自己的需求设定，例如点击“选项”——“视频捕捉筛选程序”，出现

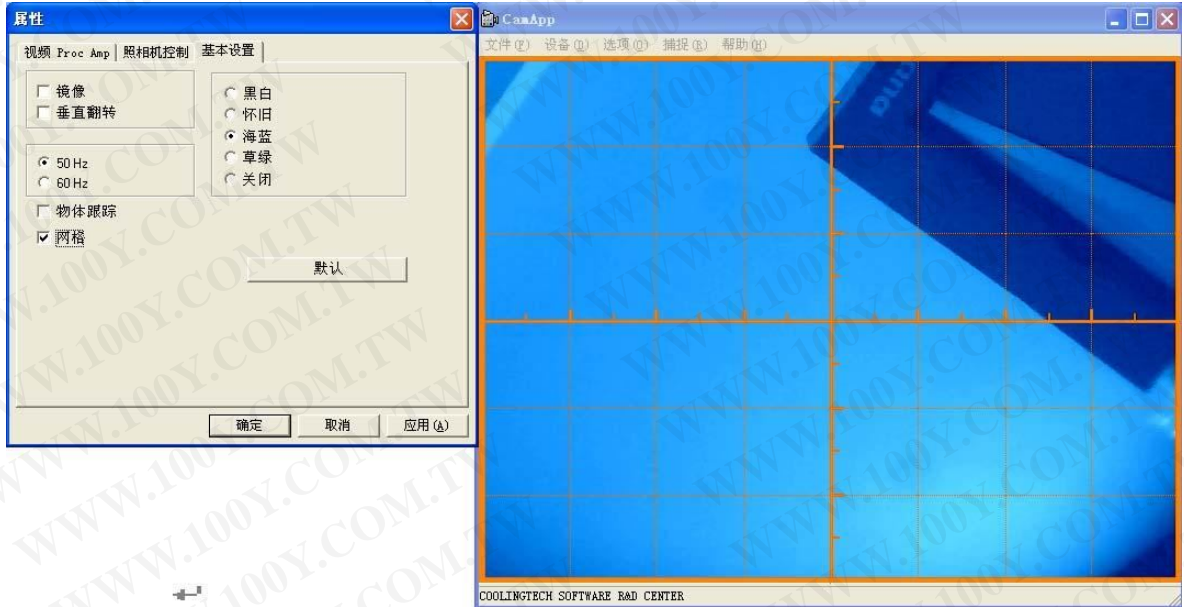


显微镜光学参数做些简单的设置。点击“基本设置”，出现：



根据需求，可对对图形特效处理，如下





如需要回复到初始参数，请点击“默认”。

2 测量软件安装

1 点击 **Measurement** 出现：



2 点击“下一步”



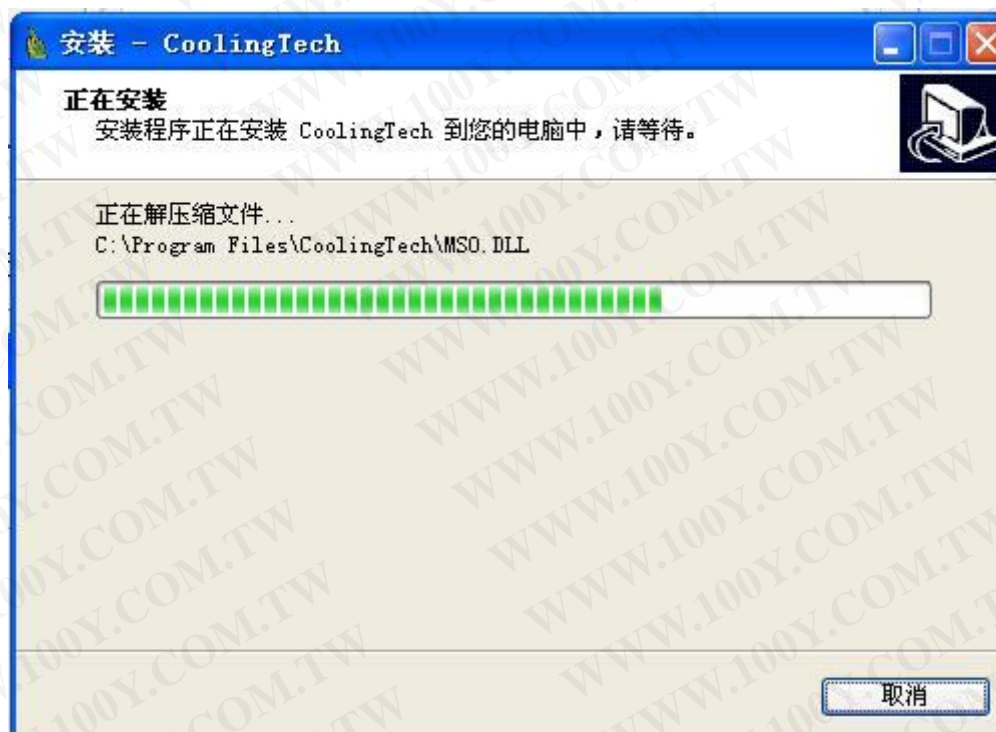
3 选择程序安装路径，点击“下一步”



4 如果需要在桌面上创建快捷方式，相应框中打‘√’，点击‘下一步’




5 点击‘安装’，程序就进入安装状态



6 几秒钟后，程序安装过程结束

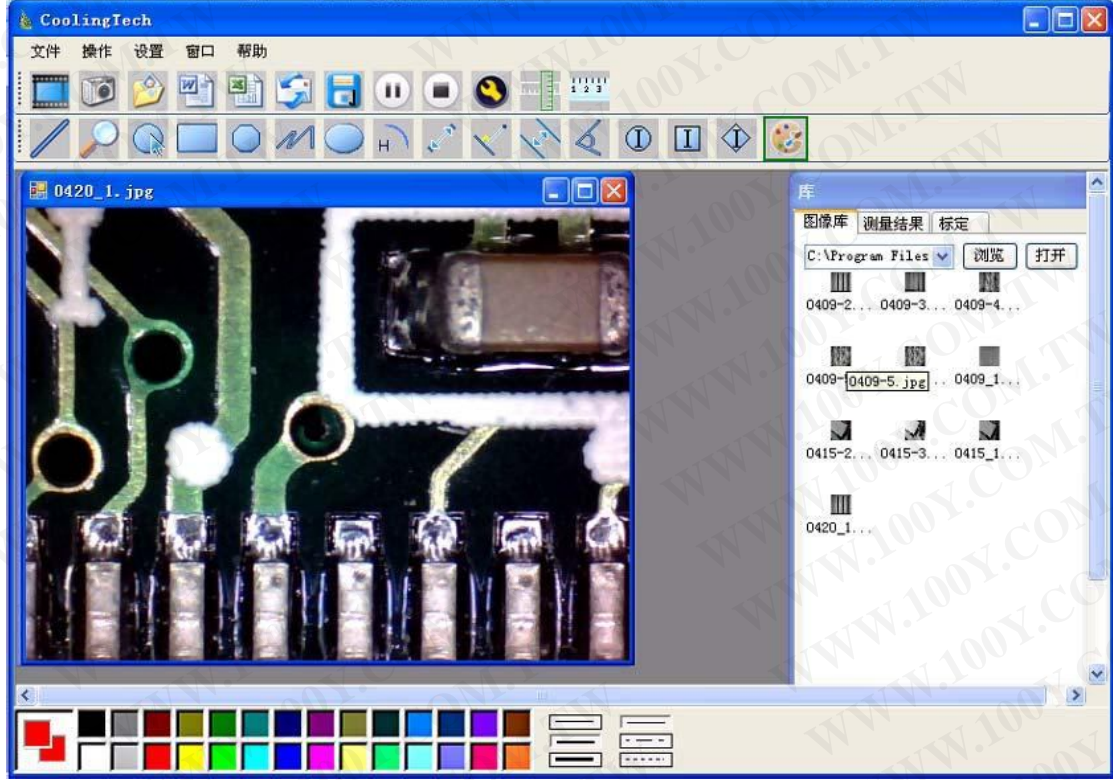


7 点击完成，程序就可以使用了。

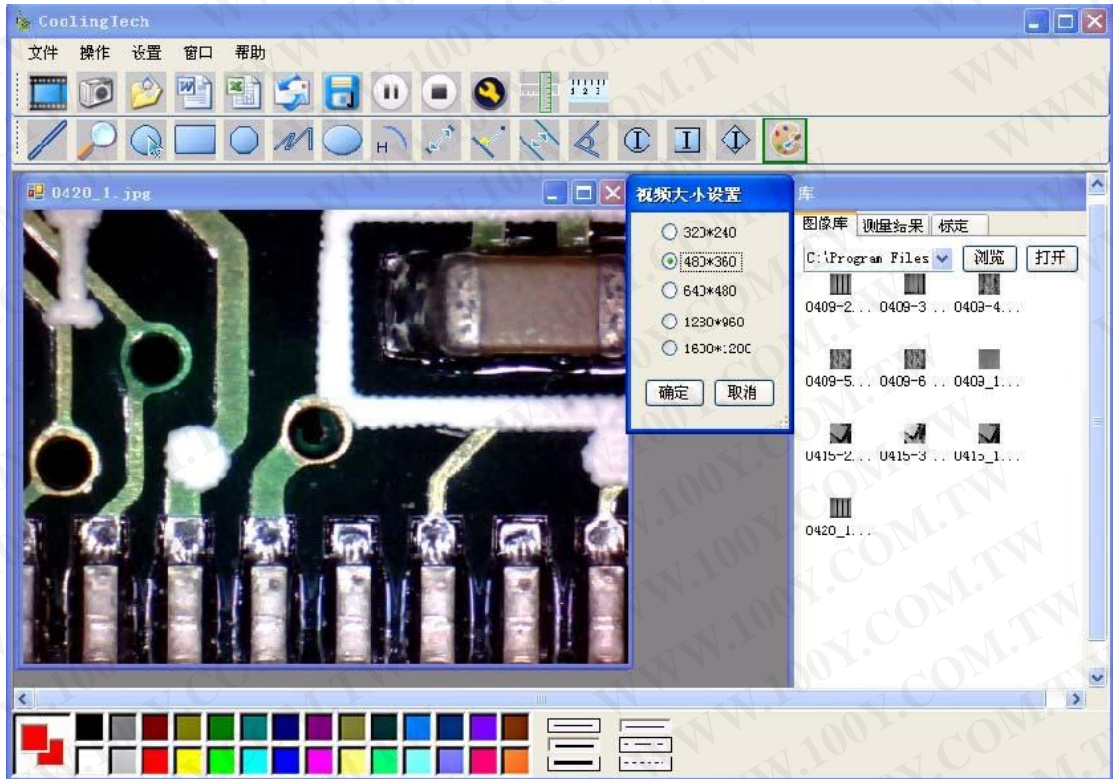
8 程序安装成功后，点击桌面图标 ，进入如下界面




9 按照提示，连接好设备，程序自动运行到主界面。

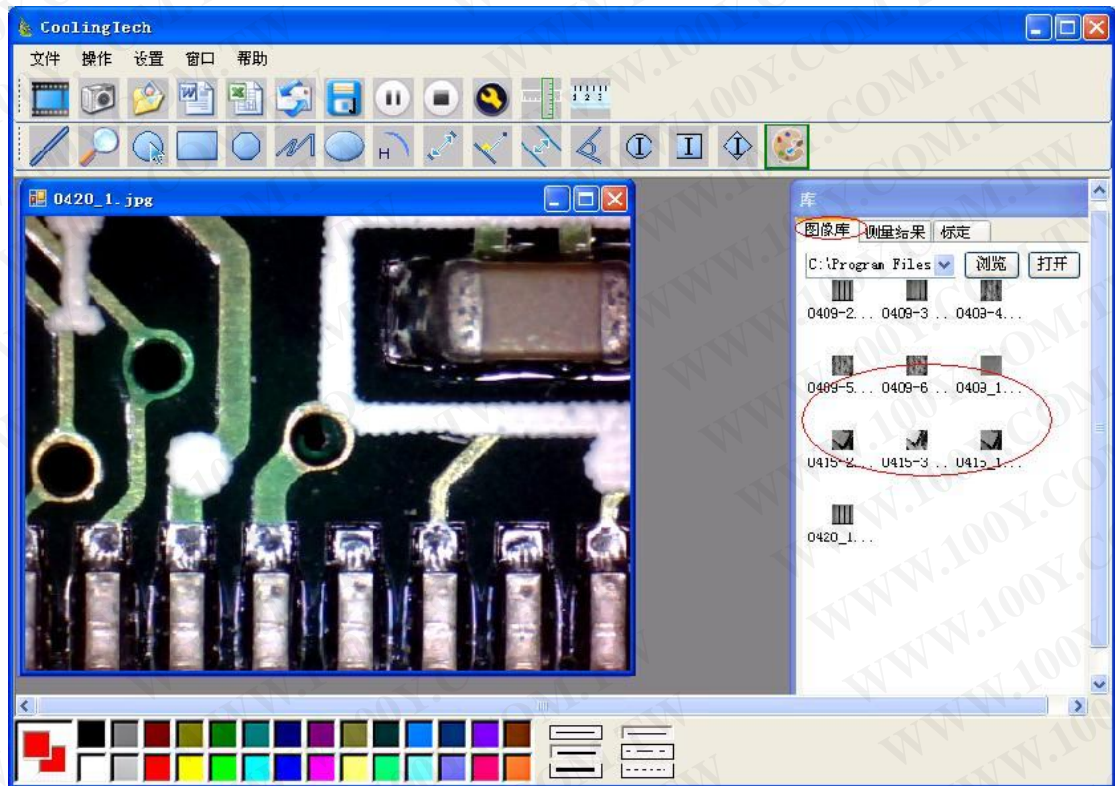


10 点击

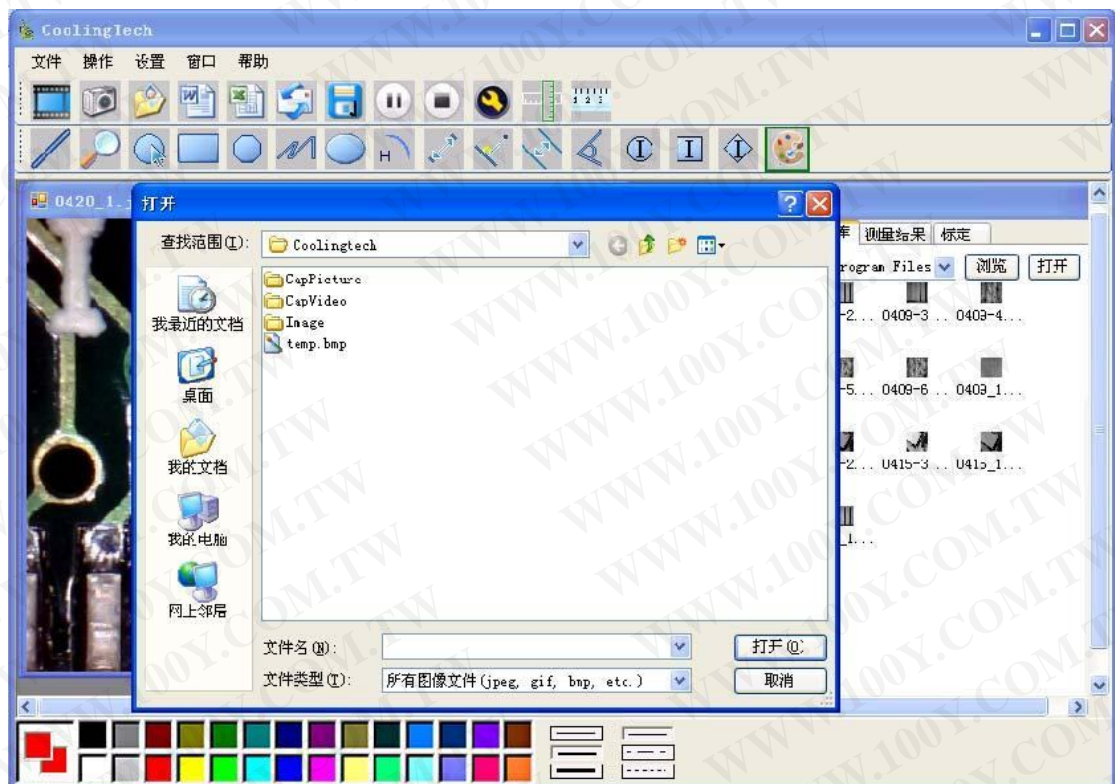


选择视频分辨率，视频分辨率范围320*240~1600*1200，分辨率默认值为640*480。

- 11 点击 ，采集图片，可执行数据量测功能。由于动态影像不是很稳定，本软件将采用静态模式下进行量测，测量精度会相应的提高



- 12 点击  可以打开之前存储的图片；点击  可以保存图片到计算机指定文文件



13

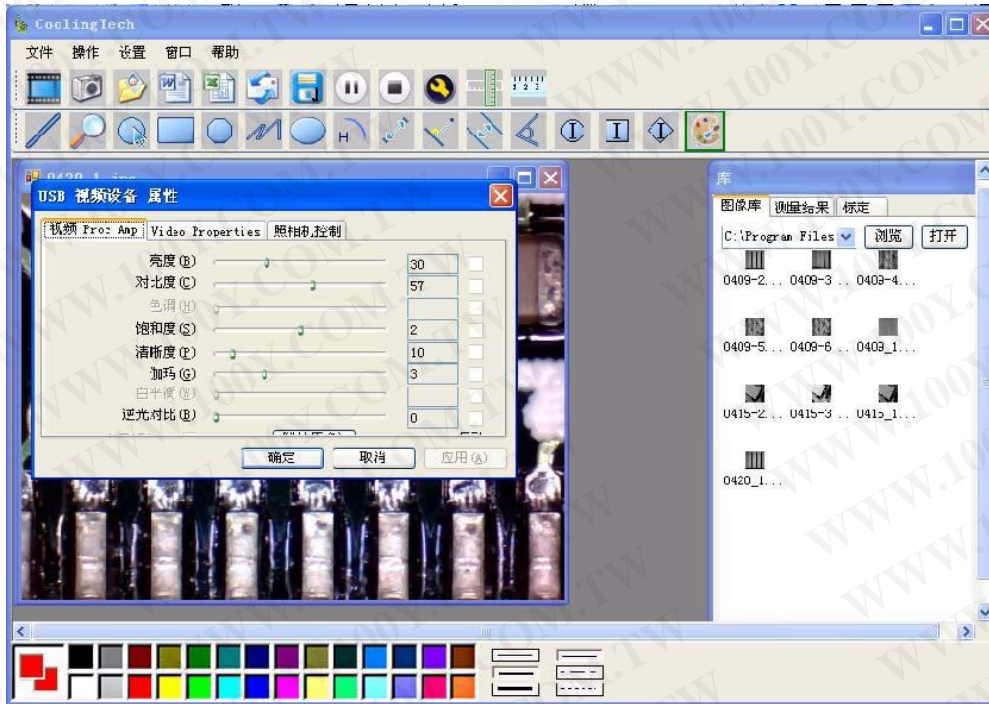


视频暂停和终止

14



点击



15

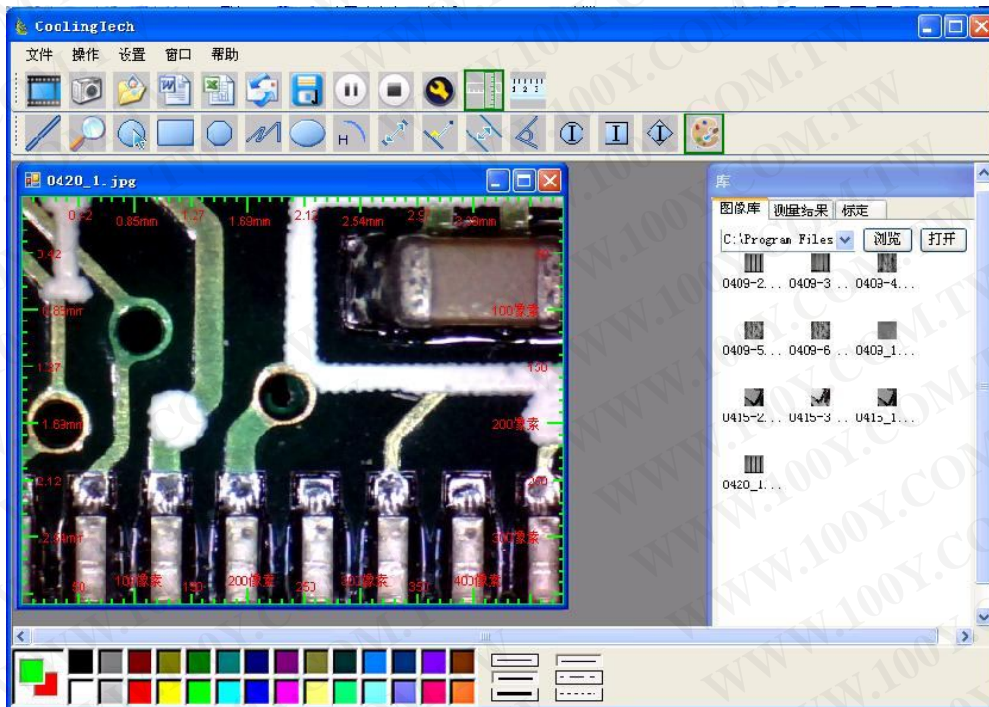



图像放大

16

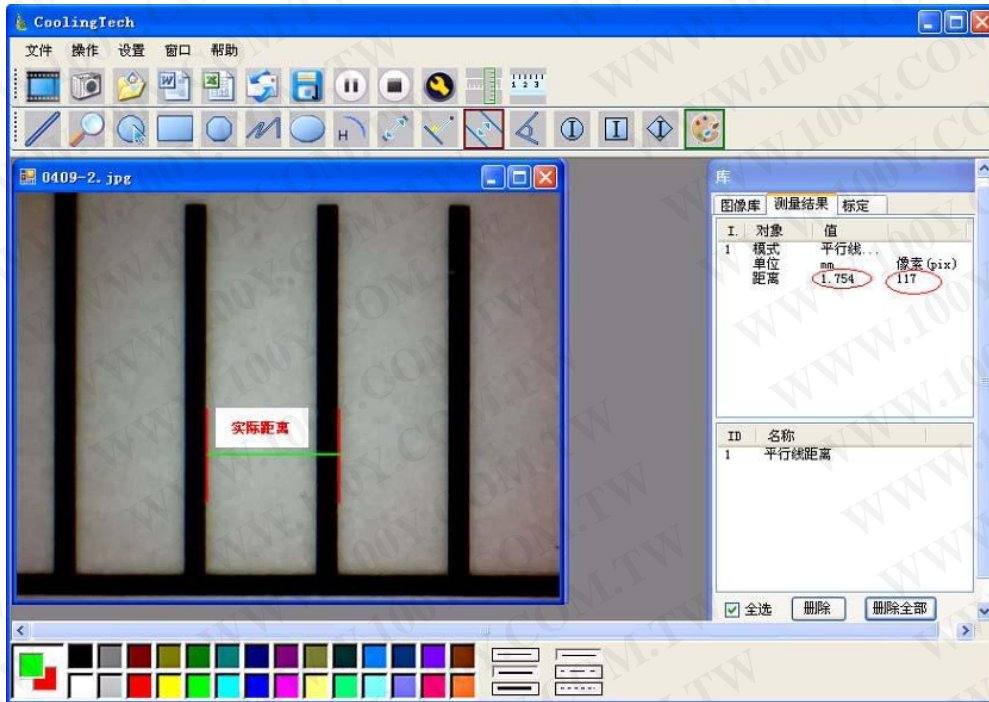


点击图标，显示如下带标尺线界面

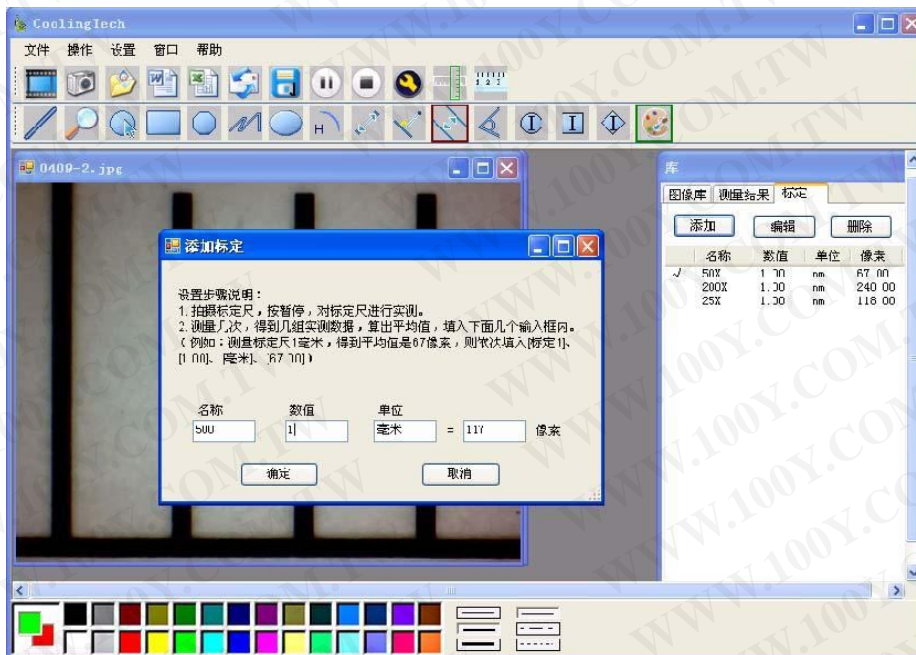


17 点击图标 ，进入测量精度校正功能

为了提高测量精度，每次使用显微镜测量软件前，倍率改变，校正也要改变，测量精度就可以达到99%。当然校正后的校正值可以保存，下次如有同样倍率也可以使用，测量误差相对较高。精度校正时，建议对同一个实际值进行多次测量取平均值的方式进行。另外本产品还配备专用校正尺，请不要使用其它标尺校正，以免影像测量精度。



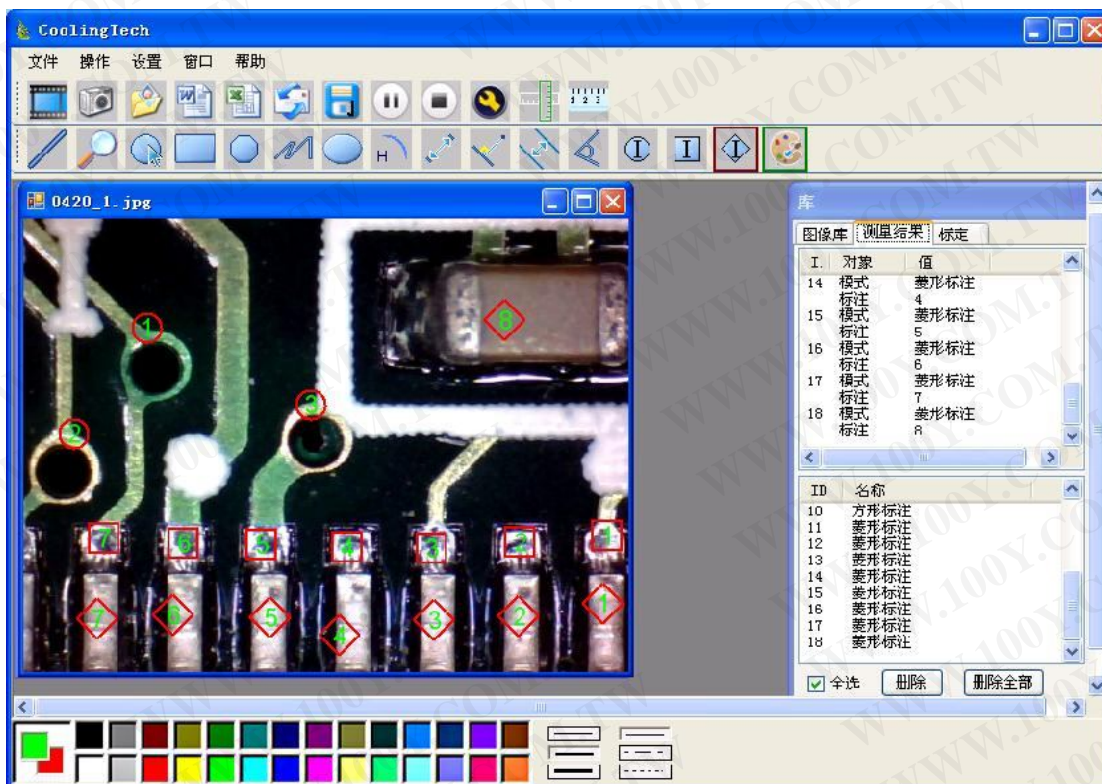
输入测量值，和相应的单位




校正就完成了，在这个倍率下就可以做量测了。

注意：

放大倍率改变，必须重新校正。

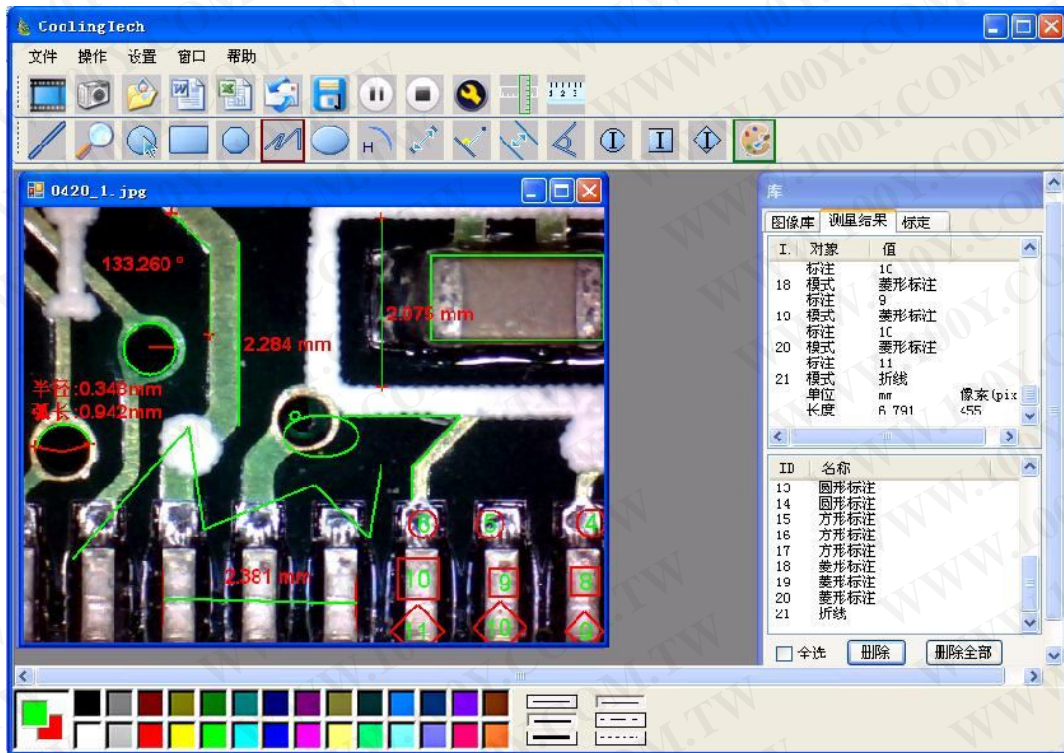



 , 测量的结果可以以Word, Excel, 或邮件格式输出。
 下面是一个测量结果Word的输出范例

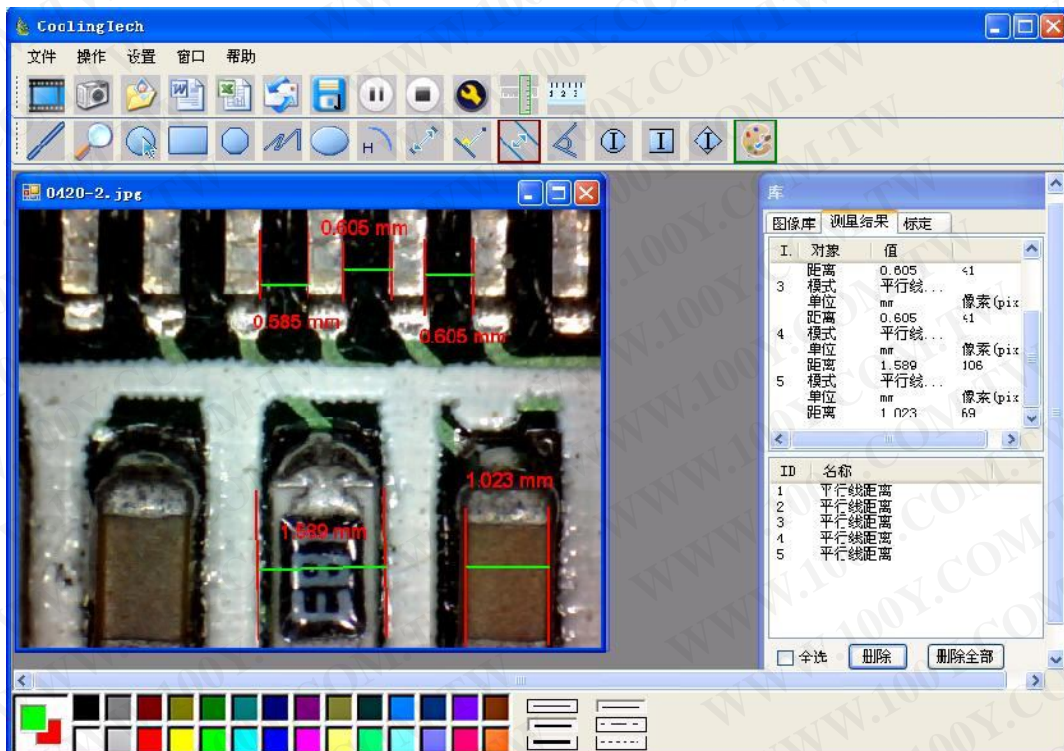




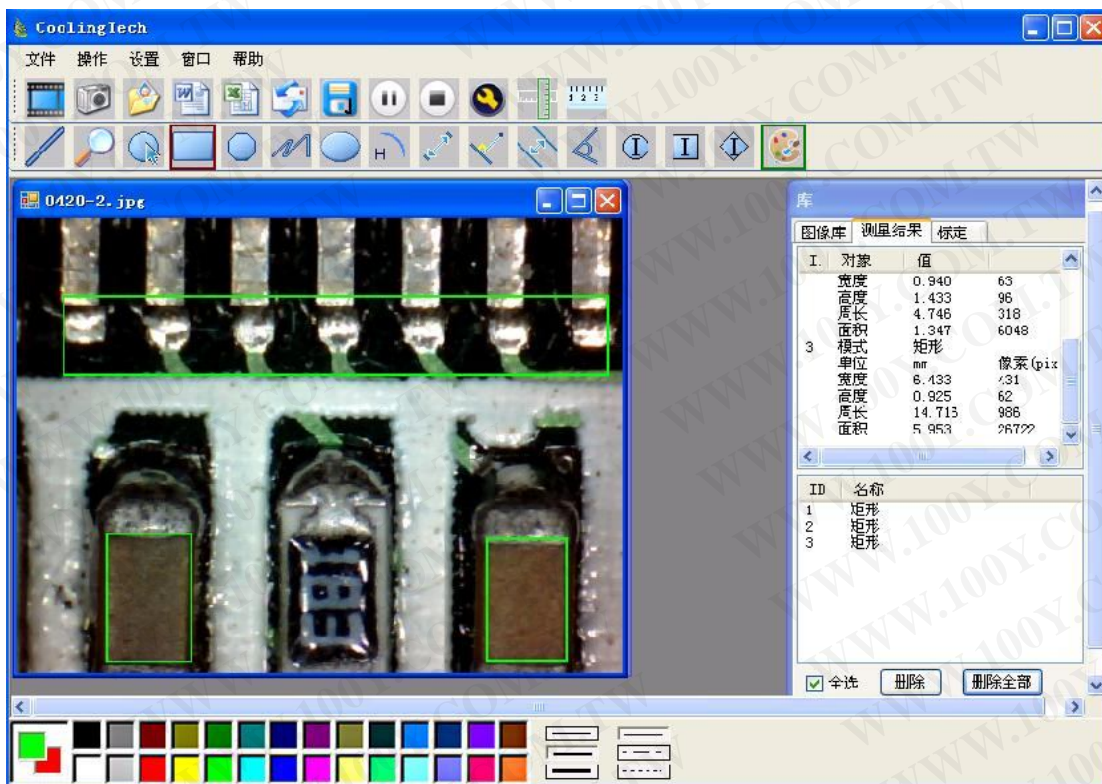
从左到右：
 直线测量，圆测量，矩形测量，多边形测量，折线测量，椭圆测量
 圆弧测量，点对点测量，点到线测量，并行线测量，角度测量。
 如下图：



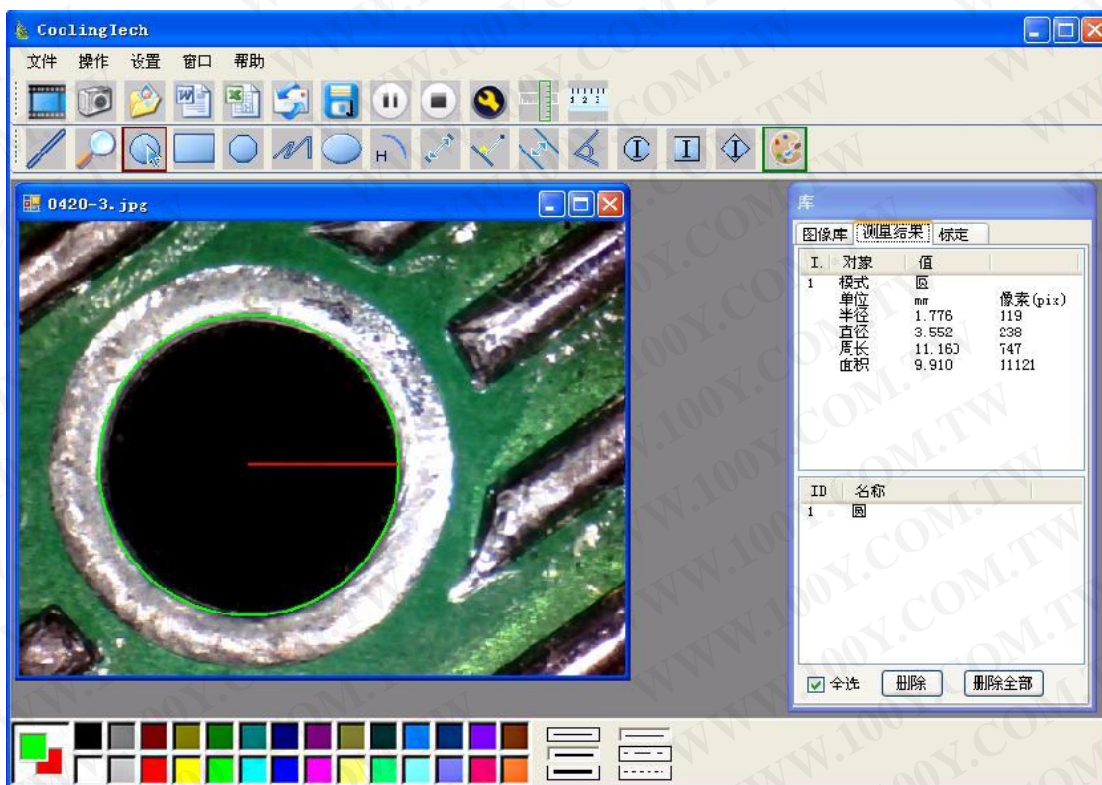
范例1：并行线测量




范例2：矩形测量



范例3，圆测量



3在安装驱动时如提示需要安装**Net Framework 2.0**，请点击

按照提示，继续下去就可以了

**Thank you for purchasing our U500X Digital Microscope,
it is a slim type tool and can be easily used in different fields
including:**

1. Textile industrial for textile inspection
2. Printing inspection
3. Industrial inspection: PCB, Precision machinery...
4. Educational purpose
5. Hair examination
6. Skin examination
7. Microbiological observation
8. Jewelry & coin (Collections) inspection
9. Visual Assistance
10. Others

Currently we have two models of Digital Microscope: USB port and TV port formats.

The USB microscope must be connected to the computer and TV microscope be connected to visual device (N/P). User interface is very friendly and you can do the Measure work easily.

You can find more information of the product on this manual.

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Parts of Microscope



Specification

Image CMOS Sensor

Controller High Speed DSP (Driver Free available)

Focus Range 15mm ~ 40mm

Snap Shot Software and Hardware

Video Capture Resolution 0.3M.

Built-in 8 White-light LED and adjustable illumination ensure the magnified images are clear and bright

Still Image Capture Resolution 640*480

Frame Rate 30 f/s under 600 LUX Brightness

Digital Zoom 5X Sequence Mode

Brightness Control Manual adjustment

Magnification Range 25 X ~ 200X (Manually)

Power Supply USB Port (5V DC)

USB 2.0 & USB 1.1 Compatible

Operation System Windows XP, Vista, Win 7 32 bit and 64 bit.

Language: English, Chinese and other language by selection

System Requirement: Pentium Computer with 700M Hz & above,
20M HD Space CD ROM Driver, 64MB RAM, Direct X VGA Card

CD disk Driver and Micro-Measurement Tool

Product dimension 112 mm (L) X 33 mm (R)

Product net weight: 380g

Available color: Matting black, UV black; and other colors.

Notes before use

1. Don't disassemble the digital Microscope or change the interior parts, it can cause damage.
2. Don't clean the Microscope with alcohol organic solvents
3. Don't touch the lens with your fingers.
4. Avoid outdoor use if possible.
5. Storage temperature , 0°C ~ 40°C, Humidity: 45%RH ~ 85RH%.
6. In case the product gets wet, leave PC connection immediately. And do not disassemble or dry by hair dryer. Send to repair center if the digit microscope was effected by liquid or other elements.
7. Measurement Data only for reference.

Product Outlook & Standard parts

1. Digital Microscope (1pcs)
2. USB 2.0 cable
3. Metal fixed Stand (1pcs)
4. CD ROM (Driver, Measurement software, User Manual)

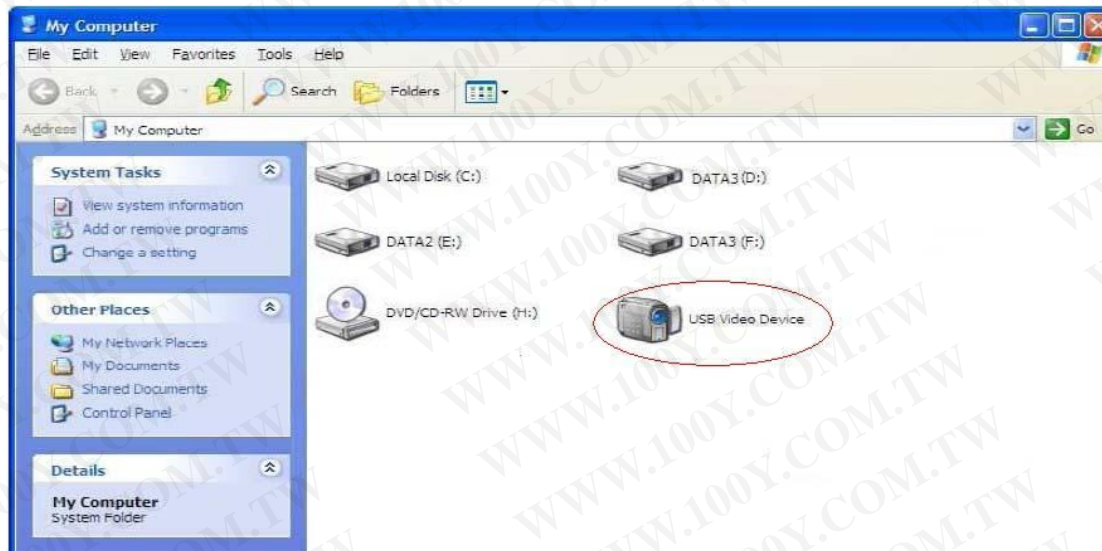
Hardware system requirements

Windows 2000、XP、VISTA、WIN7 Pentium 1G, Celeron, AMD 1G & above, 128MB Memory, 150MB Hard Disc memory space, 16-bit & above VGA ,CD-ROM, USB2.0 or USB1.1.

How to install the Driver

U500X Digital Microscope is a free Driver Product, it can be worked immediately after connected to the computer with operation system above win2000 version.

1. Connect the Portable digital microscope by USB2.0 cable to your computer, double click 'my computer' icon on your computer desktop, below interface will be shown up.



2. Double click the **Video device icon** as above red marked in your computer. Now it is ready to use.

If you can't find the Video device, or if your computer can't recognize it, please follow below steps to install the driver.

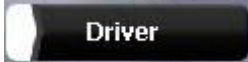
Insert the attached CD, system will auto run to the interface as below and follow the steps to complete the installation:

(NOTE: If the computer can't auto run the disc, you need to operate

manually by click "My Computer" → "DVD/CD Driver" →
run"AUTORUN.EXE")

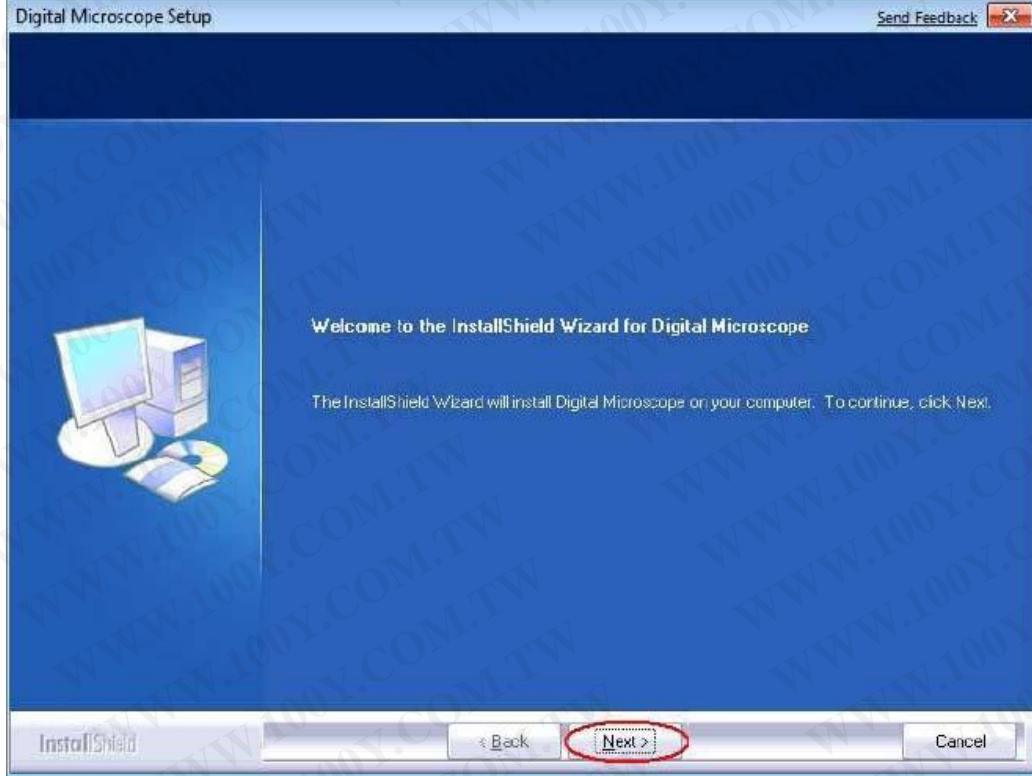


1. Driver installation

1 Click  to continue, the screen will show the installation progress.

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Click“next”to continue, as followings:



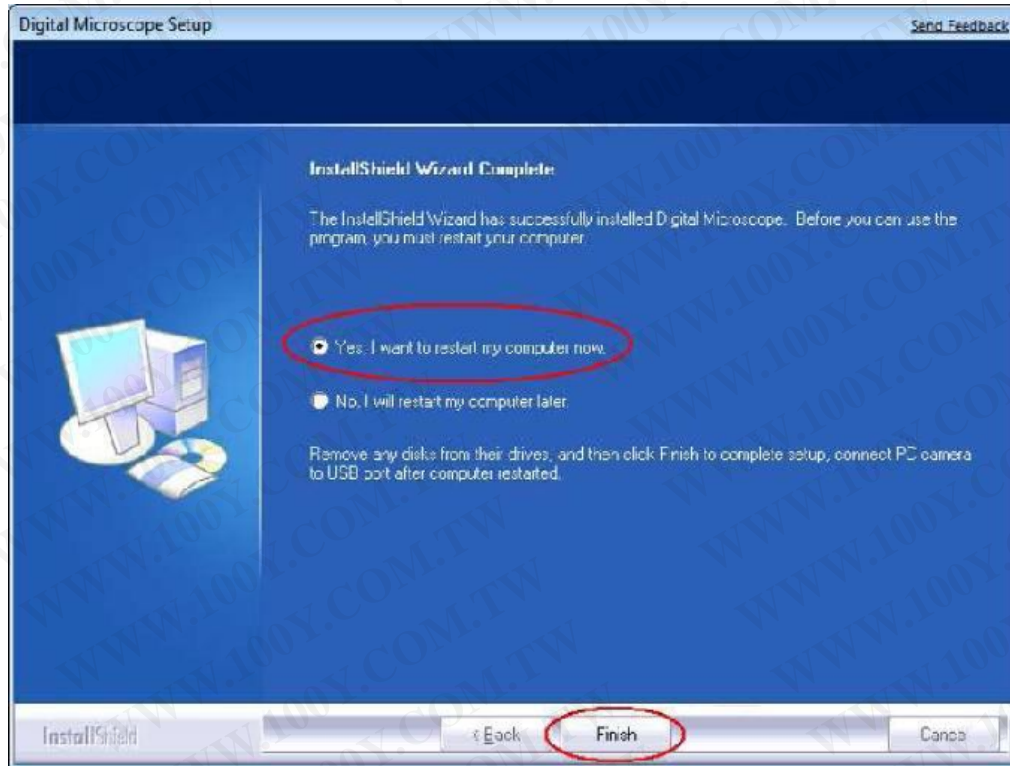
Click“next”to continue, as followings:



Click “continue Anyway”,as followings:



Click“Finish”to continue, as followings



Select 'Yes, I want to restart my computer now', and click "finish".

After restart your computer, Plug-in the USB port of Digital Microscope into Computer USB port. Following the user guide by steps and complete by click "Next" -> "Continue anyway" -> "Finish".



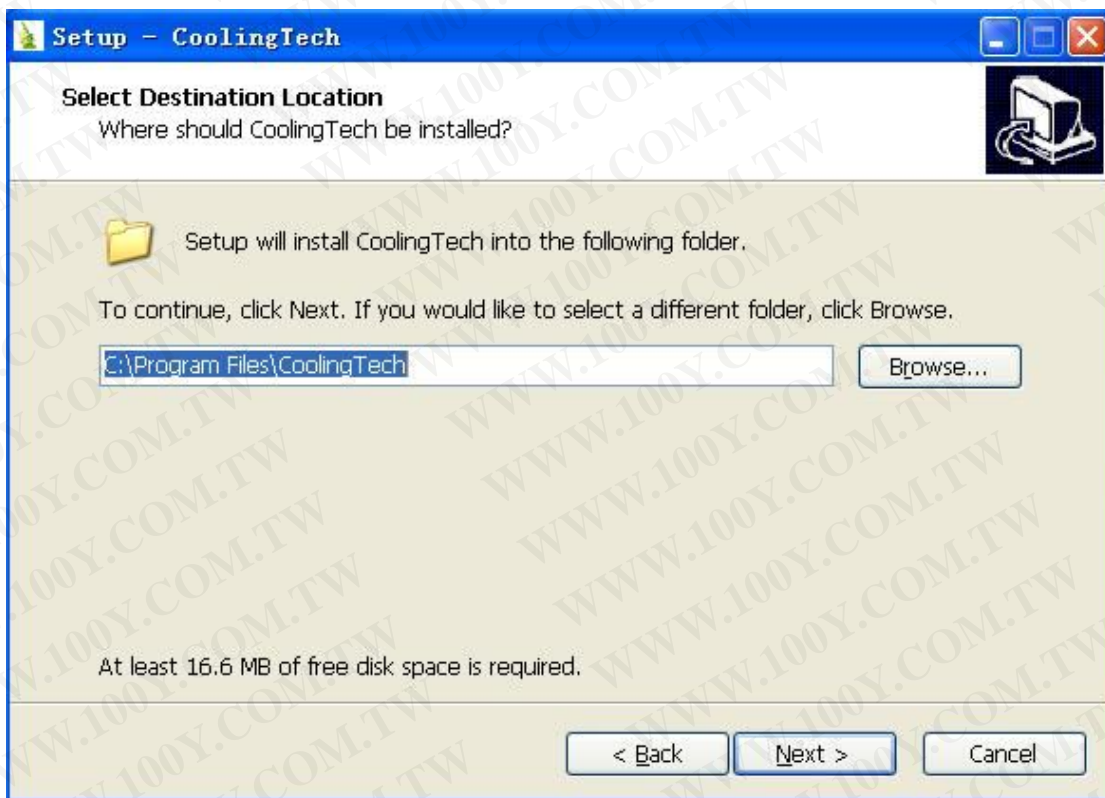


2 Measurement installations:

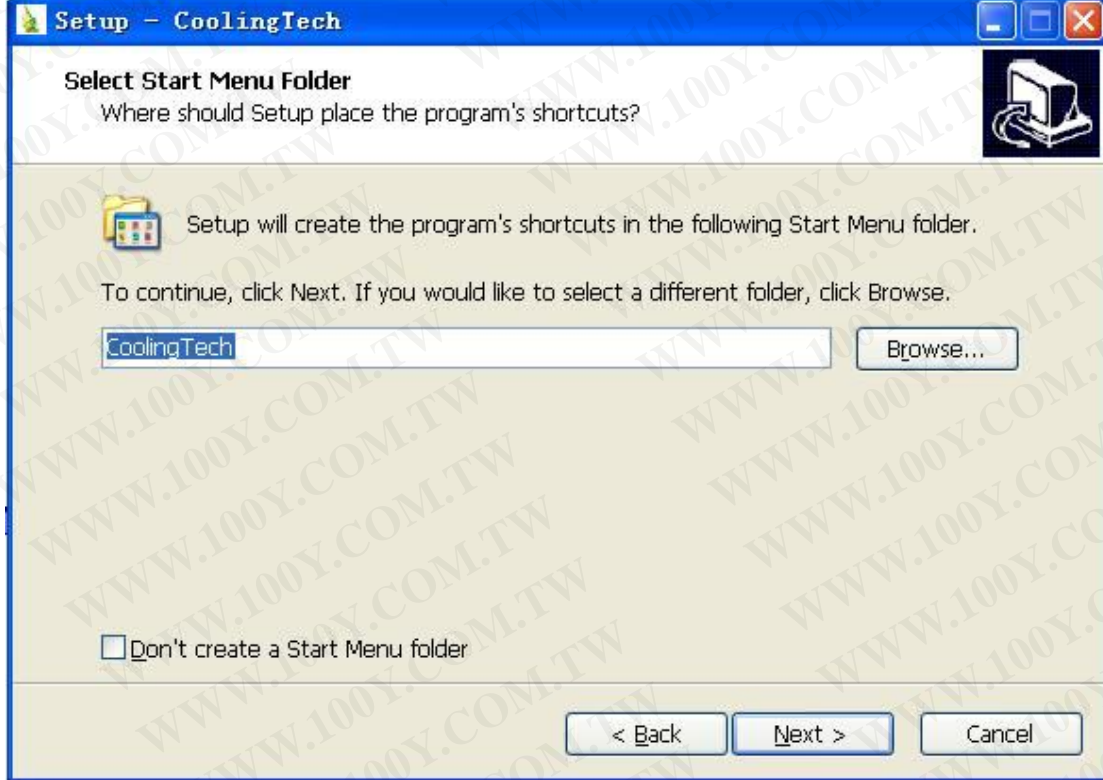
- 1 Click  to continue, as followings



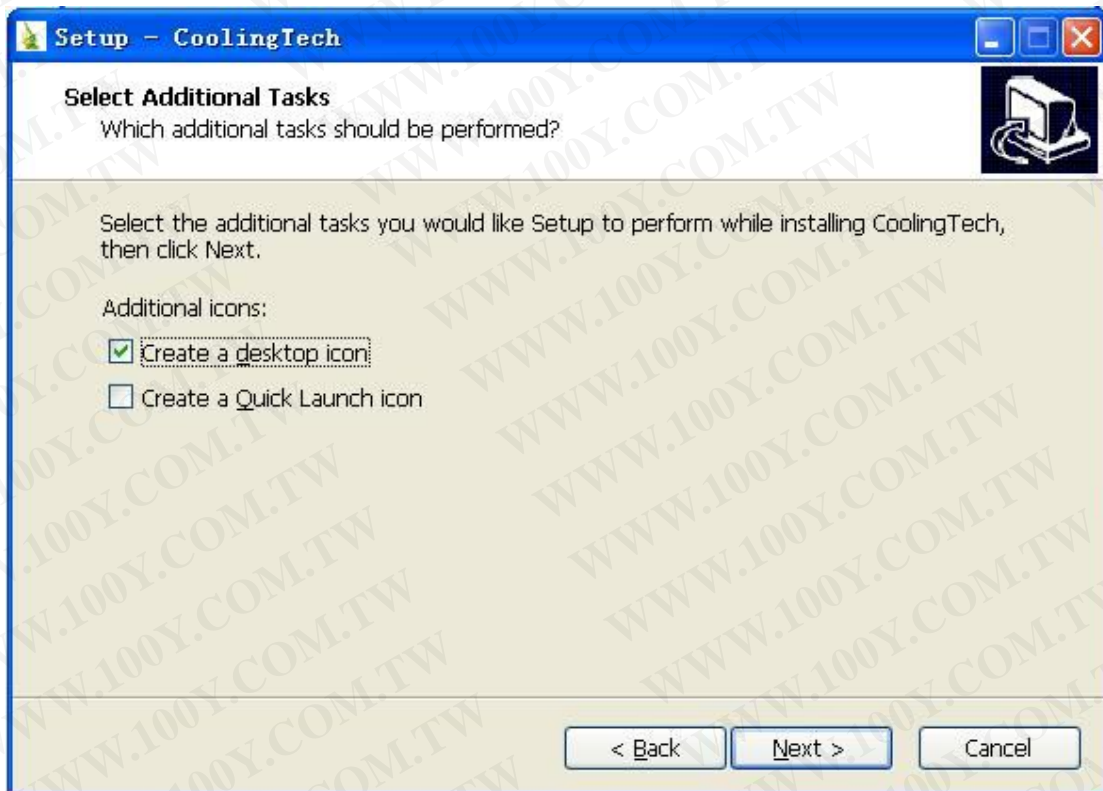
2 Click “next” to continue, as followings



3. Click “next” to continue, as followings



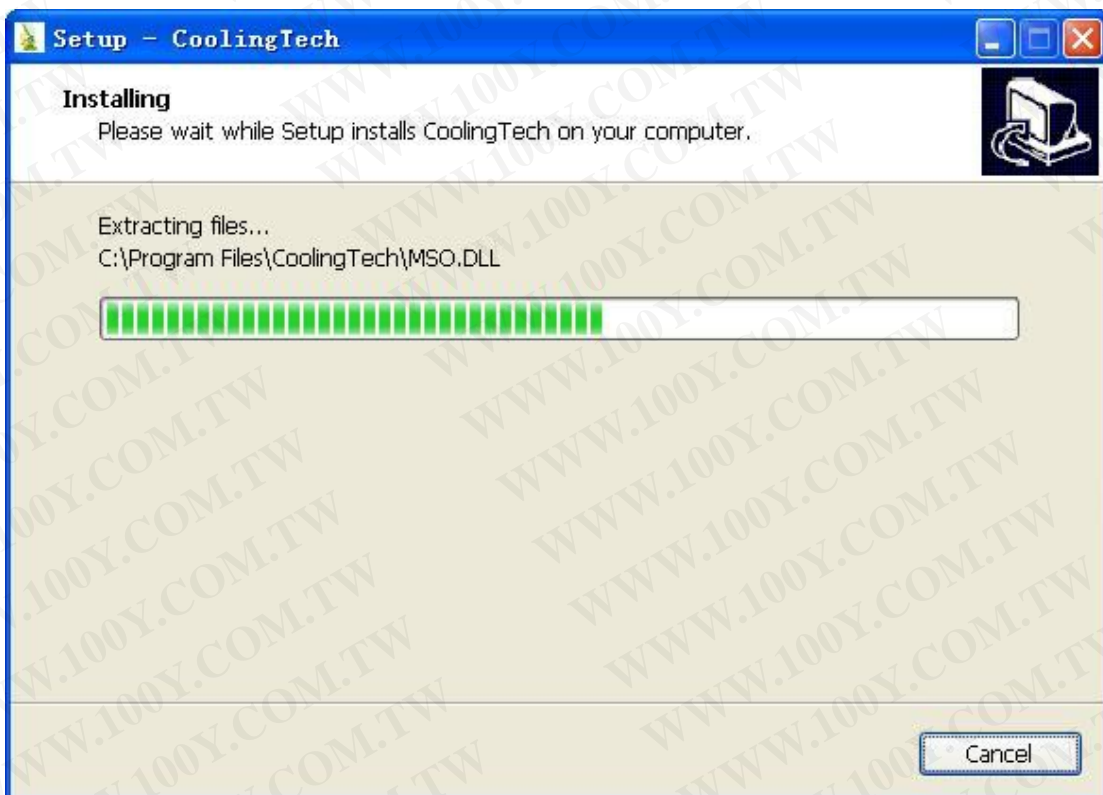
4. Click “next” to continue, as followings



5. Click “next” to continue, as followings




6 Click “Install” to continue, as followings



Wait a few seconds while the installation taking place.

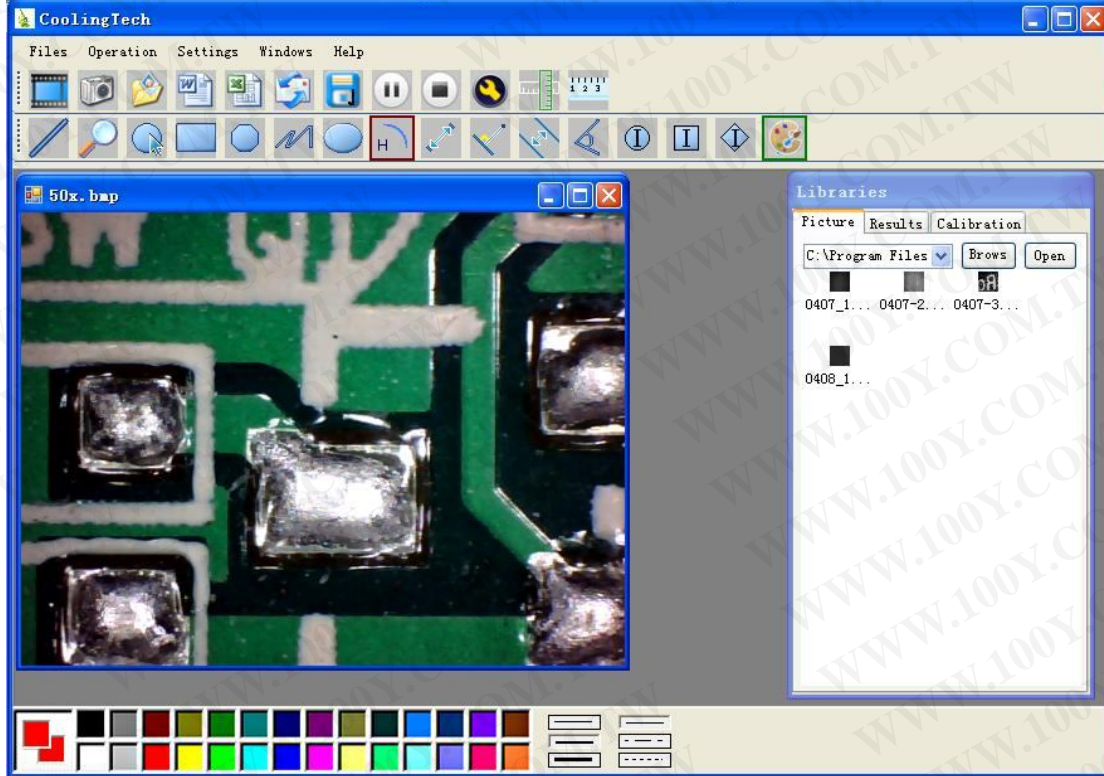



7. Click "Finish" and the installation completes.

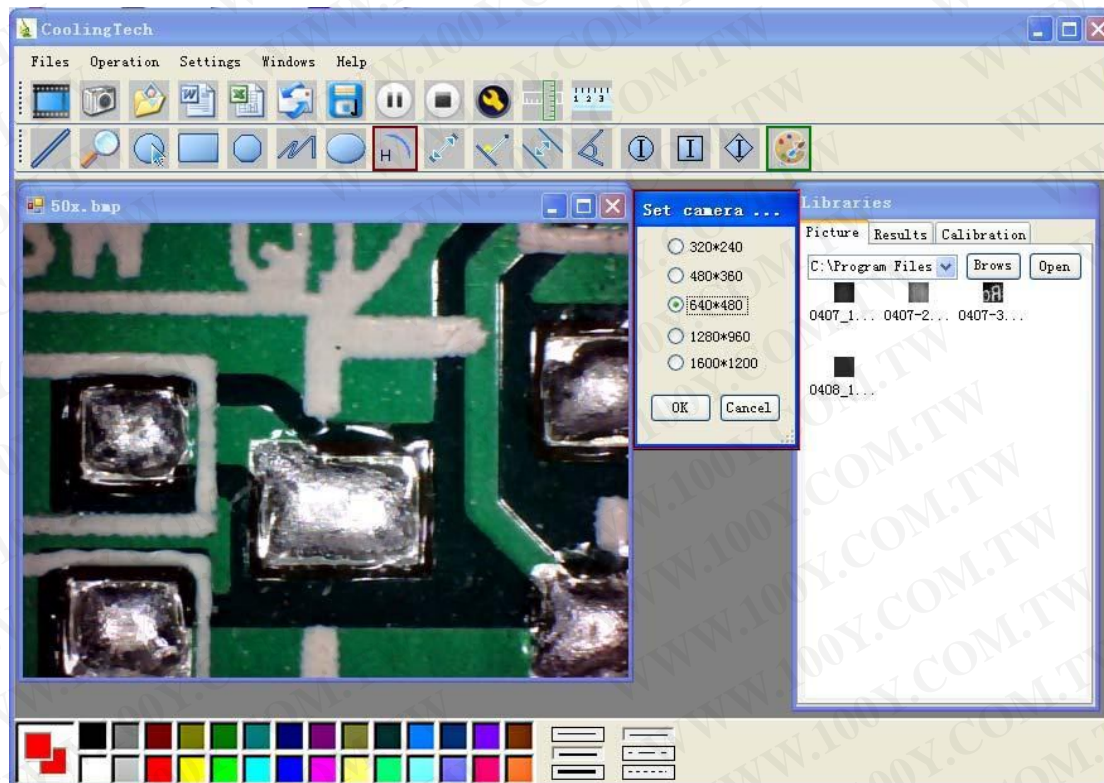
8. After the installation completes, double click  at computer desktop to start using the software.




Plug-in the devices, Display in operation window

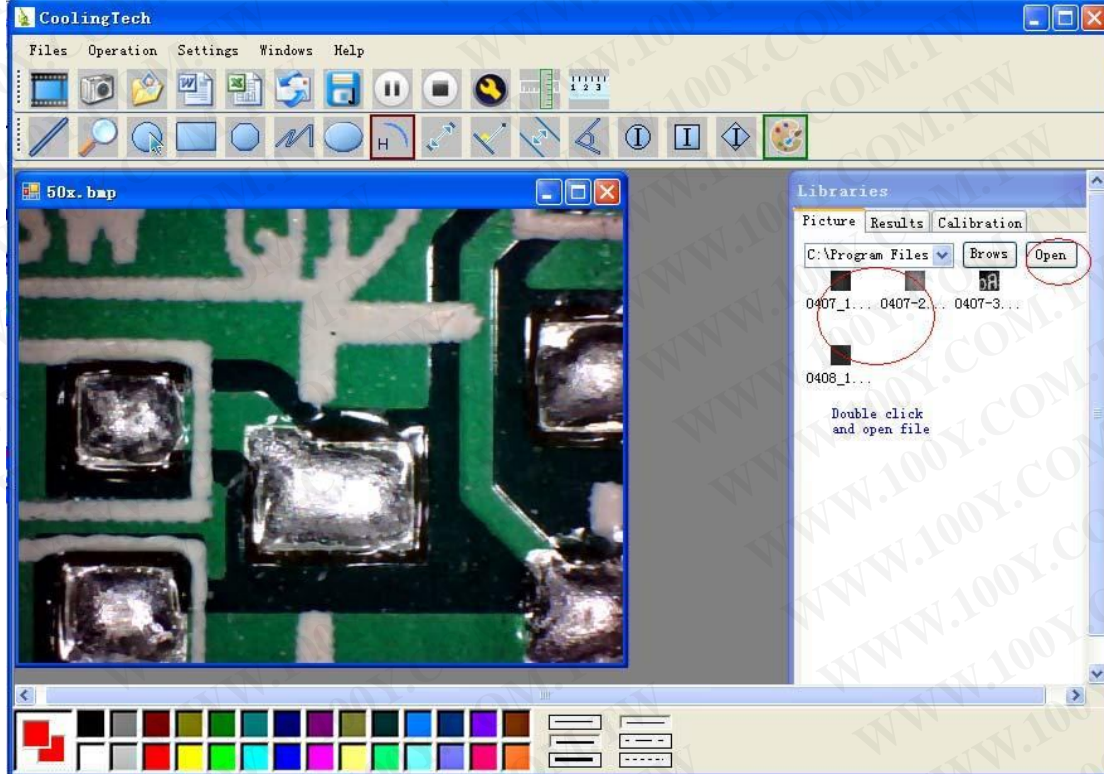




9 Click  ,open the operation system



Choose the Image resolution from 320*240 to 1600*1200, default at VGA Mode640*480

10 Click  to use measurement function.



11 Click  to open pictures, and click  to save pictures

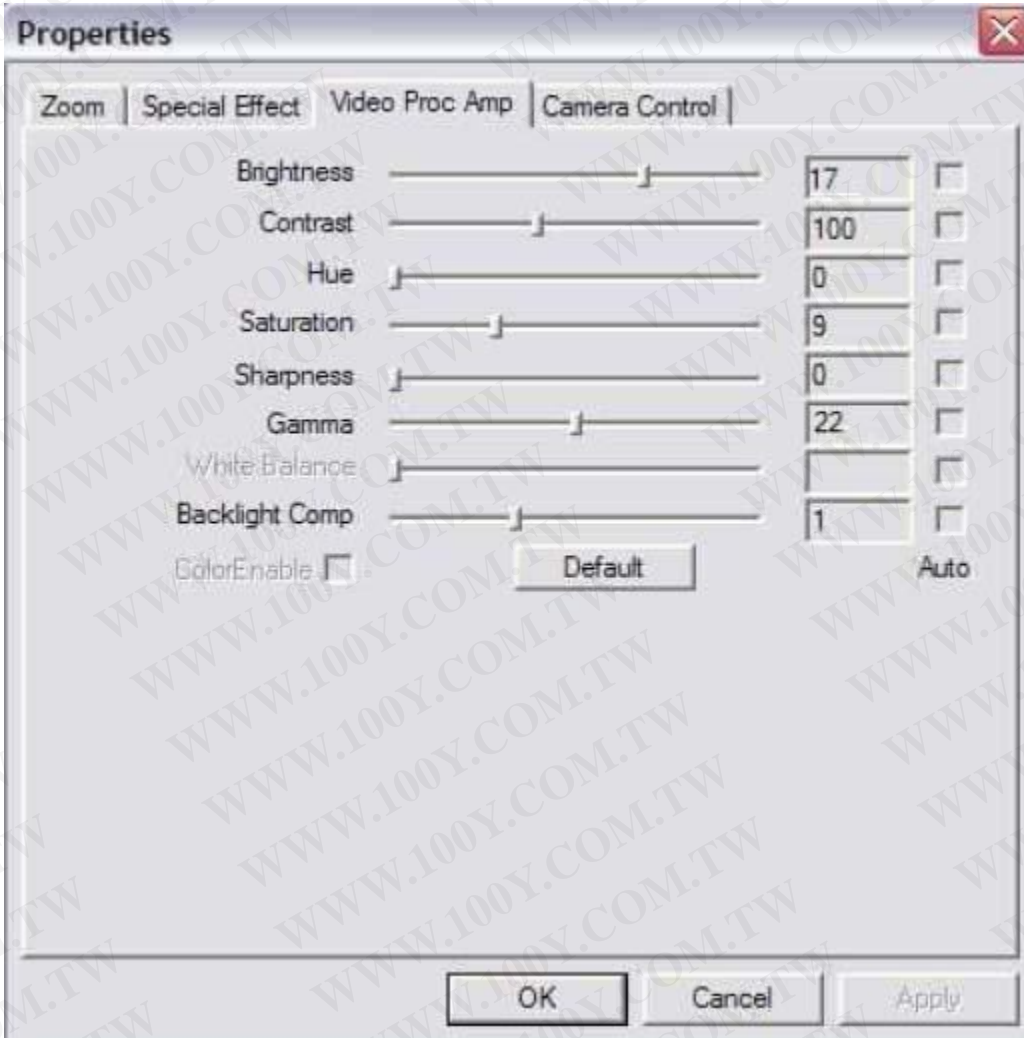


12  
Video PLAY(Pause) ,STOP

13



Image Parameter including Image setting and special effects



15

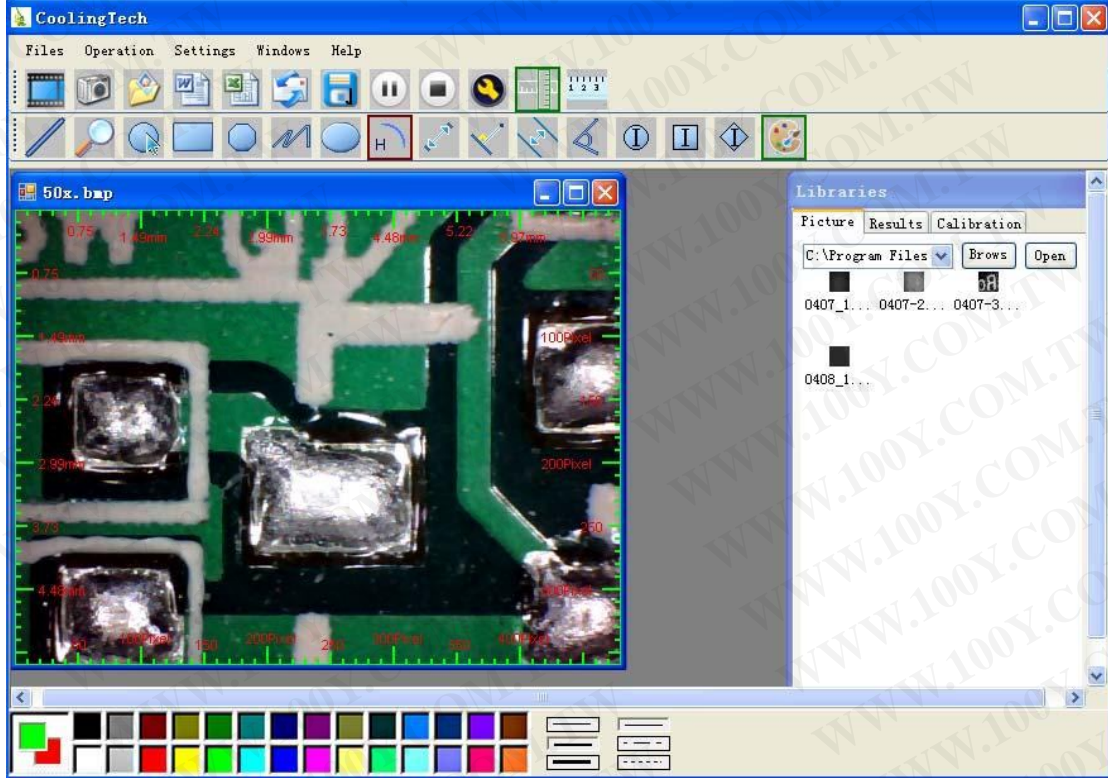



Magnifier

16 Click

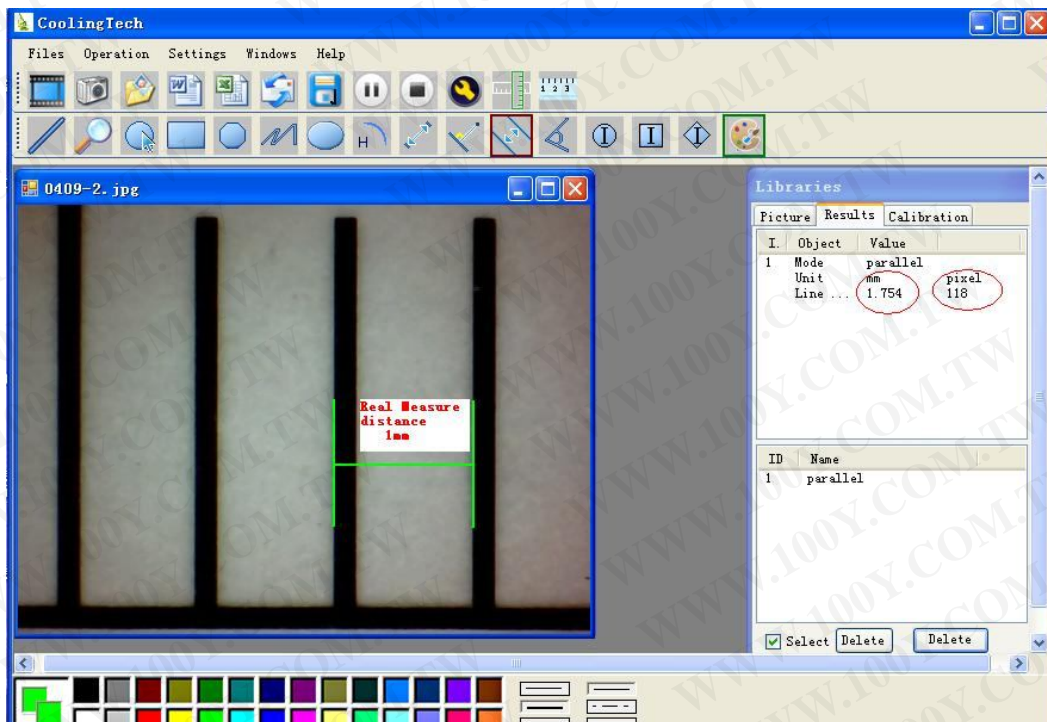


Ruller, as followings

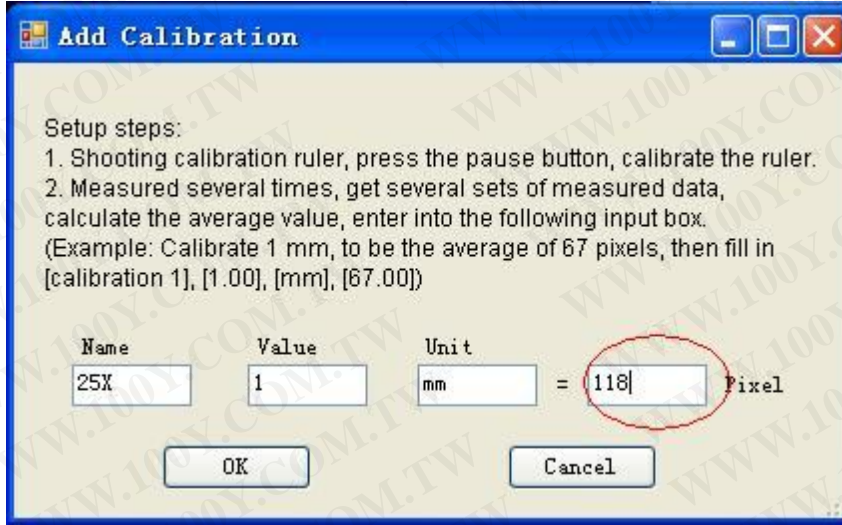


17 Click  , start calibration make sure certain accuracy.

Our experience told us that measurement could be controlled at 99% high precision. Measure tolerance could be caused from human eye distortion and defocus. More practice is helpful to measurements.

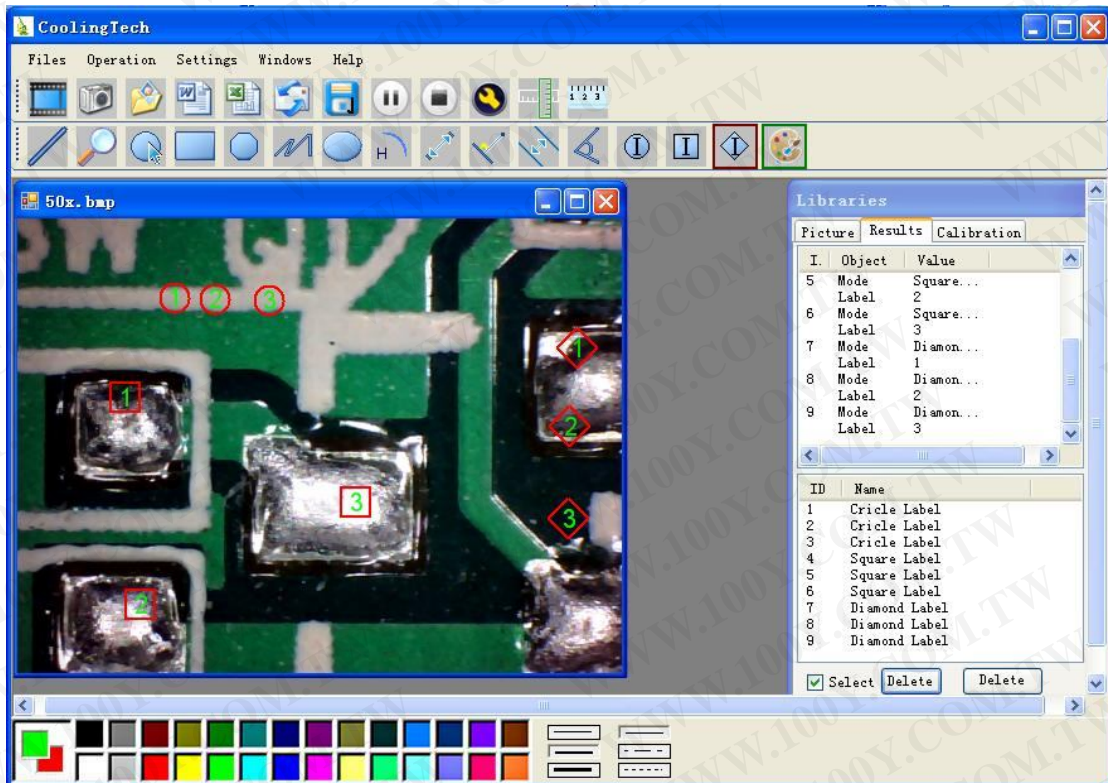


18 Key in the Measure data(Pixel),Unit, and Click' OK'



Warning:
Please do calibration again once Magnification Ratio changed.

19  Color setting of display character



20 Click  to export word or excel format.

Example: Measure data under word file

Result output

Time: 2010-04-09 17:27

Data:

| Mode | Unit | Line Length |
|----------|------|-------------|
| parallel | mm | 0.688 |
| parallel | mm | 非数字 |
| parallel | mm | 0.000 |

Angle:

| Mode | Unit | Angle |
|-------|--------|---------|
| Angle | Degree | 129.289 |
| Angle | Degree | 128.425 |
| Angle | Degree | 135.000 |

Picture:

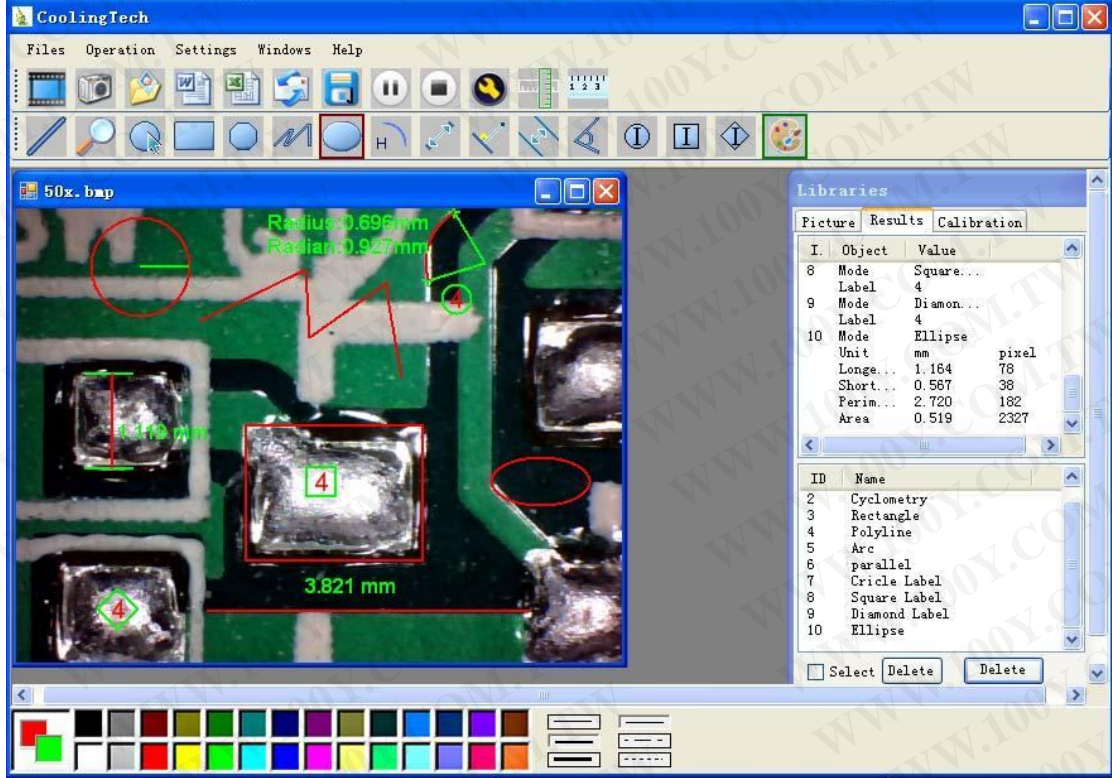
From Left to right:

Line ring Square Polygon Set-line Length

Oval Arc Point to Point distance Point to Line distance

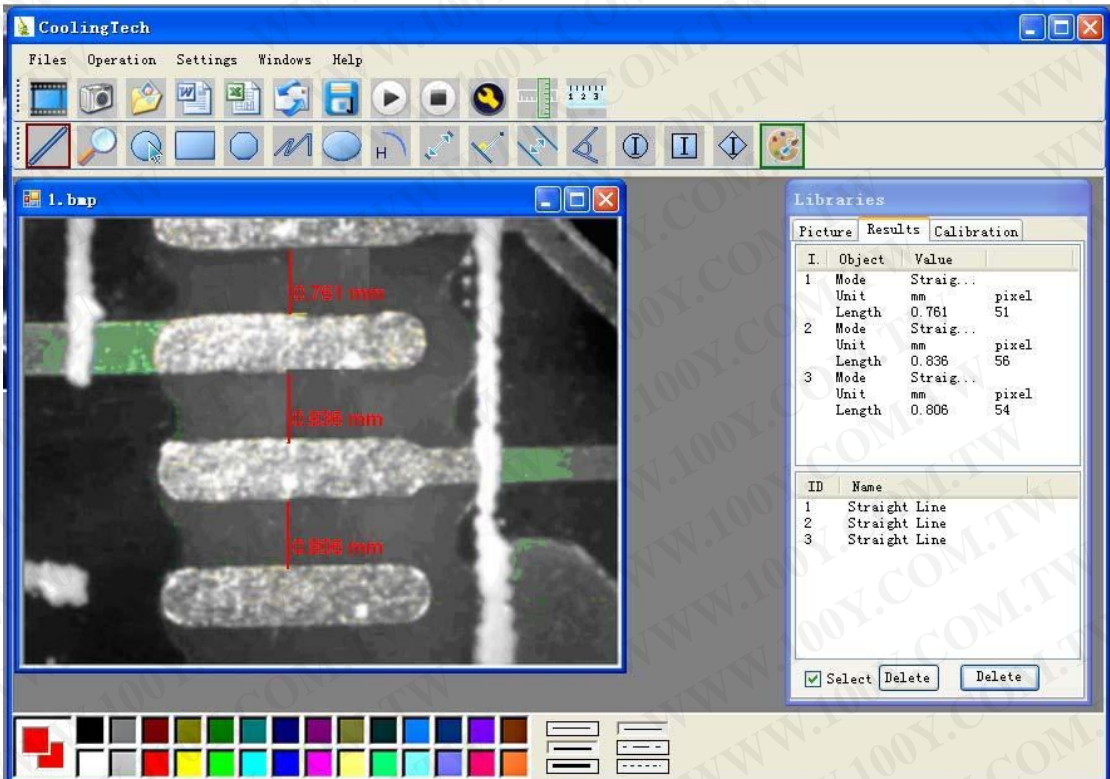
Parallel line Angle

(as below show)



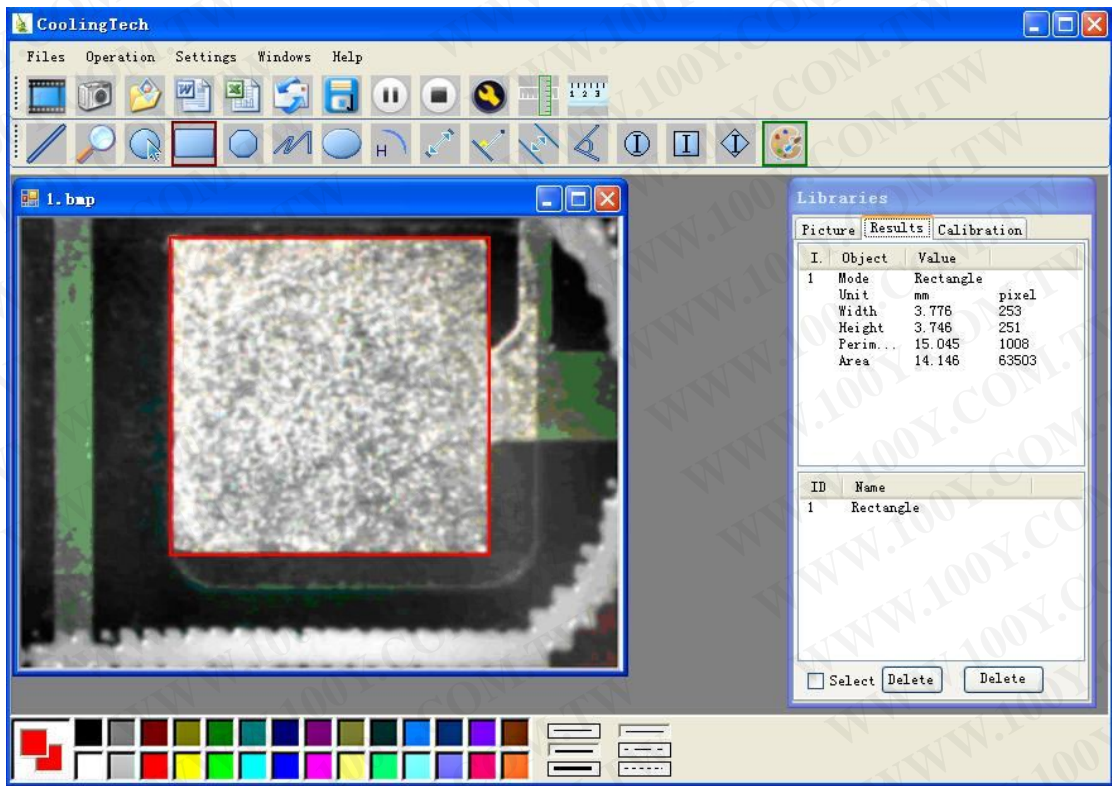
For example 1

Line measurement:



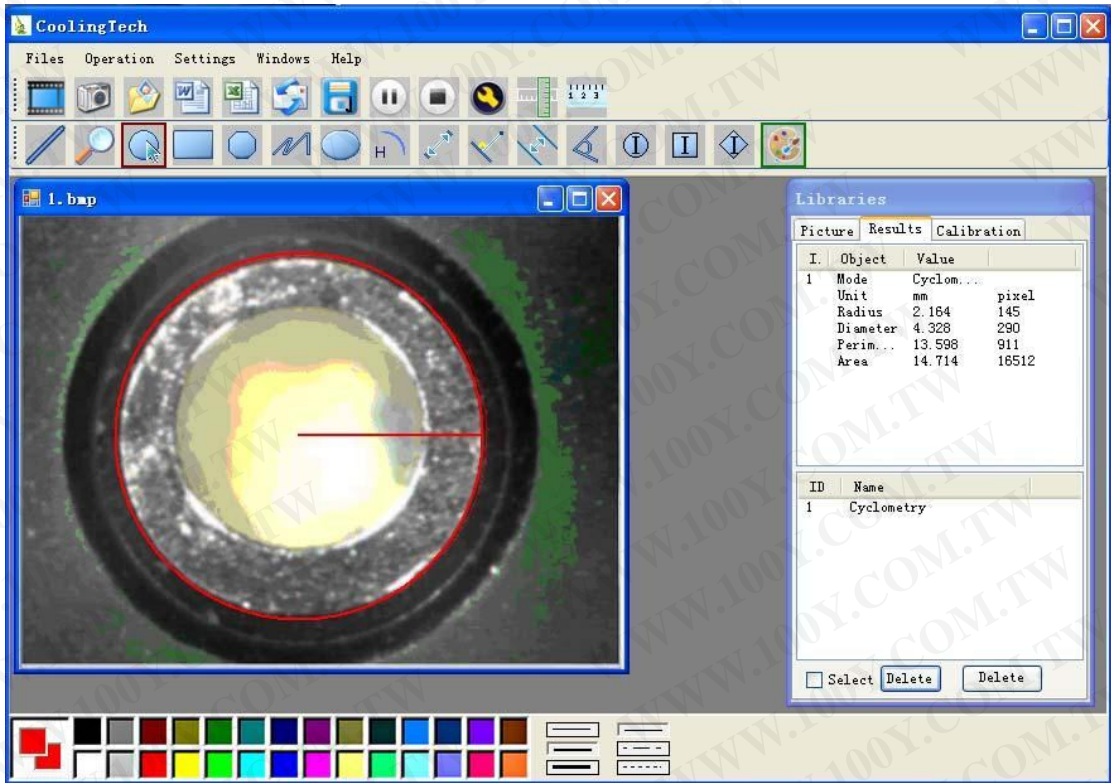
For example 2

Rectangular measurements:



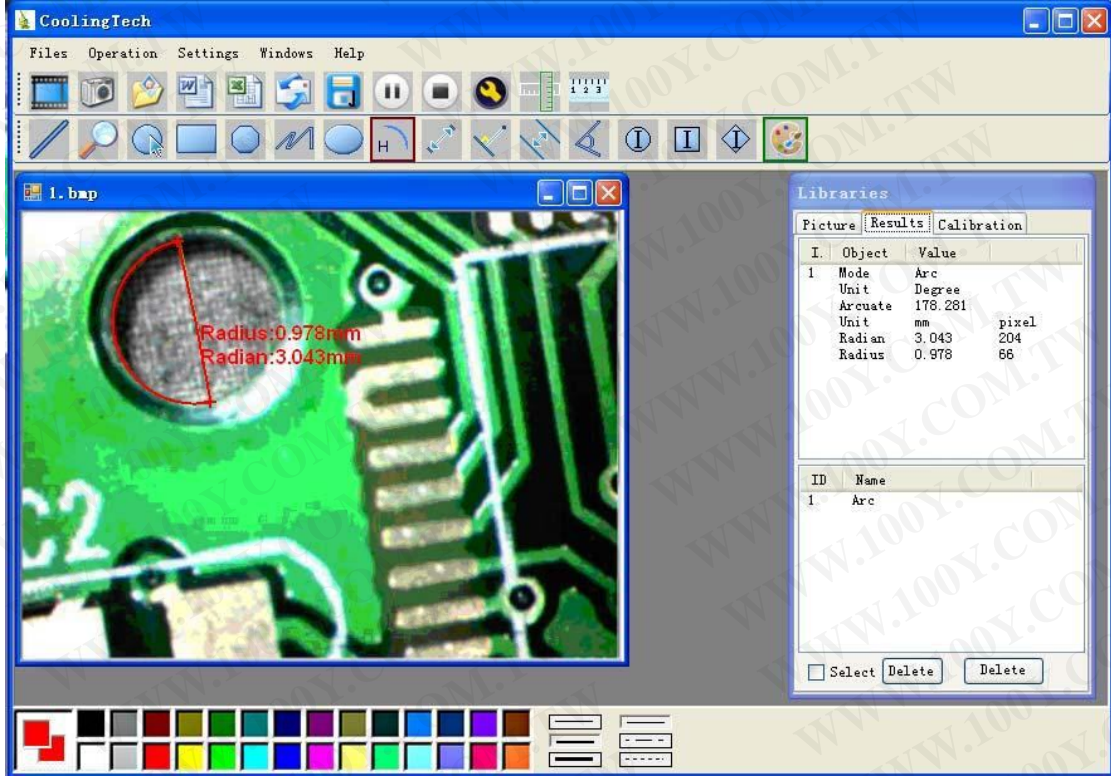
For example3

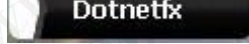
Ring measurements:



For example 4

Arc measurements:



3Please click  to Continue when the NET Framework2.0 is necessary