ProTools DTC-22 El Tipi Termal Kameralı Analiz Cihazı

Contents

1 **Overview**

Handheld thermal camera features and increased temperature range of -10°C to 450°C and a thermal sensitivity of 70mK make this a well suited to various inspections.

The strong Pip (picture in picture) function which allows the IR image to be superimposed onto the visible image for added details in your report.

Another added feature of this camera, the powerful LED light which allows you to take visible images even in dark environments.

With Wi-Fi as standard you can now seamlessly transfer your images to your computer. This enables you to view, edit and create reports quite easily.

2 Specification

The ProTools DTC-22 Infrared thermal imaging camera specification is below:

Parameter		Specification
Infrared Thermal Imaging	Detector resolution	320x240
	Frequency band	8~14um
	Frame rate	9Hz
	NETD	70mK@25°C (77°C)
	Field of view	Horizontal 56°, vertical 42°
	Lens	4mm
	Temperature range	-10°C ~ 450°C (14°F ~ 842°F)
	Temperature measurement accuracy	±2°C or ±2%
	Temperature measurement	Hottest, coldest, central point, zone area temperature measurement
	Color palette	Tyrian, white hot, black hot, iron, rainbow, glory, Hottest, coldest
Visible	Resolution	640x480
	Frame rate	25Hz
	LED light	Support
Display	Display Resolution	320x240
	Display Size	3.5 inch
	Image mode	Outline fusion, overlay fusion, picture-in-picture, infrared thermal imaging, visible light
General	Working time	4,800mah battery, up to 5 hours continuous use
	Battery Charge	Built-in battery, it is recommended to use +5V & ≥2A universal USB charger
	Wi-Fi	Support App and PC software data transmission
	Operating temperature	-20°C~+60°C
	Storage temperature	-40°C~+85°C
	Waterproof and dustproof	IP54
	Camera Dimension	230mm x 100mm x 90mm
	Net weight	420g
	Package dimension	270mm x 150mm x 120mm
	Gross weight	970g
Storage	Capacity	Built-in 8G card, store more than 50,000 pictures
	Picture storage mode	Simultaneously save infrared thermal, digital and blending images
	File format	JPG and TIFF format, support full frame pictures temperature analysis

Image analysis	Windows platform analysis software	Provide professional analysis functions of full pixels temperature
Interface	Data and charging interface	USB Type-C（Support battery charging and data transmission）
Secondary development	Open interface	Provide WiFi interface SDK for secondary development

3 Features

3.1 High Resolution

With 320x240 high resolution, the DP-22 will easily inspect the details of object, and the users can select 8 color palettes for different scenarios.

It supports -10°C ~ 450°C

- Iron, the most common color palette.
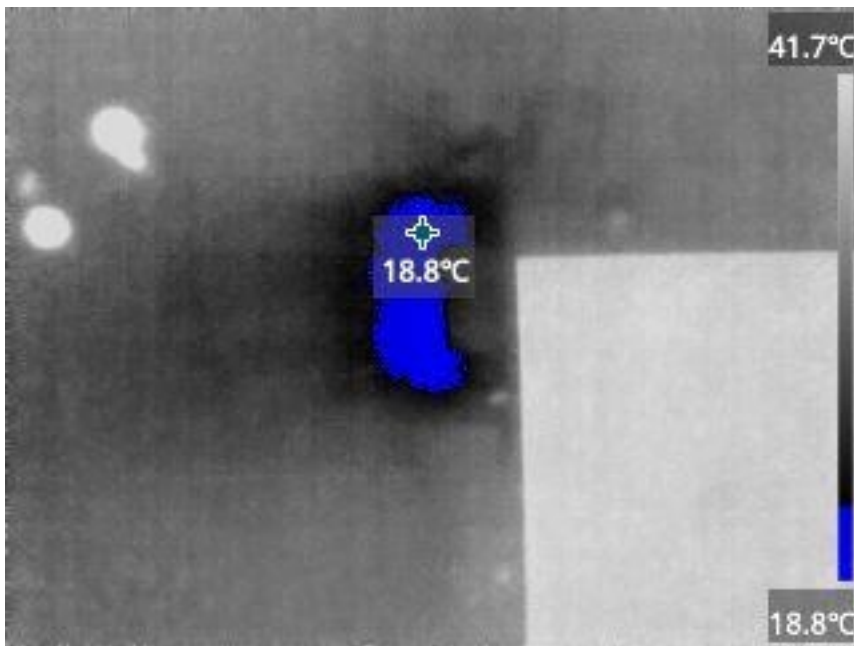

- Tyrian, to stand out the objects.

- White hot. Suitable for outdoor and hunting etc.

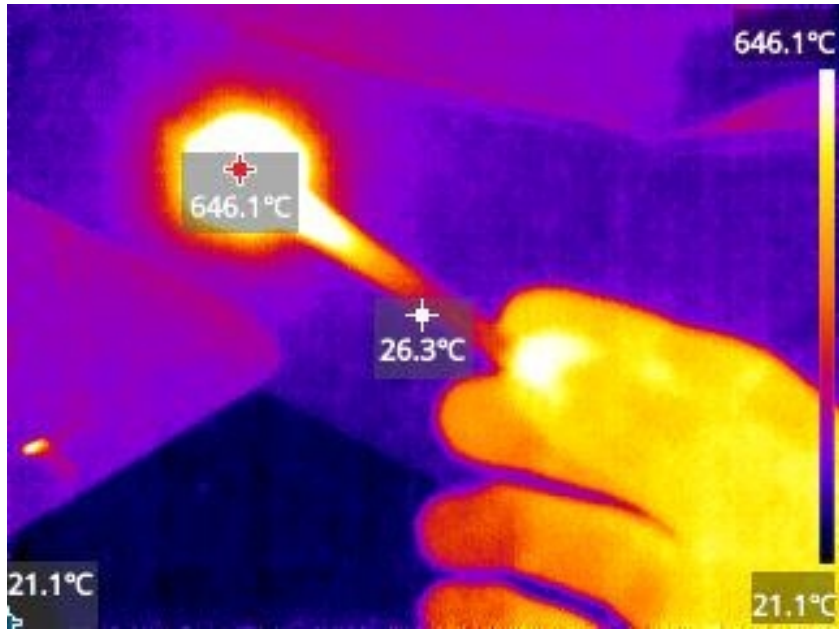- Hottest. Suitable for tracing hottest objects, such as tunnel inspection.
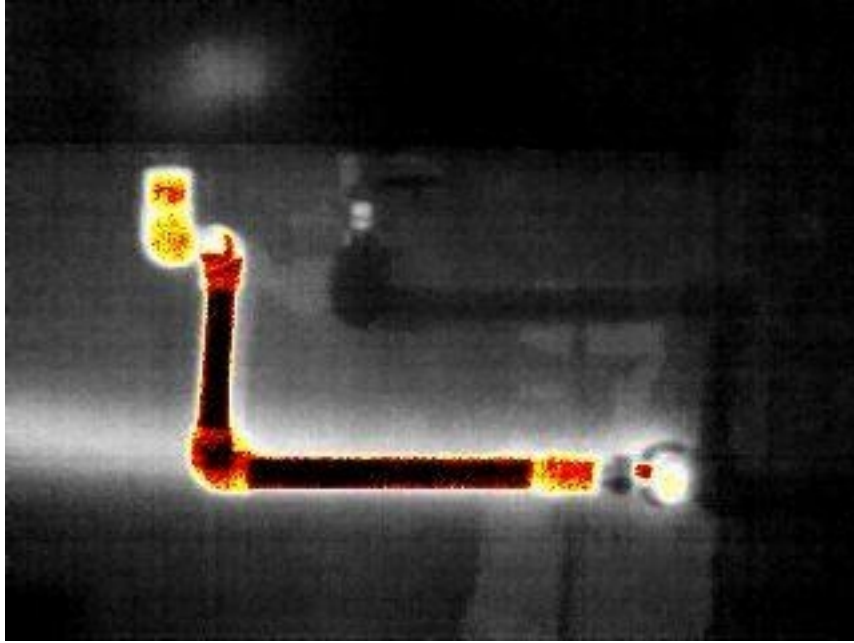
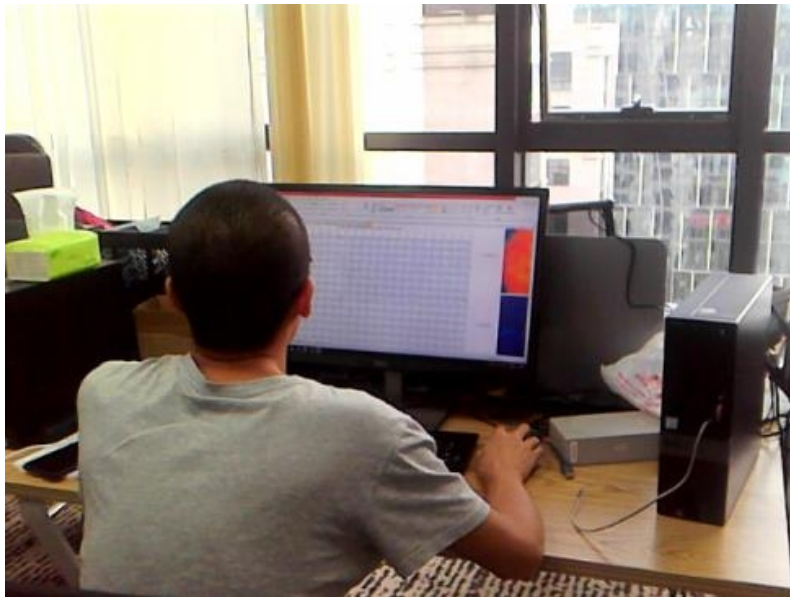- Coldest. Suitable for air condition, water leakage etc.

3.2　　　Multiple Imaging Mode

- Thermal imaging mode. All the pixels in the screen can be measured and analyzed.

- Visible light mode to display as normal camera.

- Outline fusion. Digital camera shows the objects edge to fusion with infrared, the users can inspect the thermal temperature and color distribution, also can check the visible details.

- Overlay fusion. The thermal camera overlay part of visible camera color, to let the background more clear, to identify the environment easily.
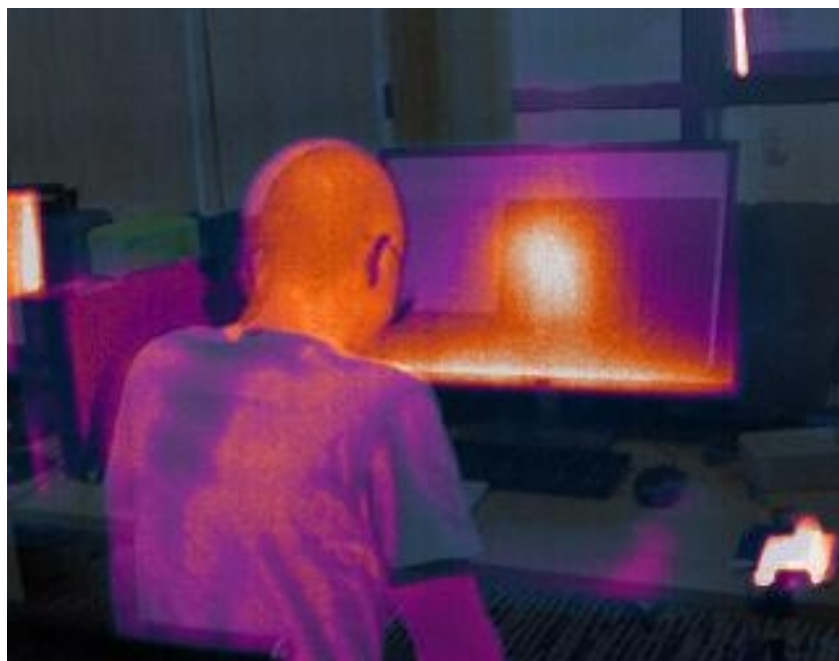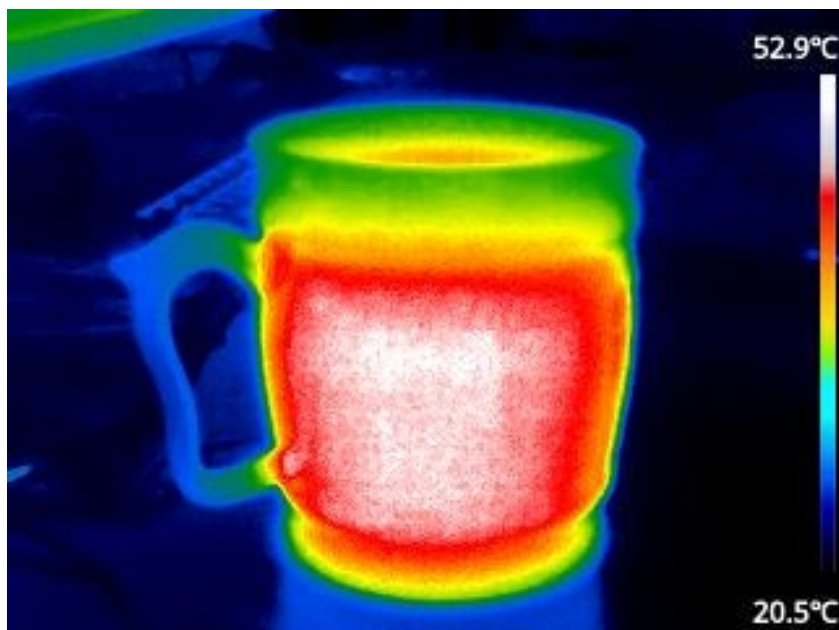

- Picture-in-Picture. To emphasize the central part thermal information. It can quickly switch visible and thermal image to find the defective points.
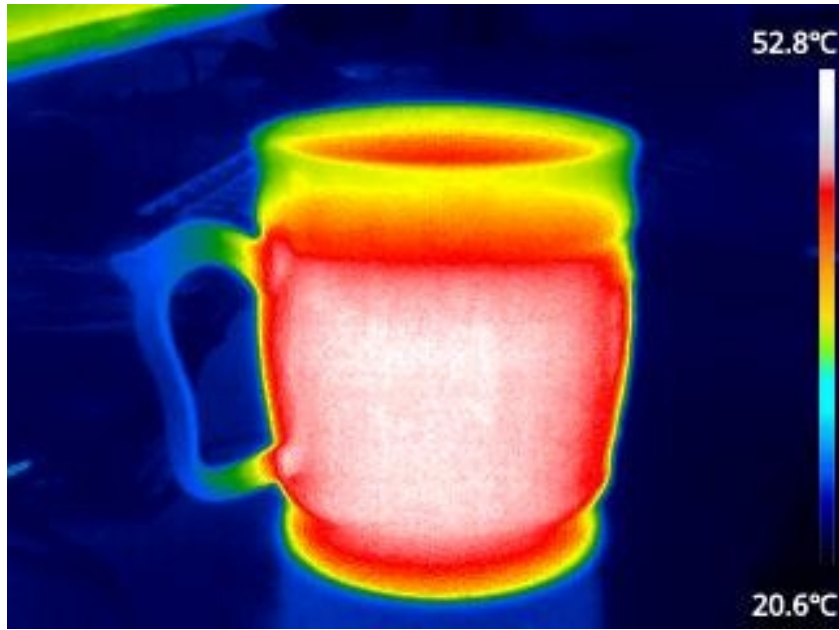
3.3   Image enhancement

All the color palettes have 3 different image enhancement modes to match different objects and environments, the users can choose to display the objects or background details.
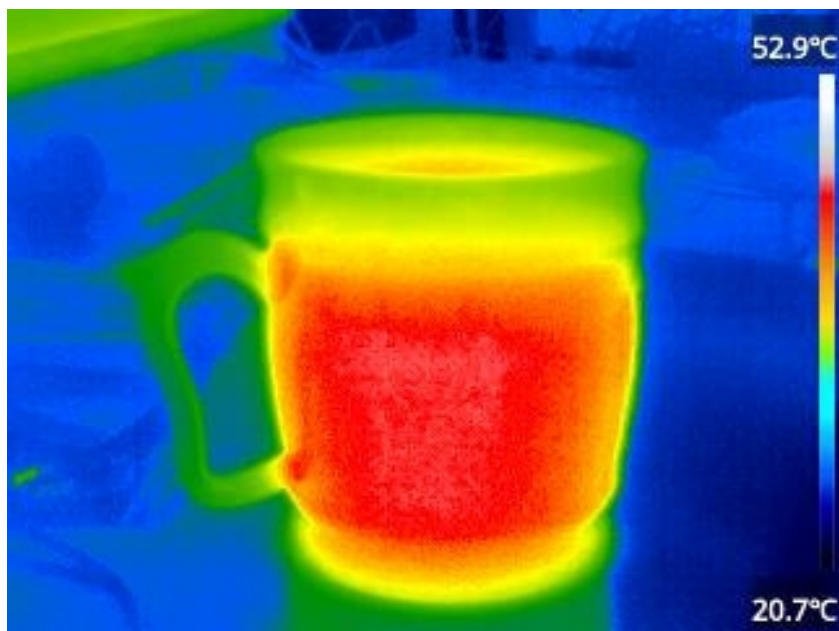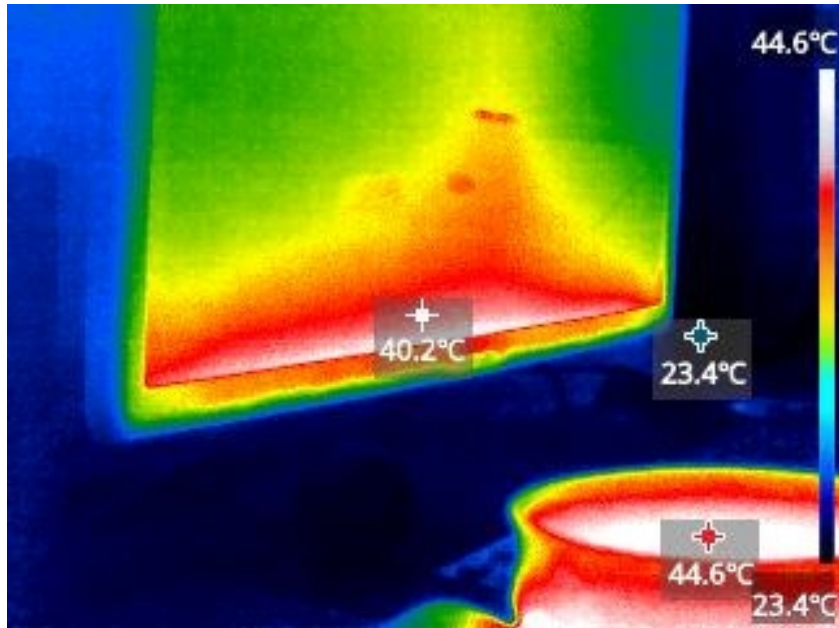
- High contrast


- Legacy

- Smooth

## 3.4 Flexible Temperature Measurement

- DP-22 support center point, hottest and coldest tracing.

- Zone measurement

  Users can choose central zone temperature measurement, the hottest and coldest temperature only tracing in the zone. It can filter other area hottest and coldest point's interference, and the zone area can be zoom in and out.

  (In the zone measurement mode, the right side bar will always display full screen highest and lowest temperature distribution.)
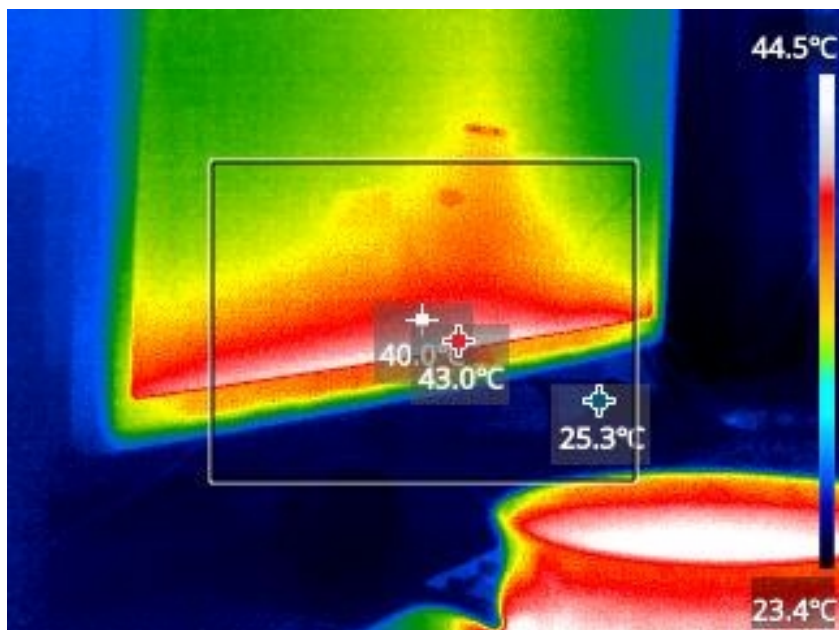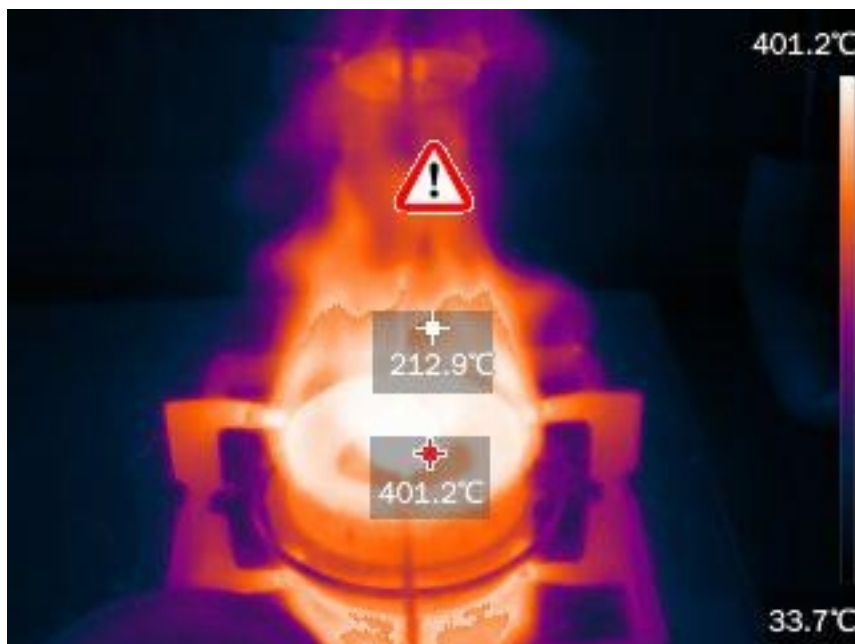

- Visible temperature measurement

  It suitable for the normal person to measurement the temperature to find the object details.
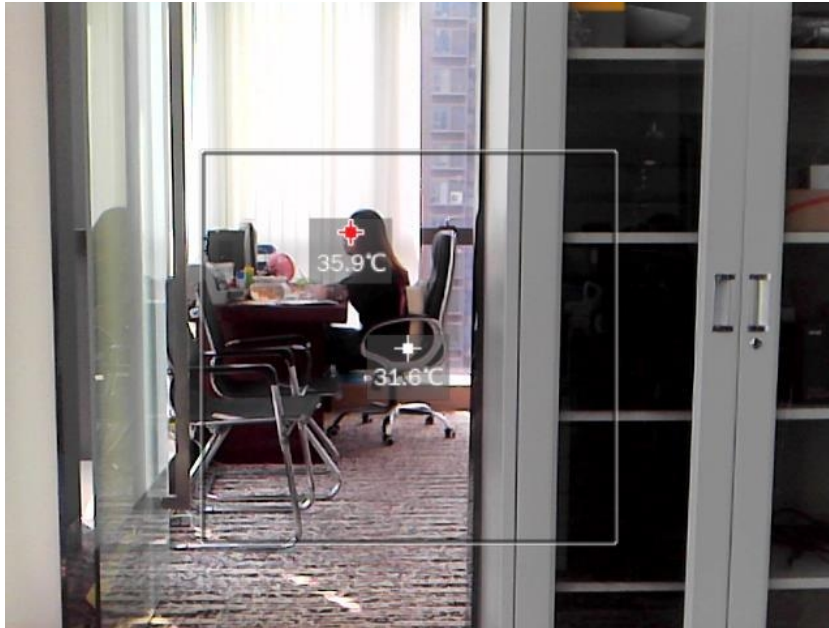
3.5   Alarm

Configure high and low temperature threshold, if the objects temperature is over the threshold, the alarm will display on the screen.


3.6   Wi-Fi

To enable the Wi-Fi, the users can transfer the pictures to PCs and Android devices without cable.

(Also can use USB cable to copy the pictures to PCs and Android devices.)

3.7   Image Saving and Analysis

When take a picture, the camera will automatically save 3 frames into the picture files, the picture format is Tiff, it can be open and view by any picture tools run on Windows system, for example, below is 3 pictures,

- The image users took, what you see is what you get.
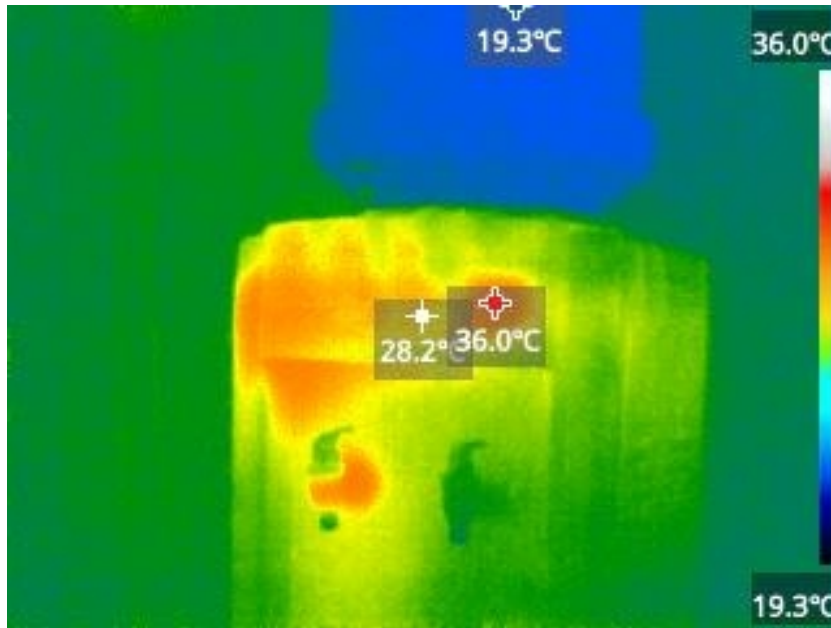

- Raw thermal image
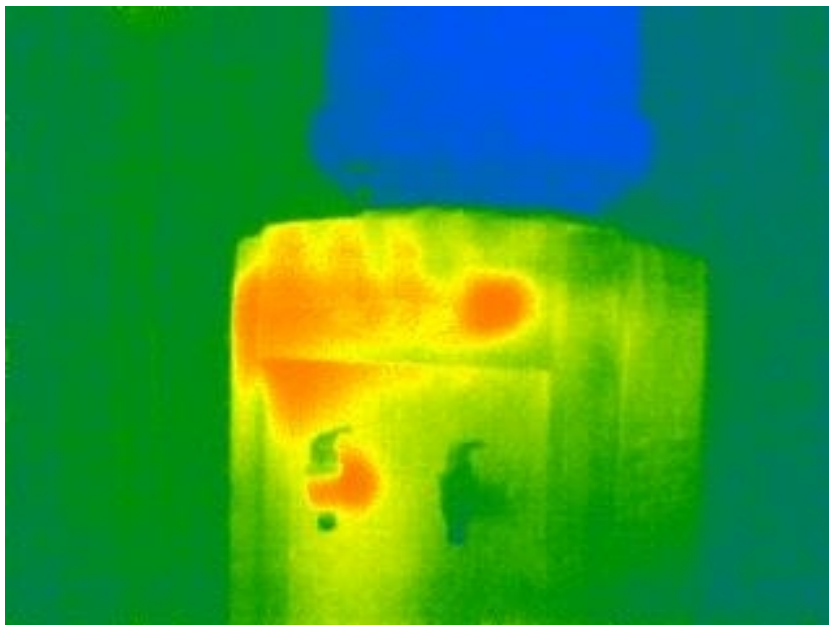
- Visible image

3.8   Analysis Software

After import the pictures into analysis software, the users can analyze the pictures easily, it supports below features:

- Filter the temperature by range. To filter the higher or lower temperature pictures, or filter the temperature inside some temperature range, to quickly filter some useless pictures. Such as filter the temperature lower than 70°C (158°F), only keep the alarm pictures.
- Filter the temperature by temperature difference, such as only keep the temperature difference >10°C, or only keep abnormal temperature pictures.
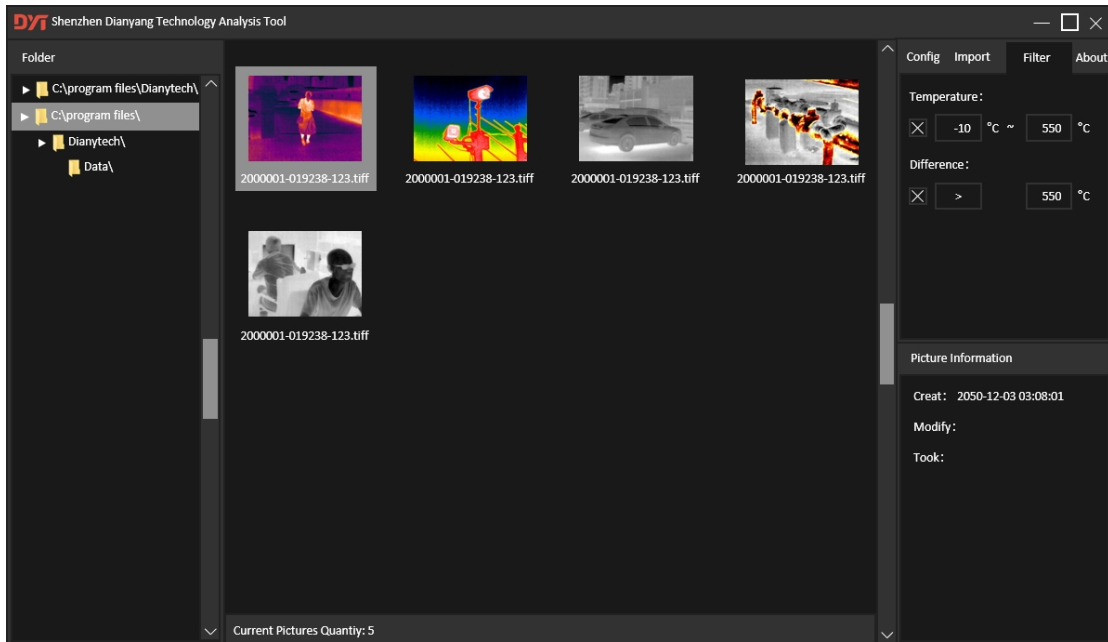
- If users not satisfy with the field pictures, they can analyze raw thermal frame in the software rather than go to field and take pictures again, so to increase the working efficiency.
- Support below measurement,
  - Point, Line, Ellipse, Rectangle, Polygon analysis.
  - Analyzed on thermal and visible frame.
  - Output to other file formats.
  - Output to be a report, the template can be customized by the users.
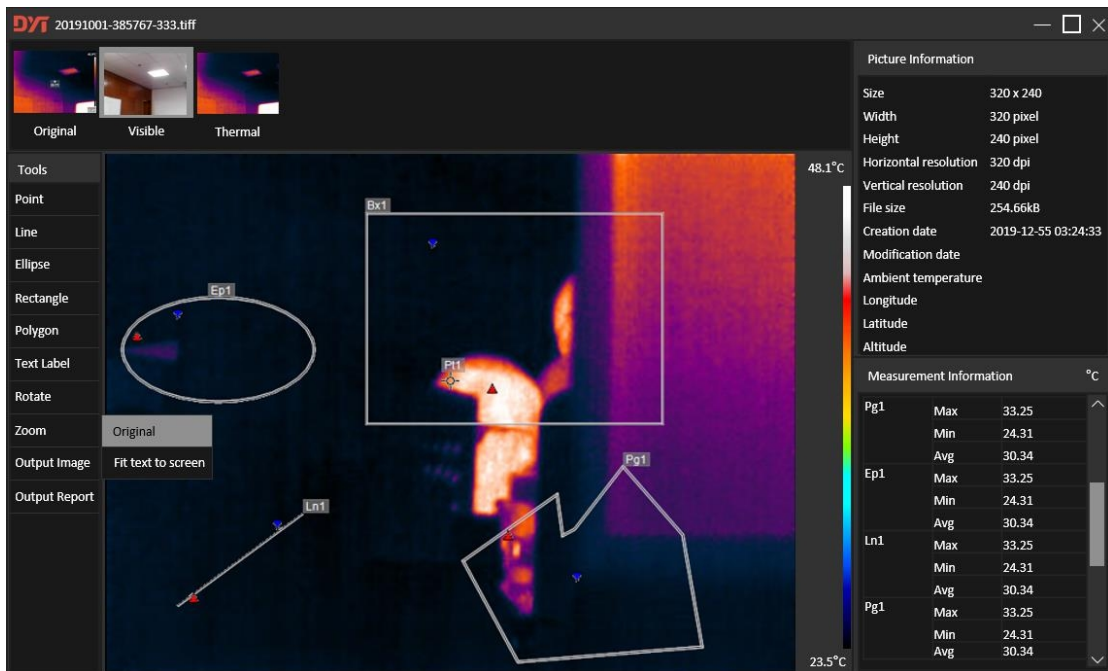
Window title: DYT 20191001-385767-333.tiff

Image tabs: Original | Visible | Thermal

Tools
- Point
- Line
- Ellipse
- Rectangle
- Polygon
- Text Label
- Rotate
- Zoom
- Output Image
- Output Report

Original
Fit text to screen

48.1°C
23.5°C

Labels on image: Bx1, Ep1, Pt1, Ln1, Pg1

Picture Information

Size	320 x 240
Width	320 pixel
Height	240 pixel
Horizontal resolution	320 dpi
Vertical resolution	240 dpi
File size	254.66kB
Creation date	2019-12-55 03:24:33
Modification date	
Ambient temperature	
Longitude	
Latitude	
Altitude	

Measurement Information °C

Pg1	Max	33.25
	Min	24.31
	Avg	30.34
Ep1	Max	33.25
	Min	24.31
	Avg	30.34
Ln1	Max	33.25
	Min	24.31
	Avg	30.34
Pg1	Max	33.25
	Min	24.31
	Avg	30.34

4 Product Package

The standard package including:

No.	Item	Quantity
1	ProTools DTC-22 infrared thermal imaging camera	1pcs
2	Type-C USB Cable	1pcs
3	Lanyard	1pcs
4	User manual	1pcs
5	PC software	1pcs