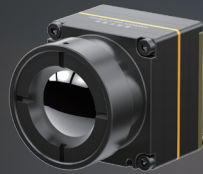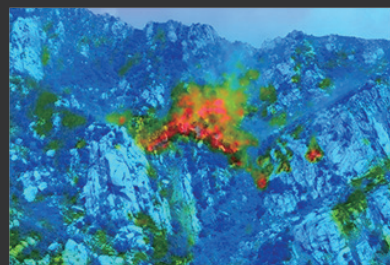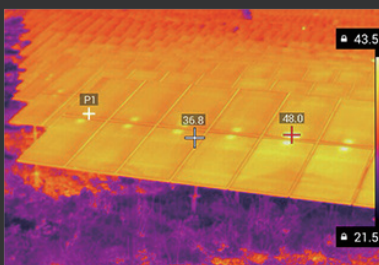# iTL612 Uncooled Thermal Module

A New Level of Compact & Lightweight Structure

The iTL612 uncooled thermal module is small in size and light in weight, which provides a reliable solution for infrared system integration with limited space. Its compact structure has reached the ultimate level of the same specification module. It is specially developed for the field of electric power inspection, photovoltaic inspection, environmental protection detection, scientific research, aerial photography, police investigation, disaster relief & rescue, forest fire prevention, urban safety etc.

✔ **"Compact & Lightweight Design"**

- Size: 21mm×21mm×13.5mm
- Weight: <20g (with 9.1mm lens)
- Low power consumption as low as 0.7W

✔ **"Clear Image & Accurate Radiometry"**

- Brand new image process algorithm: NUC/3DNR/DNS/DRC/EE
- Regional, point & isotherm temperature measurement

✔ **"Common Interfaces for Easy Integration"**

- Support Windows/Linux SDK
- DVP/LVDS/USB2.0 interfaces, RAW/YUV image data output, serial port control

Model	iTL612/R
IR Detector Performance	
Sensitive Material	Vanadium Oxide
Resolution	640×512
Pixel Size	12μm
Spectral Range	8μm ~14μm
Typical NETD	≤40mK
Image Processing	
Frame Rate	25Hz/30Hz
Start-up Time	5s
Digital Video	RAW/YUV/BT656
Image Algorithm	Non-uniformity Correction (NUC) 3D Noise Reduction (3DNR) De-noise (DNS) Dynamic Range Compression (DRC) Edge Enhancement (EE)
Digital Zoom	1X~8X Continuous Zoom, 1/8 Step Size (YUV Output)
Image Display	Black Hot/White Hot/Pseudo Color
PC Software	
ICC Software	Module Control and Video Display
Electrical Specifications	
Standard External Interface	30Pin_HRS: DF40C-30DP-0.4V(51), (HRS, Male)
USB Expansion Board	Type-C
Communication Interface	TTL-232/USB2.0
Digital Video Interface	CMOS8/USB2.0
Supply Voltage	3.3V±0.1V VDC
Typical Power Consumption	0.7W
Temperature Measurement	
Operating Temperature Range	-10℃~+50℃
Temperature Measurement Range	-20℃~+150℃, 0℃~550℃; Support Customization and Expansion
Temperature Measurement Accuracy	Greater of ±3℃ or ±3% (@23℃±3℃)
Regional Temperature Measurement	Support Maximum, Minimum and Average Value of the Output Regional Temperature
SDK	Support Windows/Linux/ARM; Achieve Video Stream Analysis and Conversion from Gray to Temperature
Physical Characteristics	
Dimension (mm)	21X21X13.5
Weight	19.5g±1g (With 9.1mm Lens)
Environmental Adaptability	
Operating Temperature	-40℃～+70℃
Storage Temperature	-45℃～+85℃
Humidity	5%~95%, Non-condensing
Vibration	5.35grms, 3 Axis
Shock	Half-sine Wave, 40g/11ms, 3 Axis 6 Direction
Certificates	ROHS2.0/REACH
Optics	
Optional Lens	Fixed Athermal: 9.1mm

Specifications are subject to change without prior notice.

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