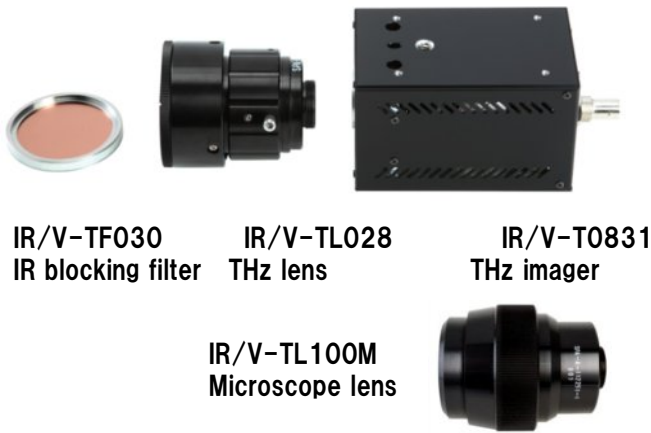


Uncooled THz Imager IR/V-T0831

FPA based, palm size and light weight real-time THz imager



Outlook of IR/V-T0831
(Equipped with lens and filter)



IR/V-TF030
IR blocking filter

IR/V-TL028
THz lens

IR/V-T0831
THz imager

IR/V-TL100M
Microscope lens

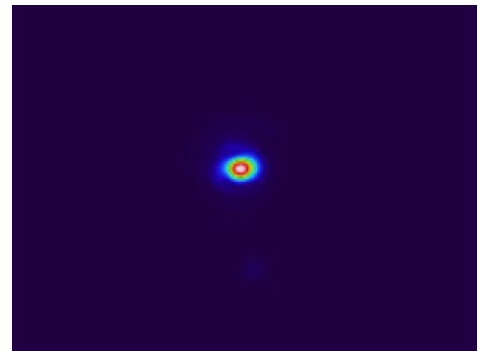
Advantages

- QVGA format
- High sensitivity
- "Lock In" for SNR improvement

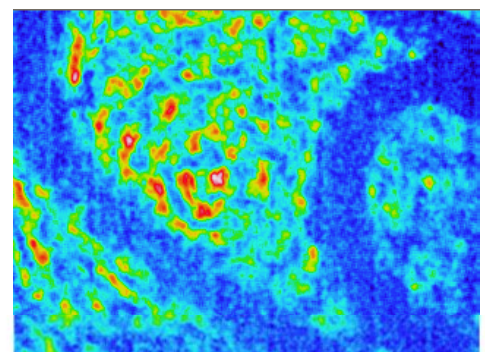
Applications

- Beam Profiling
- Biomedical Imaging
- Non-destructive testing
- Process Control

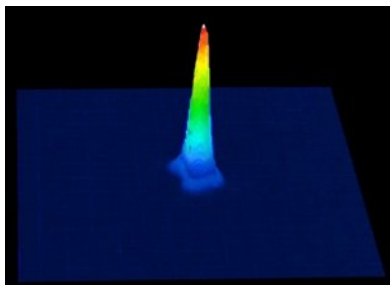
Image of THz source
(Quantum Cascade Laser)



Clip in the flour
(with microscope lens)



Example of THz source *



Quantum cascade laser
Frequency : 3THz, Power : 6.6μW

*Above image is generated from acquired data using off-the-shelf software.

Specifications

Specification of IR/V-T0831 THz Imager

Item	Description
Detector	Uncooled microbolometer
Array format	320x240 – 23.5 μ m pitch
Field of view	15.0°x11.2° (Equipped with option lens IR/V-TL028)
Noise equivalent power (NEP) ^(†)	<100pW (@ 4THz)
Frequency range ^(†)	1~7 THz
Signal outputs	Digital image data : USB2.0 Sync. Signal : BNC
Frame rate	30Hz
Lock In function	Sync. Signal : 15Hz, 7.5Hz, 3.75Hz, 1.875Hz TTL output: +5V
Operation temperature	0~35°C / a/l <80%RH
Power	12 VDC
Weight	550g approx. (excl. lens and filter)
Accessories	USB cable, Filter adapter, Viewer software, User's manual

(†) NEP and frequency range are based on evaluation and calculated results. These performances are not guaranteed because of no standard testing method in the world.

Options

IR/V-TL028 : THz lens (F/1)
IR/V-TL100M: THz microscope lens (1x)
IR/V-TF030 : Infrared blocking filter
(Cut off frequency approx. 300cm⁻¹ (= 9THz))

Specification of IR/V-TL028 THz lens

Item	Description	Remarks
Focal Length	28.2mm	
F number	1.0	
Field of View	Horizontal: 15.0° or more Vertical: 11.2° or more	When equipped with IR/V-T0831
Size	Φ60mm x 73mm	
Weight	200g approx.	

Specification of IR/V-TL100M THz microscope lens

Item	Description	Remarks
Magnification	1x	
N.A.	0.5	
Working Distance	34mm approx.	Fixed focus
Field of View	Horizontal: 7.52mm Vertical: 5.64mm	When equipped with IR/V-T0831
Size	Φ69mm x 86mm	
Weight	200g approx.	

Specification of IR/V-TF030 Infrared blocking filter

Item	Description	Remarks
Cut-off Freq.	300±20 cm ⁻¹	
Average Transparency	≥80%	50 ~ 250 cm ⁻¹
Average IR Blocking	< 0.1%	500 ~ 2000 cm ⁻¹
Size	φ56mm×6.1mm	

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- Performances described herein are based on the NEC test condition.
- Performances and appearance described herein are subject to change without notice.

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As of September 2014