

TeraIMAGE®

The flexible solution for THz spectroscopy and imaging

The **TeraIMAGE®** provides a flexible solution for laboratory THz spectroscopy and THz imaging. It is based on organic crystals, to allow access to terahertz frequencies not available with conventional antennas (up to 20 THz). The **TeraIMAGE®** includes all optical, mechanical and electronic components for the generation and detection of THz waves such as delay line, terahertz generator, terahertz detector, optics, electronics, dedicated software and laptop. It can be used with any femtosecond laser source at telecom wavelengths.

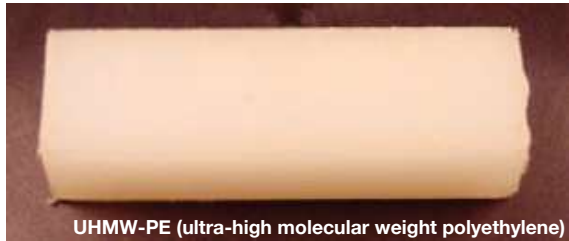


TeraIMAGE® optical board (Scanning range: 50x50 mm²)

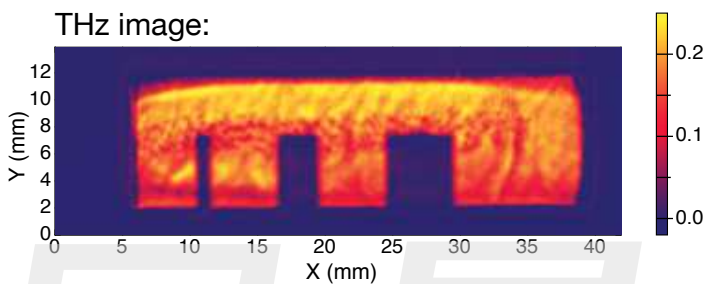
TeraIMAGE® Specifications	
THz generator / detector	Organic crystal
Spectral range	1–14 THz (with ~50 fs pump laser)
Best phase matchable wavelength	1300–1600 nm
Scanning range	50 x 50 mm ²
Requirements <i>External femtosecond laser source</i>	
Options <ul style="list-style-type: none"> ◆ Scanning range of 100x100 mm² ◆ TeraIMAGE® including pump laser source A or B (see next page) 	

Optical image (made by a usual photocamera) and terahertz image (made by **TeraIMAGE®**) of a piece of plastics with optically invisible defects:

Optical image:



THz image:



THz image (made by **TeraIMAGE®**) identifying the voids within expanded polystyrene (EPS) polymer foam:

THz image:

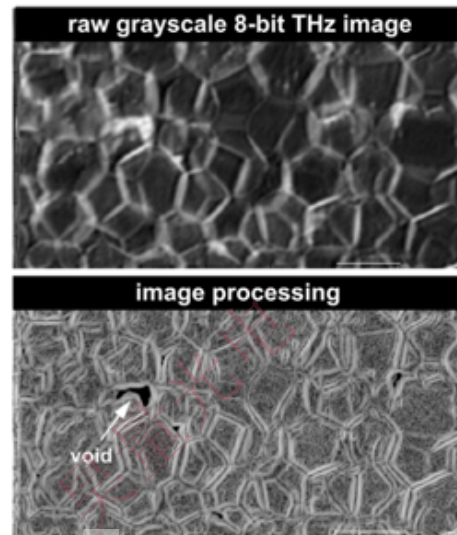


Image from: A. Abina et al, "Structural analysis of insulating polymer foams with terahertz spectroscopy and imaging", Polymer Testing 32, 739 (2013)

Pump source	A	B
Spectral range	1–14 THz	1–10 THz
Dynamic range	> 50 dB	> 70 dB
Scan range	up to 60 ps	up to 60 ps
Pulse length	< 50 fs	< 80 fs
Total average power	> 120 mW	> 350 mW
Central wavelength	1565 nm	1565 nm
Repetition rate	100 MHz	40 MHz/80 MHz

Other spectral ranges are available upon request.

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