

In-depth 3D sub-THz scanner

➤ TeraScan 100

Turn key, all-in-one terahertz imaging solution

TeraScan Easy©, data acquisition software

TeraVisio 3D©, data visualisation software

Sub-THz FMCW radar transceiver

Best cost-benefit ratio on the market

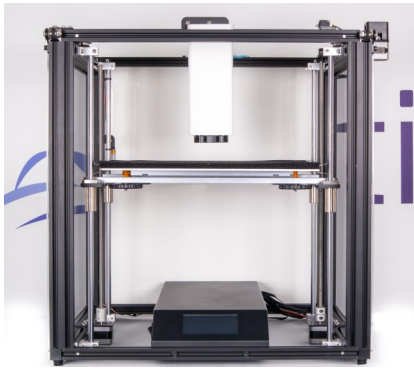


With increasing attention drawn into THz technologies for its inherent capabilities, the high cost of THz devices remained until now the main barrier for many potential users to explore the capabilities of THz imaging for industrial and science applications. For this reason, Lytid has developed a cost-effective scanner, **TeraScan 100** as a tool to explore terahertz imaging applications in a offline setup. It naturally encapsulates both hardware and software to provide the user a turn key imaging tool. TeraScan 100 includes a 120GHz FMCW transceiver with 20GHz bandwidth mounted on x-y-z motorized

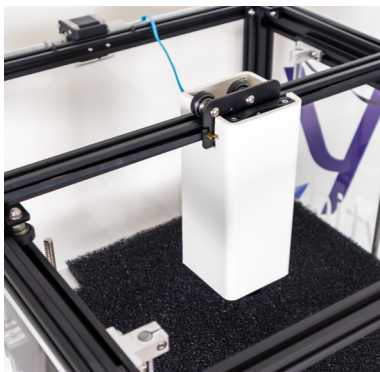
translations stages to scan up to 300x300mm large samples. Combined with Lytid's custom designed interchangeable optics it delivers down to 1.8mm spatical resolution (x-y) or longer working distances (150mm) for thicker samples (with motorized z adjustment). In-house developed radar signal processing algorithms allow more than 60dB of dynamic range in a 100ms single shot measurement. The dedicated, included and free software tools TeraScan Easy© and Teravisio3D © allow the user to easily set up their sample scans and visualize easily the massive 3D data matrix acquired with the system.

What's inside the box of TeraScan 100 Kit

- A high performance FMCW radar transceiver at 120 GHz in combination with dedicated beam shaping THz optics operating in monostatic configuration
- Fully automated mechanical 3D scanning gantry frame offering a 300x300mm scan area
- TeraScan Easy© and TeraVisio 3D©, dedicated software suites for data acquisition and 3D imaging visualization.

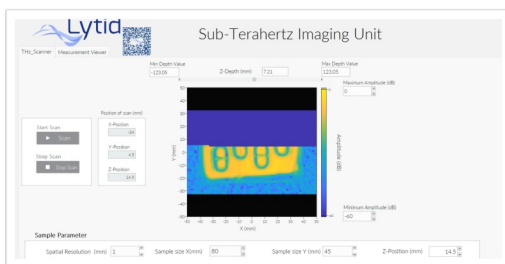


The 3D scanning gantry frame of TeraScan 100



The 120GHz transceiver head with user changeable optics

Technical specifications	TeraScan 100
Imaging resolution (50mm lens)	
Spatial resolution (x-y)	Down to 1.8 mm
Depth resolution (z)	~7mm
Imaging set up	
Imaging area	300 x 300 mm ²
Smallest pixel pitch	0.5 mm
Acquisition rate	Up to 10Hz
FMCW Transceiver head	
Working frequency	120 GHz
Frequency band	~20 GHz
Supplementary option	Interchangeable lenses f = 40-75-100-150 mm
Dynamic range	Typ. 60 dB in single shot (100ms)
Scan time	
A6 (105x 148.5 mm)	~ 30 min
A4 (210 x 297mm)	~ 2H
Full size (300 x 300 mm)	~ 2H50 min



TeraScan Easy © scanner control software

Applications :

- In-depth inspection and sensing in dielectric materials
- Offline NDT tool for industry
- Material analysis (thickness, refractive index measurement)
- Security screening
- Teaching