

# TUNABLE TERAHERTZ SOURCES



Our new tunable terahertz sources of TeraSmart series are based on broadband Schottky diodes multipliers chains. Presently, Terasense offers three different models to choose from, which cover frequency ranges 70 - 77 GHz, 140 - 155 GHz, and 280 - 310 GHz, respectively. With their average output power levels reaching a few hundred mW, TeraSmart sources represent the best compromise between tunability and output power in the modern market of multiplier-based sources. Our TeraSmart generator is designed to have two interlinked modules, including a 7 - 14 GHz oscillator and an amplifier/multiplier.

In fact, TeraSmart is a fully integrated, plug-and-play system that can be remotely controlled via a user-friendly software interface. This tunable THz wave source is controlled by means of ASCII text commands transmitted over the USB. The supply software package, among other things, includes a LabView version of the Open source code for a handy user interface. Moreover, the appropriate output horn antennas can be provided for each device model as optional add-on elements.

This new product line of tunable terahertz generators is ideal for THz spectroscopy, tomography, and THz imaging. You can see our Applications web-page for specific case studies showing possible uses of the devices. If you are not happy with specific TeraSmart model parameters or wish to amend them, please be sure to contact us, as in certain cases, we may be able to offer you a customized solution.

## THz source

# 70 - 77 GHz

Maximum power **300 mW**  
Linewidth < 300 Hz  
TTL modulation

Power stability:  
0.1% per hour  
1% per day

## THz source

# 140 - 155 GHz

Maximum power **100 mW**  
Linewidth < 300 Hz  
TTL modulation

Power stability:  
0.1% per hour  
1% per day

## THz source

# 280 - 310 GHz

Maximum power **30 mW**  
Linewidth < 300 Hz  
TTL modulation

Power stability:  
0.1% per hour  
1% per day

