



# ***TeraLineX TD-800-CPS***

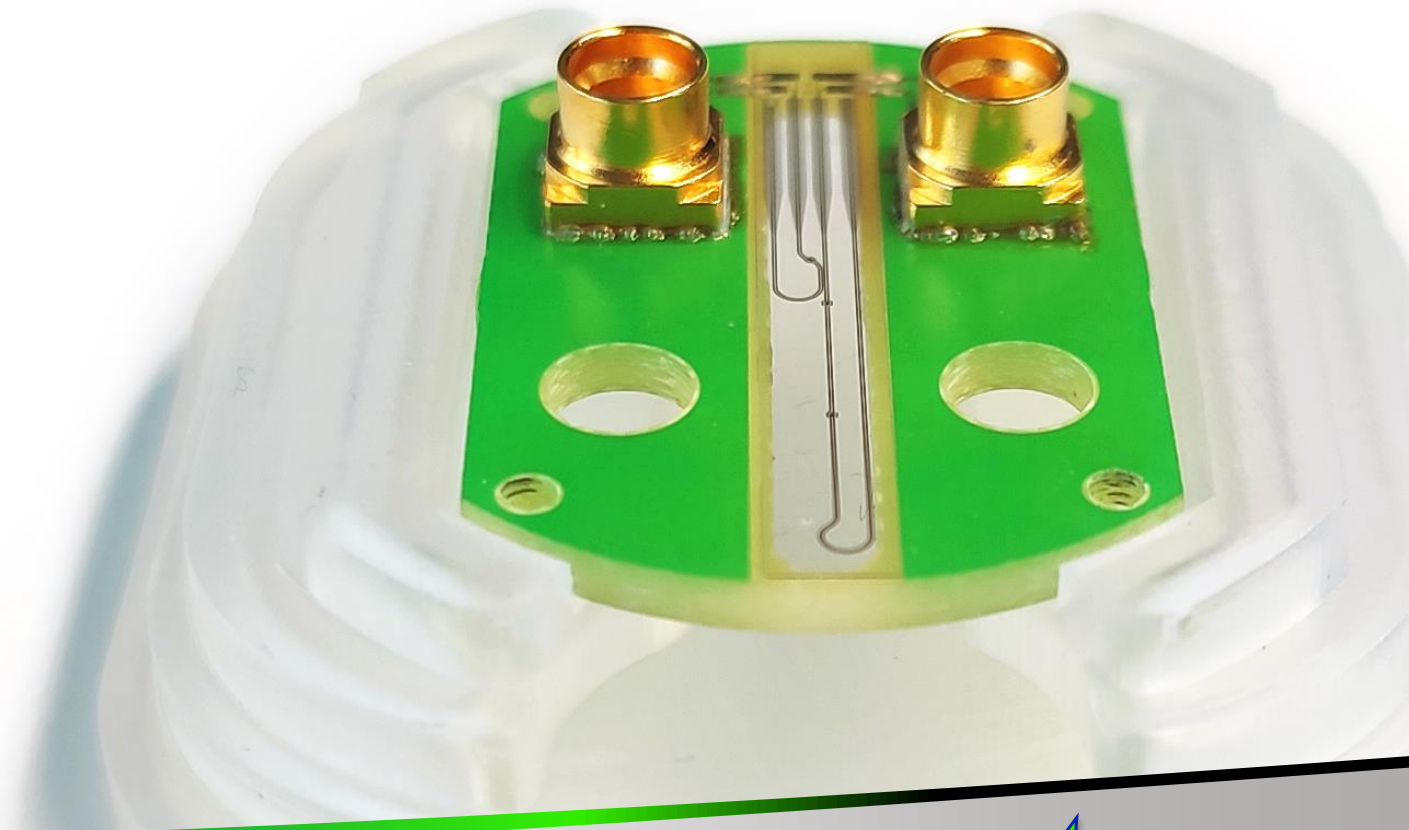
*CPS-based on-chip THz TDS device series*

# TeraLineX TD-800-CPS

*Model: CLSD-5MM*

## KEY FACTS:

- On-chip THz time-domain spectroscopy (TDS) platform.
- Enables THz TDS at micron-scale devices/samples much smaller than the THz diffraction limit.
- Can be operated in small cryo chambers at low temperatures or in magnetic fields.
- Supports exchangeable daughter-boards as sample carriers for cost-efficient operation.
- Customizable on request.





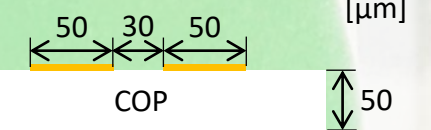
# TeraLineX TD-800-CPS

Model: CLSD-5MM

Wavetrapped sections

$I_{PCS,out}$

CPS cross-section:



Tx

Rx<sub>1</sub>

Rx<sub>2</sub>

$V_{BIAS}$

Area for daughter-board application

5 mm



# TeraLineX TD-800-CPS

Model: CLSD-5MM

Wavetrapped sections

$I_{PCS,out}$

THz pulse

Tx

Rx<sub>1</sub>

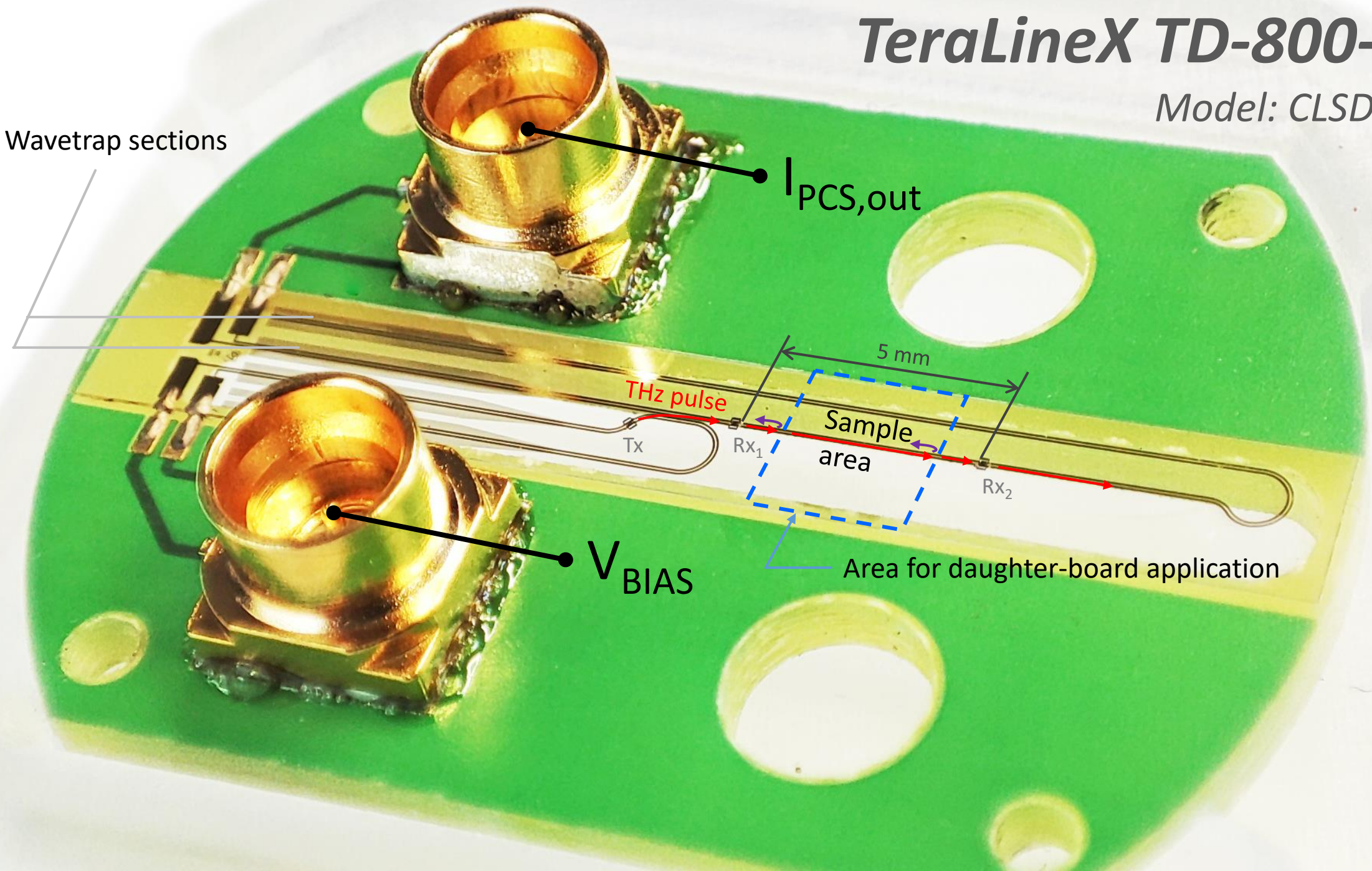
Sample area

Rx<sub>2</sub>

$V_{BIAS}$

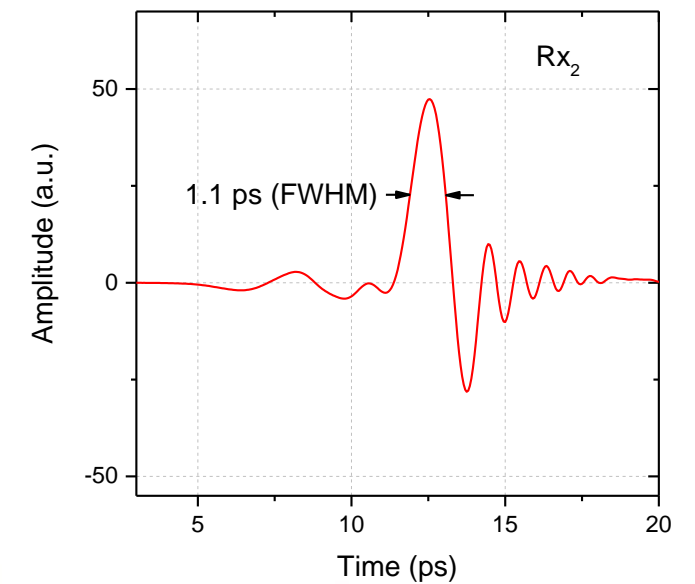
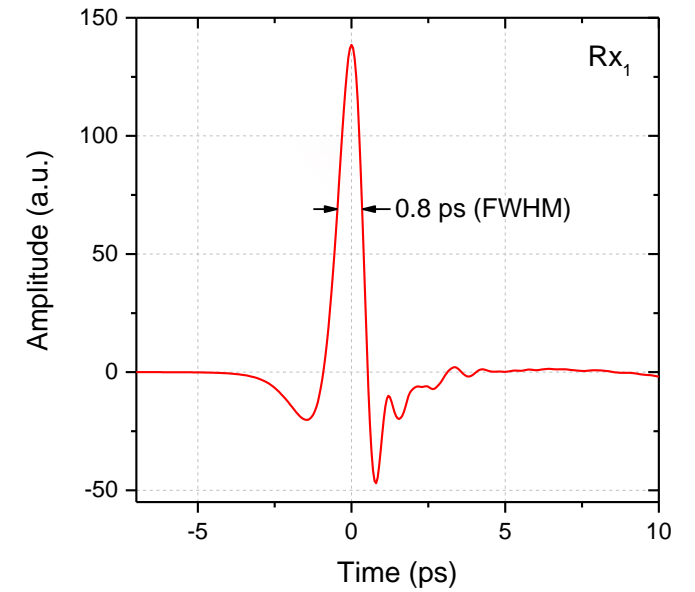
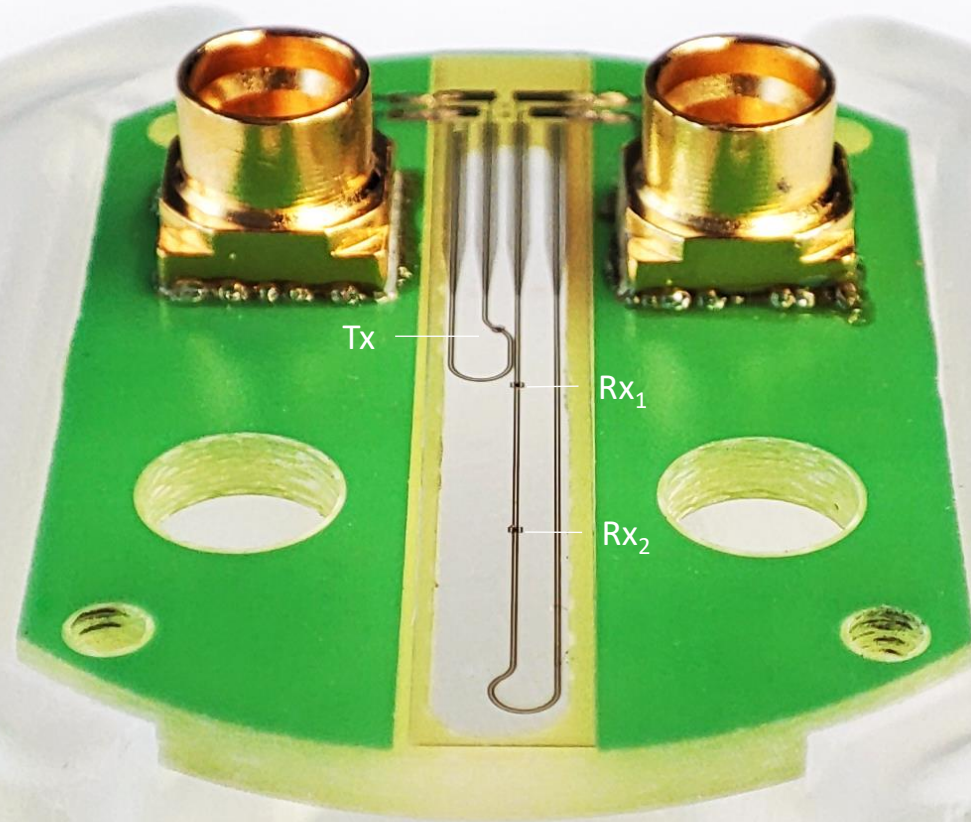
Area for daughter-board application

5 mm



# TeraLineX TD-800-CPS

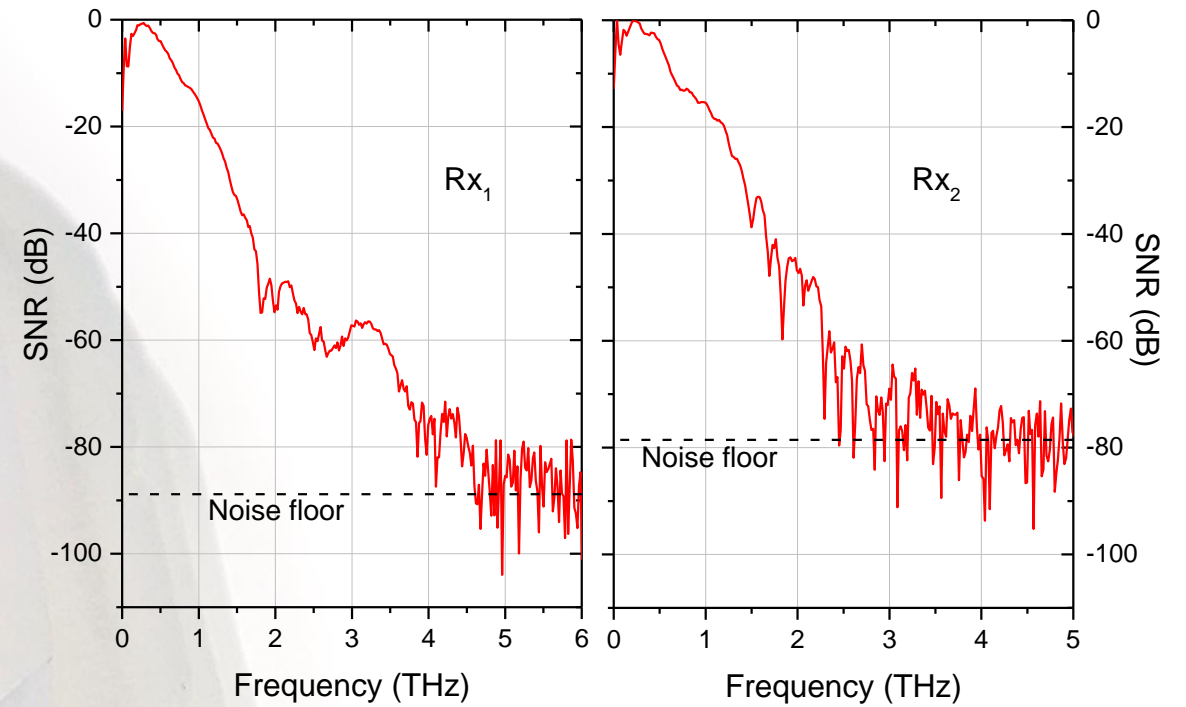
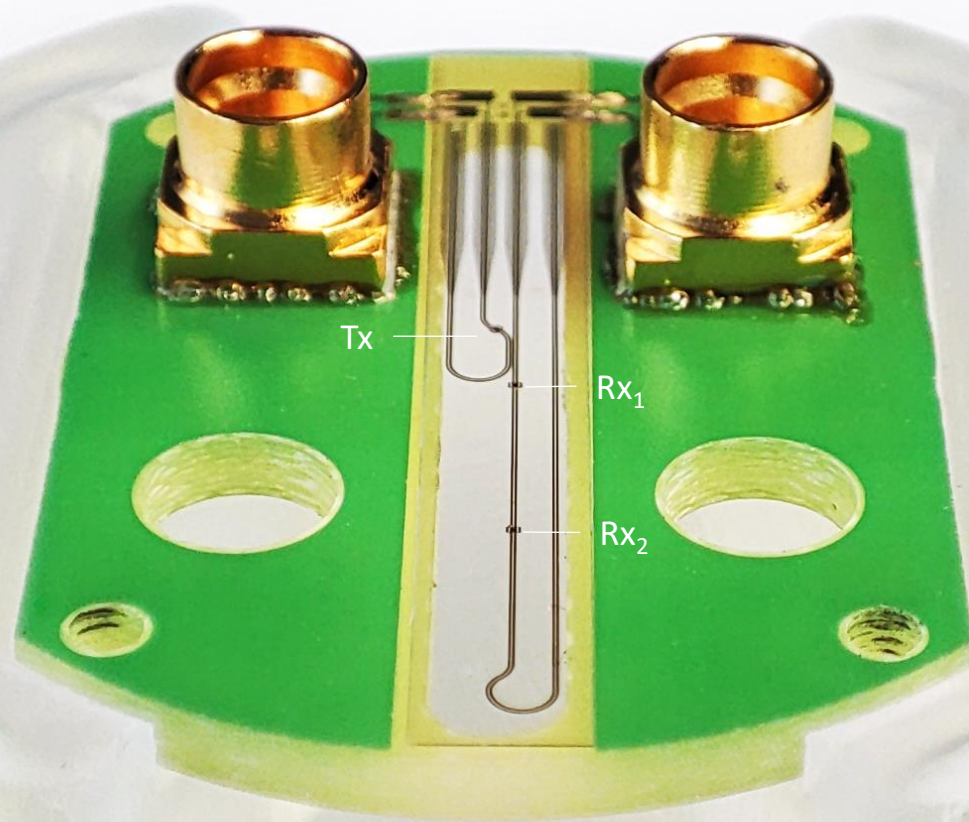
CLSD-5MM, Time-domain measurement performance





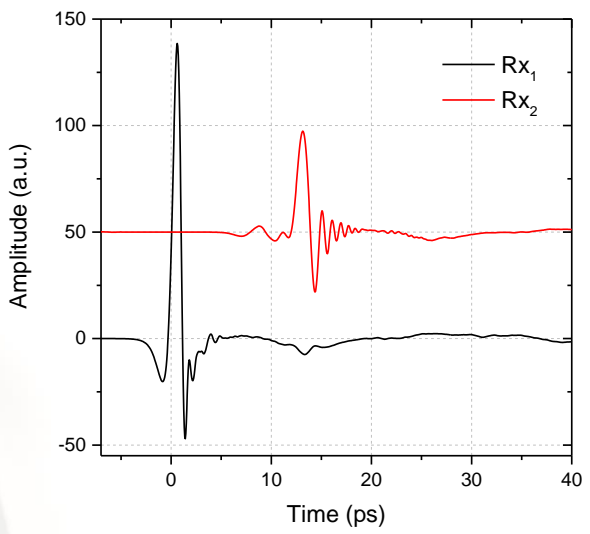
# TeraLineX TD-800-CPS

*CLSD-5MM, Frequency-domain measurement performance*



# TeraLine TD-800-CPS-CLSD-5MM

## Technical specifications



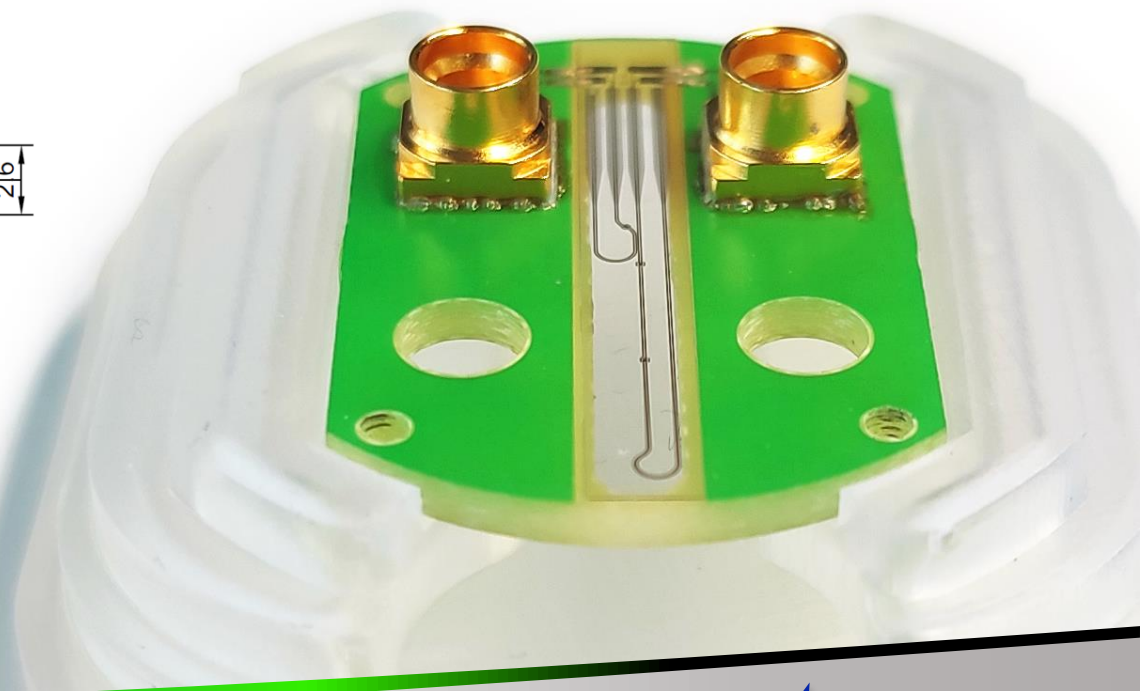
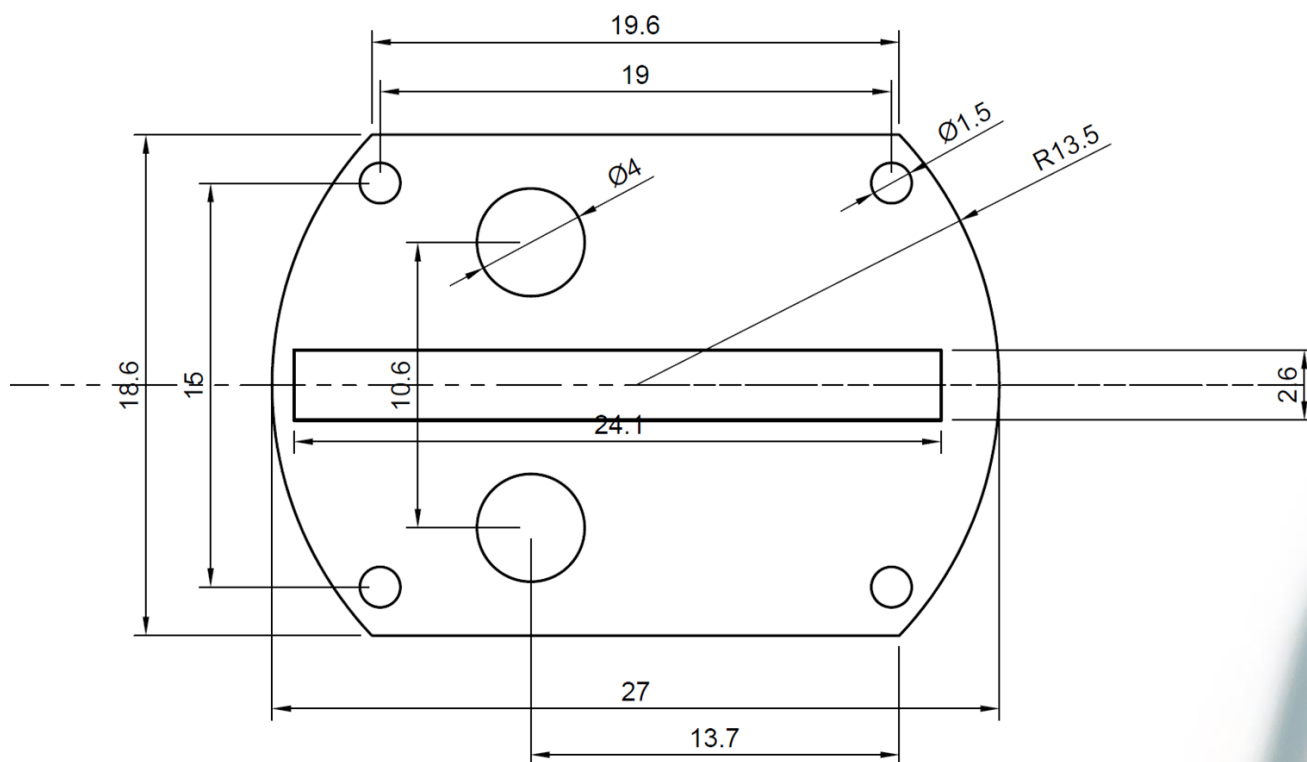
| TeraLine TD-800-CPS-CLSD-5MM | Emitter                   | Detector                  |
|------------------------------|---------------------------|---------------------------|
| PC gap size                  | 10 $\mu\text{m}$          | 10 $\mu\text{m}$          |
| Dark current @ 1 V Bias      | < 0.5 nA                  | < 0.5 nA                  |
| Photocurrent                 | > 0.1 $\mu\text{A}^{(a)}$ | > 0.1 $\mu\text{A}^{(b)}$ |
| Excitation wavelength        | 700 .. 860 nm             |                           |
| Avg. excitation power        | 0.1 .. 4 mW               | 0.1 .. 4 mW               |
| Connection type              | SMP                       |                           |

(a) For a focus diameter of circa 30  $\mu\text{m}$ , bias voltage 9 V, average optical excitation power 4 mW.

(b) For a focus diameter of circa 30  $\mu\text{m}$ , bias voltage 1 V, average optical excitation power 4 mW.

# TeraLine TD-800-CPS-CLSD-5MM

PCB dimensions





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- Questions?
- Please contact us under [info@protemics.com](mailto:info@protemics.com)

