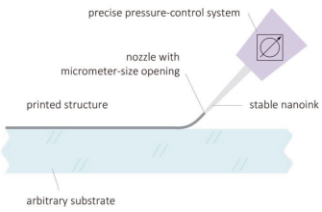
XTPL® Delta Printing System

First truly additive method for printing conductive single micron lines

DEVICE DETAILS

ITEM	VALUE
Feature size	down to 1 µm
Material viscosity	up to 1 000 000 cP
Substrate alignment	3-point leveling table with rotation error correction
Substrate size	50 mm x 50 mm
Maximum printing speed	10 mm/s
Process preview	Live video with recording
XY motor movement accuracy / repetability	2 µm / 0.5 µm
Z motor movement accuracy / repeatability	0.5 µm / 0.5 µm
Printer cabinet dimensions (excluding peripherals and Printing Workstation)	800 mm x 800 mm x 890 mm
Printer weight	135 kg
Utilities required	compressed gas 10 bar, power supply 110/230V



XTPL® ULTRA-PRECISE DEPOSITION

- Pressure-based direct writing
- Tailored high-viscosity inks
- Ultra-narrow flexible nozzle
- Purely additive
- No electric field required

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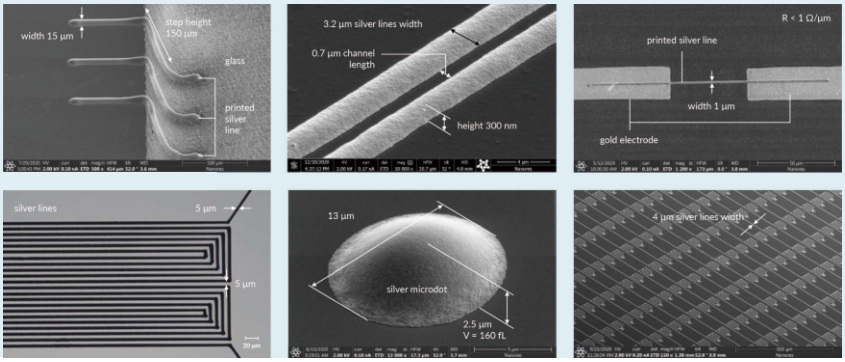
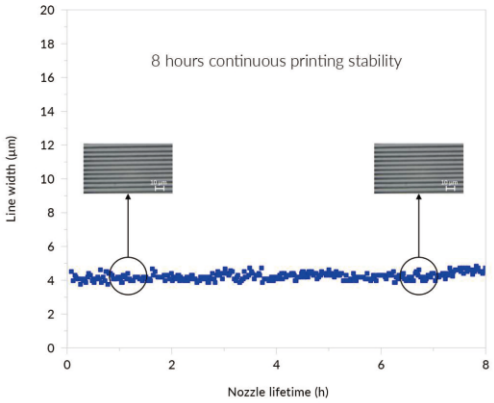
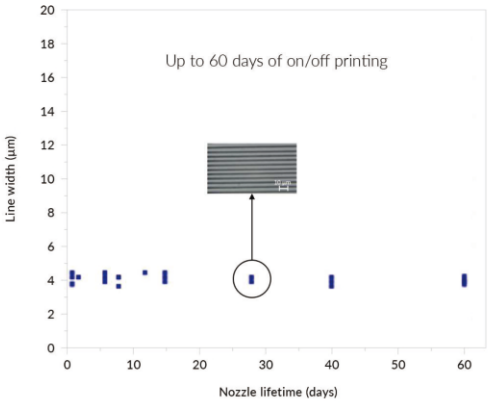
High-precision microdispensing system for rapid prototyping of microelectronics, advanced IC packaging, MEMS, microwave, RF components, FPD etc.

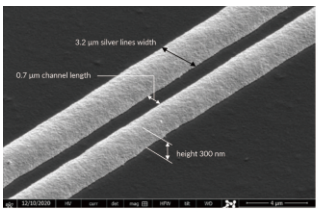


SUPERIOR PRINTING PROCESS STABILITY

The users of XTPL Printing System benefit from a demonstrated best-in-class printing stability: sustained 1 day of continuous printing, and up to 60 days of on and off printing with XTPL CL85 conductive Silver nanopaste.







INTERLINE DISTANCE

ABILITY TO:

print lines and other features with high-density without short defects

APPLICATIONS:

printed electronic devices, e.g., transistors, high-frequency RF applications, sensors, RDL (redistribution layers), high density interconnections

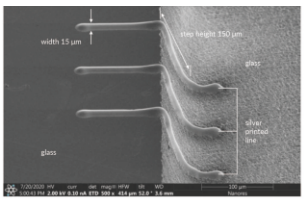
HIGH STEP COVERAGE

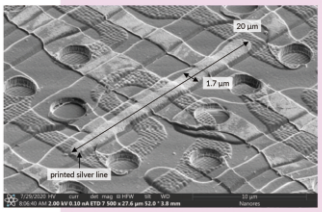
ABILITY TO:

cover complex substrate topographies with steps of up to a few hundred µm with continuous silver printed lines

APPLICATIONS:

flexible hybrid microelectronics, micro-LED displays, 2.5/3D interconnections in advanced IC packaging, 3D printed (micro) electronics





OPEN DEFECT REPAIR FOR OLED

ABILITY TO:

deposit down to 1 µm lines over complex and heterogeneous substrate topographies

APPLICATIONS:

high-resolution displays (OLED, LCD, micro-LED)

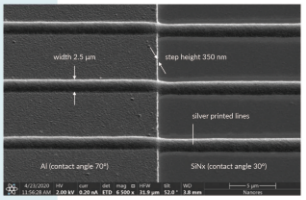
HETEROGENEUS SUBSTRATES

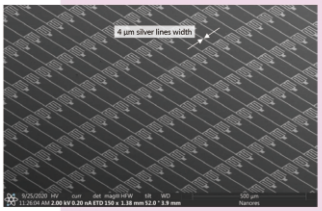
ABILITY TO:

print lines with homogeneous width on materials with different wettability, e.g. Al and SiN_x

APPLICATIONS:

large area microelectronics, displays (LCD, OLED, micro-LED), MEMS and semiconductors





ARRAY OF S/D METAL LAYER FOR PRINTED FPD

ABILITY TO:

print arbitrary complex conductive structures with high precision and repeatability

APPLICATIONS:

power/ground supply networks for printed electronics, TFT array prototyping, RDL (redistribution layers) for advanced IC packaging

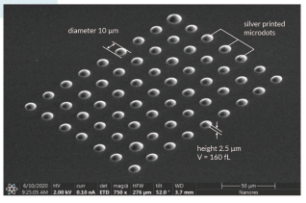
PRINTED CONDUCTIVE MICRODOTS

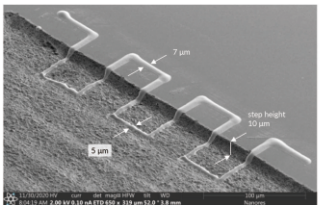
ABILITY TO:

print regular silver microdots with diameter in the range of single to several µm, with the height of up to 3 µm

APPLICATIONS:

flip-chip conductive die attach, MEMS, repair in micro-LED display





HIGH-RESOLUTION CONDUCTIVE CONNECTIONS PRINTED OVER THE STEP

ABILITY TO:

print highly adhesive and conductive structures over complex topographies with varying surface roughness

APPLICATIONS:

displays (lateral micro-LED interconnections), 2.5/3D interconnections for advanced IC packaging, 3D printed (micro)electronics, MEMS

FINE PRINTED LINES AND MESHES

ABILITY TO:

print regular and repeatable conductive meshes with high resolution and precision

APPLICATIONS:

large area microelectronics, displays (TE-OLED), transparent antennas