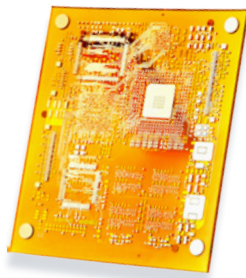


## DRAGONFLY 2020 3D PRINTING PLATFORM FOR ELECTRONICS



The DragonFly™ 2020 3D Printer for the production of professional multilayer printed circuit boards (PCBs) and 3D circuitry is designed to be the ultimate rapid prototyping tool for electronics professionals. 3D printing (also known as additive manufacturing) has earned its position as one of the most exciting technologies to come to market in the last decade. It has transformed the world of product design and is now making significant inroads into manufacturing. The DragonFly 2020 system brings together an extremely precise inkjet deposition printer, high performance silver nano-particle conductive and dielectric inks as well as dedicated software, in order to bring the benefits of 3D printing to electronics professionals. This advanced printing platform is dedicated to the production of professional multilayer PCB prototypes and other circuitry in-house, within hours.



### ADVANTAGES INCLUDE:

- Reduce PCB design and test cycles, from months or weeks to days
- Increase innovation, gain more flexibility to try different designs
- Be independent of service suppliers and avoid outsourced manufacturing delays
- Gain IP security; sensitive design information stays in-house
- Print the full range of PCBs, including interconnections, through-holes and complex geometries - without etching, drilling, plating or waste

### HOW IT WORKS?

The DragonFly™ 2020 3D Printer deposits two materials, one conductive and one dielectric, in order to build a complete multilayer PCB from the bottom up. Each pass of the printhead deposits dielectric and conductive material at the exact location specified by the design file. Starting from the underside conductive traces, the materials are built up to finish with the topside conductors. This process means that vias are built up, drop by drop, either as blind, open or complete vias. Plated and non-plated through-holes are created by repeatedly leaving a space at a particular XY coordinate, thereby building surrounding materials up around a void. The dielectric ends up as a solid piece within which the conductive traces are positioned at the precise XYZ coordinates specified.

### SWITCH SOFTWARE

Nano Dimension's Switch software enables you to accept Gerber file and 3D print them with the DragonFly 2020 3D Printer. The software enables the editing and preparation of multilayer 3D files, and allows you to adjust numerous parameters such as layer order and thickness. It supports most typical file formats used in the electronics industry, including Gerber and Excellon files.

## HIGH PERFORMANCE 3D PRINTING MATERIALS

The DragonFly 2020 3D Printer uses Nano Dimension's AgCite™ family of advanced silver nanoparticle conductive inks as well as the company's unique dielectric inks to create PCBs.

### AgCite Conductive Inks For Inkjet

An advanced silver nanoparticle ink designed specifically for the DragonFly 2020 3D Printer. The sizes and distributions of the silver particles are optimized for the printing of highly conductive PCB traces.

### Dielectric ink

This dielectric nano-ink material mimics industry FR4 enabling the printing of the entire PCB structure. Designed for compatibility with Nano Dimension conductive ink and soldering.



## TRANSFORMING THE WORLD OF PRINTED ELECTRONICS

Nano Dimension Ltd., founded in 2012, focuses on development of advanced 3D printed electronics systems and advanced additive manufacturing. Nano Dimension's unique products combine three advanced technologies: 3D inkjet, 3D software and nanomaterials. The company's primary products include the first 3D printer in development dedicated to printing multilayer PCBs (printed circuit boards) and advanced nanotechnology-based conductive and dielectric inks. Nano Dimension trades on the NASDAQ and TASE under the symbol NNDM.



## DRAGONFLY 2020 3D PRINTER SPECIFICATIONS

(Subject to change)

Deposition Technology	Piezo Drop on Demand inkjet printing
Number of Printheads	2 (One per material)
Print Trace and Pitch	90 Micron (3.5 mil)
Build Volume XYZ	20 cm x 20 cm x 0.3 cm
Software	Proprietary
Dimensions	100 cm x 60 cm x 60 cm
Weight	80 kg
Power Supply	110-240V AC; 50-60 Hz; 12A
Resolution	X: 2,160 dpi; Y: 2,160 dpi; Z: 8,500 dpi
Accuracy	0.001 mm
Build Plate	20 cm x 20 cm
Operating System	Windows, Mac, Linux
Material Compatibility	Nano Dimension's conductive and dielectric inks
Network Connectivity	Ethernet TCP/IP 10/100 base T, Wi-Fi
File Compatibility	Gerber, Excellon and odb++
Regulatory Compliance	CE/FCC/RoHS/UL (In progress)
Operational Environment	Temp: 17°C-26°C (66°F-79°F); Relative Humidity: 28-75%