

## PointProbe® Plus Contact Mode Short Cantilever -Au Coating

The PointProbe® Plus (PPP) combines high application versatility and compatibility with most commercial SPMs. The typical AFM tip radius of less than 7 nm and the minimized variation in AFM tip shape provide reproducible images and enhanced resolution.

The NANOSENSORS™ PPP-CONTSCAu is an alternative AFM cantilever type for contact mode applications. The length of AFM cantilever is reduced with respect to the preferred contact mode type enabling easier exchange with non-contact mode AFM probes for some AFM instruments. Additionally, this AFM probe type allows the application for lateral or friction force mode.

### The AFM probe offers unique features:

- AFM tip height 10 - 15  $\mu\text{m}$
- metallic conductivity of the AFM tip
- Au coating on both sides of the AFM cantilever
- chemically inert
- alignment grooves on backside of silicon holder chip
- precise alignment of the AFM cantilever position (within +/- 2  $\mu\text{m}$ ) when used with the Alignment Chip
- compatible with PointProbe® Plus XY-Alignment Series

A metallic layer (gold) is coated on both sides of the AFM cantilever. The tip side coating enhances the conductivity of the AFM tip and allows electrical contacts - the typical AFM tip radius of curvature is less than 50nm. The detector side coating enhances the reflectivity of the laser beam by a factor of 2.5 and prevents light from interfering within the AFM cantilever. The coating process is optimized for stress compensation. As the coating is nearly stress-free the bending of the AFM cantilever due to stress is less than 2 degrees.

**Please note:** Wear at the AFM tip can occur if operating in contact-, friction- or force modulation mode.

This AFM probe features alignment grooves on the back side of the holder chip. These grooves fit to the NANOSENSORS Alignment Chip.

### Cantilever data:

Property	Nominal Value	Specified Range
Resonance Frequency [kHz]	25	1 - 57
Force Constant [N/m]	0.2	0.01 - 1.87
Length [ $\mu\text{m}$ ]	225	215 - 235
Mean Width [ $\mu\text{m}$ ]	48	40 - 55
Thickness [ $\mu\text{m}$ ]	1	0.1 - 2

### Order codes and shipping units:

Order Code	AFM probes per pack	Data sheet
PPP-CONTSCAu-10	10	of all probes