

PointProbe® Plus Non-Contact / Tapping Mode - Long Cantilever - PtIr5 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.

NANOSENSORS™ PPP-NCL probes are designed for non-contact mode or tapping mode AFM (also known as: attractive or dynamic mode). As an alternative to **NANOSENSORS™** high frequency non contact type (NCH) the NCL type is offered. This type is recommended if the feedback loop of the microscope does not accept high frequencies (400 kHz) or if the detection system needs a minimum AFM cantilever length > 125 µm. Compared to the high frequency non-contact type NCH the maximum scanning speed is slightly reduced. This sensor type combines high operation stability with outstanding sensitivity and fast scanning ability.

The AFM probe offers unique features:

- metallic conductivity
- radius of curvature better than 25 nm
- AFM tip height 10 - 15 µm
- high mechanical Q-factor for high sensitivity
- alignment grooves on backside of silicon holder chip
- precise alignment of the AFM cantilever position (within +/- 2 µm) when used with the Alignment Chip
- compatible with **PointProbe® Plus XY-Alignment Series**

The PtIr5 coating is an approximately 25 nm thick double layer of chromium and platinum iridium5 on both sides of the AFM cantilever. The tip side coating enhances the conductivity of the AFM tip and allows electrical contacts. The detector side coating enhances the reflectivity of the laser beam by a factor of about 2 and prevents light from interfering within the AFM cantilever. The coating process is optimized for stress compensation and wear resistance. 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.

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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]	190	146 - 236
Force Constant [N/m]	48	21 - 98
Length [µm]	225	215 - 235
Mean Width [µm]	38	30 - 45
Thickness [µm]	7	6 - 8

Order codes and shipping units:

Order Code	AFM probes per pack	Data sheet
PPP-NCLPt-10	10	of all probes
PPP-NCLPt-20	20	of all probes
PPP-NCLPt-50	50
PPP-NCLPt-W	380	of up to 32 probes