

PointProbe® Plus Non-Contact / Tapping Mode - Long Cantilever - Reflex 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-NCLR AFM probes are designed for non-contact mode or tapping mode AFM (also known as: attractive or dynamic mode). The NCL type is offered as an alternative to **NANOSENSORS™** high frequency non contact type (NCH). **PPP-NCLR** 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 AFM probe type combines high operation stability with outstanding sensitivity and fast scanning ability.

The AFM probe offers unique features:

- guaranteed AFM tip radius of curvature < 10 nm
- AFM tip height 10 - 15 µm
- highly doped silicon to dissipate static charge
- Al coating on detector side of AFM cantilever
- 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 reflective coating is an approximately 30 nm thick aluminum coating on the detector side of the AFM cantilever which enhances the reflectivity of the laser beam by a factor of about 2.5. Furthermore it prevents light from interfering within the AFM cantilever. As the coating is nearly stress-free the bending of the AFM cantilever due to stress is less than 2 degrees.

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-NCLR-10	10	of all probes
PPP-NCLR-20	20	of all probes
PPP-NCLR-50	50
PPP-NCLR-W	380	of up to 32 probes