

## PointProbe® Plus Lateral Force Microscopy - 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.

For lateral or friction force microscopy NANOSENSORS™ offers a special type of AFM probe (LFM: lateral force microscopy). This sensor type is optimized for a high sensitivity to lateral or friction forces by an extremely soft, thin AFM cantilever

### 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]	23	1 - 57
Force Constant [N/m]	0.2	0.01 - 1.87
Length [µm]	225	215 - 235
Mean Width [µm]	48	40 - 55
Thickness [µm]	1	0.1 - 2

### Order codes and shipping units:

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