PointProbe® Plus Force Modulation Mode - Reflex Coating

The **P**oint**P**robe® **P**lus (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 **FM** type is offered for force modulation microscopy. The force constant of this AFM probe spans the gap between contact and non-contact mode and is specially tailored for the force modulation mode. The **PPP-FM** probe serves also as a basis for magnetic coatings (**MFM**). Furthermore non-contact or tapping mode operation is possible with the FM tip but with reduced operation stability.

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]	75	45 - 115
Force Constant [N/m]	2.8	0.5 - 9.5
Length [µm]	225	215 - 235
Mean Width [µm]	28	20 - 35
Thickness [µm]	3	2 - 4

Order codes and shipping units:

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