

Cantilever Data	Value	Range*
Resonance Frequency	320 kHz	250 - 390 kHz
Force Constant	42 N/m	21 - 78 N/m
Length	125 μm	120 - 130 μm
Mean Width	30 μm	25 - 35 μm
Thickness	4 μm	3.5 - 4.5 μm

NanoWorld® Pointprobe® NCH probes are designed for non-contact or tapping mode imaging. This AFM probe type combines high operation stability with outstanding sensitivity and fast scanning ability.

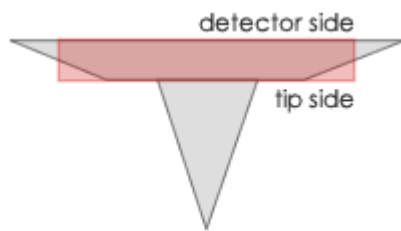
All SPM and AFM probes of the Pointprobe® series are made from monolithic silicon which is highly doped to dissipate static charge. They are chemically inert and offer a high mechanical Q-factor for high sensitivity. The AFM tip is shaped like a polygon based pyramid with a typical height of 10 - 15 μm .

This AFM tip shows a high aspect ratio portion with near-vertical sidewalls and is specially tailored for measurements on samples with sidewalls approaching 90°.

These probes offer unique features:

- Length of the high aspect ratio portion of the AFM tip > 2 μm
- Typical aspect ratio of this portion in the order of 7:1 (when viewed from side as well as along AFM cantilever axis!)
- Half cone angle of the high aspect ratio portion typically < 5°
- Typical AFM tip radius of curvature < 10 nm

For applications requiring lower resonance frequencies or an AFM cantilever length exceeding 125 μm we recommend our Pointprobe® type [AR5-NCLR](#).



A trapezoidal cross section of the AFM cantilever and therefore 30% wider (e.g. NCH) AFM cantilever detector side result in easier and faster laser adjustment. Additionally, because there is simply more space to place and reflect the laser beam, a higher SUM signal is reached.

Tip shape: High-Aspect-Ratio
Coating: Reflective Aluminum

Aluminum Reflex Coating

The aluminum reflex coating consists of a 30 nm thick aluminum layer deposited on the detector side of the AFM cantilever which enhances the reflectance of the laser beam by a factor of 2.5. Furthermore it prevents light from interfering within the AFM cantilever.

Order Code	Quantity	Data Sheet
AR5-NCHR-10	10	yes
AR5-NCHR-20	20	yes
AR5-NCHR-50	50	no
AR5-NCHR-W	380	yes