



Material:

Solid platinum or platinum-iridium probe tip and cantilever supported on standard AFM probe sized ceramic chip, connected to conductive gold bonding pad with conductive epoxy. RMN also has probes available without gold contact pad, to help reduce stray capacitance.

Probes on standard sized substrates have a part number ending in the letter B (i.e. 25Pt300B).

Probes designed specifically for the Keysight (Agilent) Scanning Microwave Microscope (SMM) have the letter A rather than B (i.e. 12Pt400A).

Rocky Mountain Nanotechnology, LLC, is the only company that manufactures and sells ultra-sharp, solid platinum and platinum-iridium AFM probes, for high resolution electrical measurements. These probes can be used in various modes, including tapping and contact and are ideal for C-AFM, EFM, KPFM PFM, SCM, SMM, SMIM, and SNOM applications. Each probe is imaged by FE-SEM to verify its tip radius. The probes have cantilever frequencies from 4.5kHz up to 100kHz. They also have a long lifetime and high reliability in electrical measurements. There is never an issue with conductivity because the probe tips are purely metallic.

Substrate B shown: 3.4mm x 1.6mm x 0.254mm

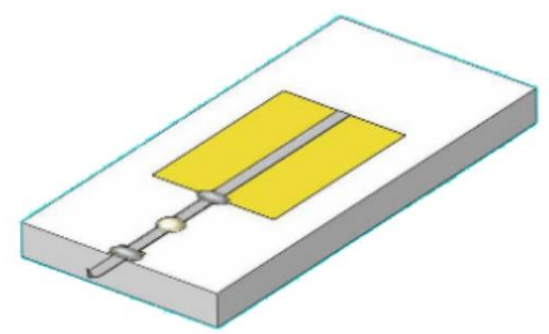
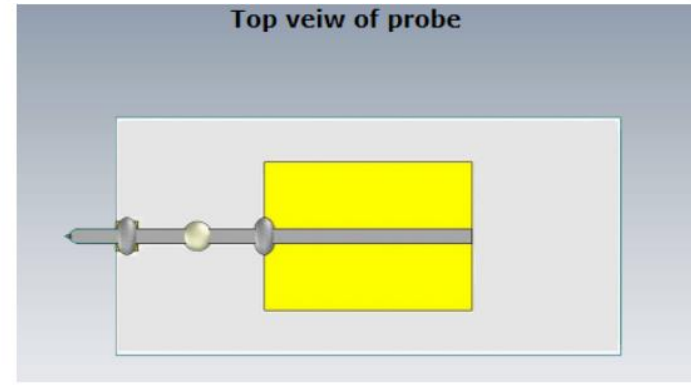
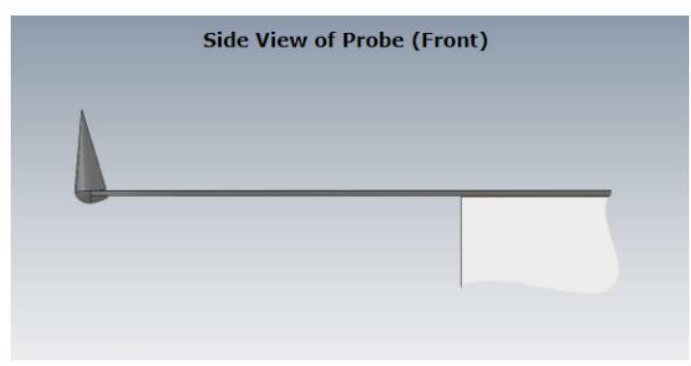
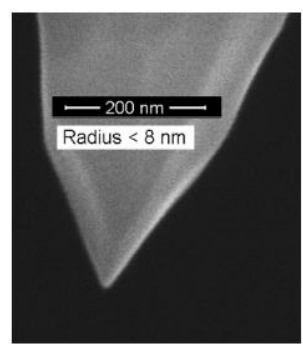
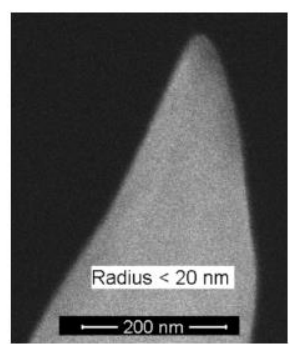
Substrate A is 3.7mm x 1.6mm x 0.254mm

Specifications

Material: Solid platinum or platinum-iridium probe tip and cantilever supported on standard AFM probe sized ceramic chip, connected to conductive gold bonding pad with conductive epoxy. RMN also has probes available without gold contact pad, to help reduce stray capacitance.

Probes on standard sized substrates have a part number ending in the letter B (i.e. 25Pt300B).

Probes designed specifically for the Keysight (Agilent) Scanning Microwave Microscope (SMM) have the letter A rather than B (i.e. 12Pt400A).



25Pt300B or 25Pt300A

The 25Pt300B is RMN's most popular probe. This versatile probe is a good choice for many applications. These probes are ideal for C-AFM, SCM, SMM, SMIM, EFM and KPFM.

- Tip shank length: 80 μm (\pm 25%)
- Cantilever length: 300 μm (\pm 15%)
- Cantilever width: 110 μm (\pm 15%)
- Spring constant: 18 N/m (\pm 40%)
- Frequency: 20 kHz (\pm 30%)
- Standard tip radii below 20 nm for \$80 each
- Tip radii below 10 nm on request for \$100 each 25Pt300B-10
- Non - standard probe tips and cantilevers upon request

12Pt400B or 12Pt400A

The 12Pt400B is RMN's probe with the lowest spring constant. It is most useful for contact AFM measurements with minimum contact force. These probes are ideal for C-AFM, SCM, SMM and SMIM applications. The 12Pt400A is the preferred probe for Keysight (Agilent) SMM applications.

- Tip shank length: 80 μm (\pm 25%)
- Cantilever length: 400 μm (\pm 15%)
- Cantilever width: 60 μm (\pm 15%)
- Spring constant: 0.3 N/m (\pm 40%)
- Frequency: 4.5 kHz (\pm 30%)
- Standard tip radii below 20 nm for \$80 each
- Tip radii below 10 nm on request for \$100 each 12Pt400B-10
- Non - standard probe tips and cantilevers upon request

25Ptlr300B or 25Ptlr300A

The 25Ptlr300B is the updated version of RMN's most popular probe, with prolonged mechanical wear. This versatile probe is a good choice for many applications and can be used in various modes, including tapping and contact. These probes are ideal for C-AFM, SCM, SMM, SMIM, EFM and KPFM.

- Tip shank length: 80 μm (\pm 25%)
- Cantilever length: 300 μm (\pm 15%)
- Cantilever width: 100 μm (\pm 15%)
- Spring constant: 22 N/m (\pm 40%)
- Frequency: 21 kHz (\pm 30%)
- Standard tip radii below 20 nm for \$100 each
- Tip radii below 10 nm on request for \$120 each 25Ptlr300B-10
- Non - standard probe tips and cantilevers upon request

25Ptlr200B-H or 25Ptlr200A-H

The 25Ptlr200B-H is the updated version of RMN's high frequency probe, with prolonged mechanical wear. It is typically used for non-contact and tapping mode AFM measurements. These probes are ideal for SNOM and high Frequency applications.

- Tip shank length: 80 μm (\pm 25%)
- Cantilever length: 200 μm (\pm 15%)
- Cantilever width: 50 μm (\pm 15%)
- Spring constant: 290 N/m (\pm 40%)
- Frequency: 105 kHz (\pm 30%)
- Standard tip radii below 20 nm for \$100 each
- Tip radii below 10 nm on request for \$120 each 25Ptlr200B-H10
- Non - standard probe tips and cantilevers upon request

12Ptlr400B or 12Ptlr400A

The 12Ptlr400B is the updated version of RMN's probe with the lowest spring constant, with prolonged mechanical wear. It is most useful for contact AFM measurements with minimum contact force. These probes are ideal for C-AFM, SCM, SMM and SMIM applications. The 12Ptlr400A is the preferred probe for Keysight (Agilent) SMM applications.

- Tip shank length: 80 μm (\pm 25%)
- Cantilever length: 400 μm (\pm 15%)
- Cantilever width: 50 μm (\pm 15%)
- Spring constant: 0.6 N/m (\pm 40%)
- Frequency: 6 kHz (\pm 30%)
- Standard tip radii below 20 nm for \$100 each
- Tip radii below 10 nm on request for \$120 each 12Ptlr400B-10
- Non - standard probe tips and cantilevers upon request

25Pt200B-H or 25Pt200A-H

The 25Pt200B-H is the high-spring constant RMN probe. It is typically used for non-contact and tapping mode AFM measurements. These probes are ideal for high Frequency applications.

- Tip shank length: 80 μm (\pm 25%)
- Cantilever length: 200 μm (\pm 15%)
- Cantilever width: 50 μm (\pm 15%)
- Spring constant: 250 N/m (\pm 40%)
- Frequency: 100 kHz (\pm 30%)
- Standard tip radii below 20 nm for \$80 each
- Tip radii below 10 nm on request for \$100 each 25Pt200B-H10
- Non - standard probe tips and cantilevers upon request

25Pt400B or 25Pt400A

The 25Pt400B is similar to the 25Pt300B, but with a lower spring constant. These probes are ideal for C-AFM, SCM, SMM and SMIM applications.

- Tip shank length: 80 μm (\pm 25%)
- Cantilever length: 400 μm (\pm 15%)
- Cantilever width: 110 μm (\pm 15%)
- Spring constant: 8 N/m (\pm 40%)
- Frequency: 10 kHz (\pm 30%)
- Standard tip radii below 20 nm for \$80 each
- Tip radii below 10 nm on request for \$100 each 25Pt400B-10
- Non - standard probe tips and cantilevers upon request

12Pt300B or 12Pt300A

The 12Pt300B has a higher spring constant than the 12Pt400B. It is typically used for contact AFM imaging, when a higher resonance frequency is desired. These probes are ideal for C-AFM, SCM, SMM, SMIM, and PFM applications.

- Tip shank length: 80 μm (\pm 25%)
- Cantilever length: 300 μm (\pm 15%)
- Cantilever width: 60 μm (\pm 15%)
- Spring constant: 0.8 N/m (\pm 40%)
- Frequency: 9 kHz (\pm 30%)
- Standard tip radii below 20 nm for \$80 each
- Tip radii below 10 nm on request for \$100 each 12Pt300B-10
- Non - standard probe tips and cantilevers upon request