# NTEGRA - Scanning Probe Microscopy

(http://www.ntmdt.com/platform/ntegra)

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**STM/ AFM (contact + semi-contact + non-contact) / Lateral Force Microscopy / Phase Imaging / Force Modulation / Adhesion Force Imaging / Magnetic Force Microscopy / Electrostatic Force Microscopy / Scanning Capacitance Microscopy / Kelvin Probe Microscopy / Spreading Resistance Imaging**

| **Specification** / **Scan type** | | **Scanning by sample** | **Scanning by probe** |
|---|---|---|---|
| **Sample size** | | up to 40 mm<br>up to 15 mm in height | up to 100 mm,<br>up to 15 mm in height |
| **Sample weight** | | up to 100 g | up to 300 g |
| **XY positioning range, resolution** | | 5x5 mm, 5 µm | |
| **Positioning sensitivity** | | 2 µm | |
| **Scan range** | | 100 x 100 x 10 µm<br>3 x 3 x 2.6 µm | 50 x 50 x 5 µm |
| **Non-linearity, XY** (with closed-loop sensors) | | ≤ 0.1% | ≤ 0.15% |
| **Noise level, Z**<br>(RMS in 1000 Hz band) | with sensors | 0.04 nm (typically),<br>≤ 0.06 nm | 0.06 nm (typically),<br>≤ 0.07 nm |
| | without sensors | 0.03 nm | 0.05 nm |
| **Noise level, XY**<br>(RMS in 200 Hz band) | with sensors | 0.2 nm (typically),<br>≤ 0.3 nm (XY 100 µm) | 0.1 nm (typically),<br>≤ 0.2 nm |
| | without sensors | 0.02 nm (XY 100 µm)<br>0.001 nm (XY 3 µm) | 0.01 nm |
| **Closed-loop equivalent** | noise level, XY<br>(RMS in 200 Hz band) | 0.012 nm (XY 3 µm) | |
| | noise level, Z<br>(RMS in 1000Hz band) | 0.02 nm | |
| | zoom accuracy | 5% typically | |
| **Optical viewing system** | optical resolution | 1 µm | 3 µm |
| | field of view | 4.5–0.4 mm | 2.0–0.4 mm |
| | continuous zoom | available | available |
| **Temperature control** | range | RT–150°C | |
| **Vacuum system** | pressure | $10^{-2}$ Torr | |
| **Vibration isolation** | active | 0.7–1000 Hz | |
| | passive | above 1 kHz | |