

MicroCT Bar Pattern NANO Phantom

BarPattern NANO V2 - Redesigned Chip

The Micro-CT Bar Pattern NANO Phantom provides a comfortable and easy way to assess in-plane and axial spatial resolution of 3D high resolution micro-CT systems.

As a further development of our popular MicroCT-BarPattern-Phantom we now can present the BarPattern NANO Phantom.

The easy and convenient to use phantom provides two silicon chips, perpendicularly aligned and placed on a solid plastic support.

Both 3 x 3 mm² chips exhibit several line and point pattern representing lines and points of 1 to 10 μm width.

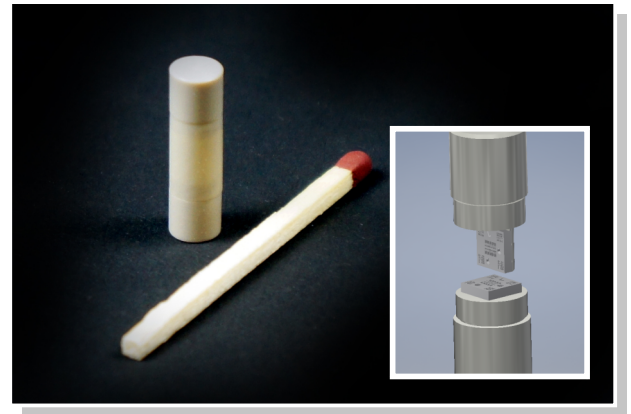
In addition a slanted edge (L) and a Siemensstar are also placed on the chip.

The depth of the structures varies within 5 and 15 μm.

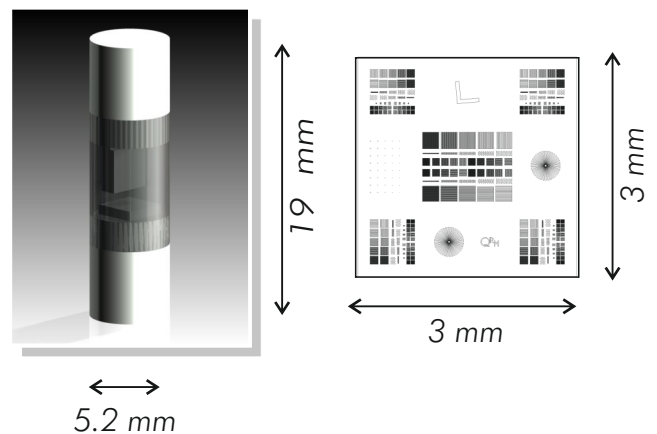
The different structures on the chip are arranged in such a way over the chip, that spatial resolution can be determined in the center as well as in the periphery of the image/chip with a single measurement.

Line- and Pointpattern on the chip:

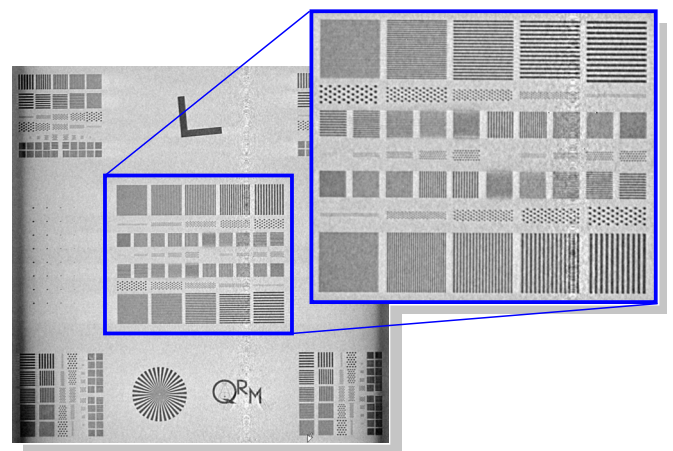
line/pointwidth [μm]	linepairs / mm
1	500
2	250
3	166.36
4	125
5	100
6	83.3
7	83.3
8	71.4
9	55.5
10	50



QRM-MicroCT-Barpattern-NANO



pattern of 1 to 10 μm structures

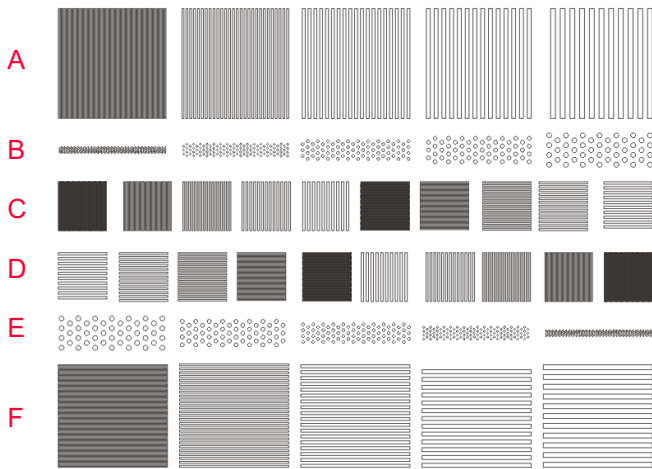


Micro-CT scans (3.5 μm voxel size)

Images courtesy of Carl Zeiss Industrielle Messtechnik

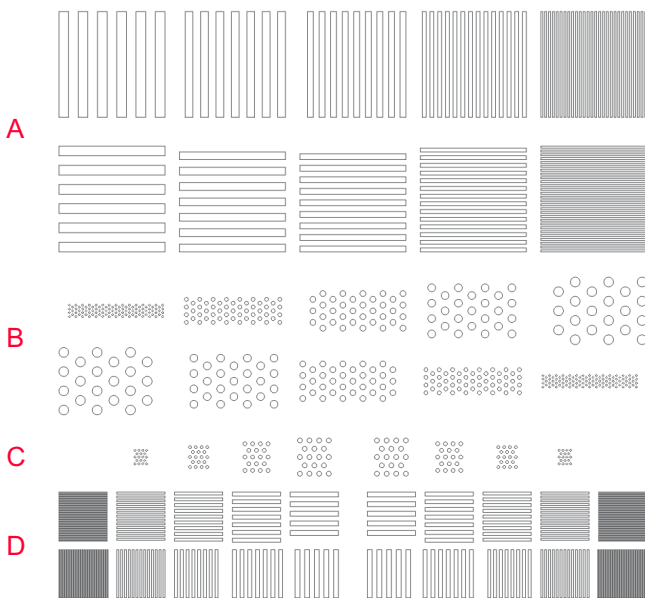
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Section 1



section	line thickness (µm)	linepairs / mm	points (µm)
A	2, 4, 6, 8, 10	50 - 250	
B			2, 4, 6, 8, 10
C	1, 2, 3, 4, 5	100 - 500	
D	1, 2, 3, 4, 5	100 - 500	
E			2, 4, 6, 8, 10
F	2, 4, 6, 8, 10	50 - 250	

Section 2



section	line thickness (µm)	linepairs / mm	points (µm)
A	2, 4, 6, 8, 10 (tilt 90°)	250 - 50	
B			2, 4, 6, 8, 10
C			2, 3, 4, 5
D	1, 2, 3, 4, 5	500 - 100	

Specifications

QRM-MicroCT-Barpattern-NANO (air)

Phantom:

Diameter 5.2 mm
 Height 19.1 mm
 Material stable plastic

Chip:

Diameter 2.96 mm
 Height 0.68 mm
 Material silicon
 Structures on the Chip 1 - 10 µm
 Depth of structures 5 - 15 µm
 Contrast silicon / air

Specific mount/holder for your micro-CT system on request!

section	description	pattern / resolution
1	center section providing several bar and point pattern	1 - 10 µm structures
2 a-d	corner section providing several bar and point pattern in different orientation	1 - 10 µm structures
3	slanted edge section, 15° tilted edge for MTF	
4	36 actinomorphic star - test pattern	going down from 17.5 µm
5	point grid point-to-point center distance 100 µm	2-10 µm points

