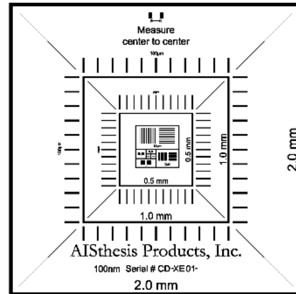
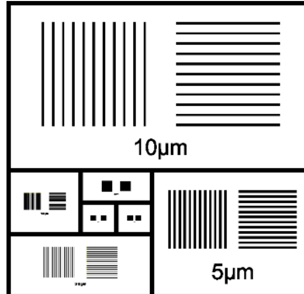
AISthesis Products, Inc.

Advanced Imaging Products for Nanotechnology, Engineering and Life Sciences

Wafer Level Certificate of Traceability for
Pelcotec™ XY-Critical Dimension Standard





Product Number: **Pelcotec™** 685-01 CDMS-XY-0.1T

Manufactured for and Distributed by:

Product Description: 2.5x2.5mm **Pelcotec™** 2mm-100nm XY-Critical Dimension Magnification Standard

Wafer Identifier: CD-XE01

The accuracy of these products was determined by reference comparison to working standards traceable to the National Institute of Standards and Technology (NIST), Test No. 861/280822-11.

Line	Direction	Average pitch of wafer	Number of lines averaged	Average pitch uniformity (1σ uncertainty)	Total expanded uncertainty (3σ) average pitch for wafer*
2.0mm	X/Y	2.00 mm	2	± 2 µm (±0.10%)	± 7 µm (±0.35%)
1.0mm	X/Y	1.00 mm	2	± 1 µm (±0.10%)	± 3.5 µm (±0.35%)
0.5mm	X/Y	0.500 mm	2	± 0.5 µm (±0.10%)	± 1.75 µm (±0.35%)
0.10mm	X/Y	0.100 mm	11	± 0.10 µm (±0.10%)	± 0.35 µm (±0.35%)
50µm	X/Y	50.00 µm	11	± 0.05 µm (±0.10%)	± 0.175 µm (±0.35%)
10µm	X/Y	10.00 µm	11	± 0.01 µm (±0.10%)	± 0.035 µm (±0.35%)
5µm	X/Y	5.00 µm	12	± 0.01 µm (±0.20%)	± 0.035 µm (±0.70%)
2µm	X/Y	2.00 µm	[illegible]	± 0.004 µm (±0.20%)	± 0.014 µm (±0.70%)
1µm	X/Y	1.00 µm	17	± 0.002 µm (±0.20%)	± 0.007 µm (±0.70%)
500nm	X/Y	500.8 nm	20	± 1.00 nm (±0.20%)	± 3.5 nm (±0.70%)
250nm	X/Y	250.7 nm	21	± 0.50 nm (±0.20%)	± 1.75 nm (±0.70%)
100nm	X/Y	100.3 nm	52	± 0.20 nm (±0.20%)	± 0.75 nm (±0.70%)

* The 3σ uncertainty (99.73% confidence interval) average pitch is determined using a minimum of nine die per production wafer. Each average pitch is determined using 100+ measurements on each die averaged over the stated number of lines. The total expanded uncertainty includes both Type A and Type B uncertainties corrected for sample size using an appropriate Student t-factor.

Equipment used:

Instrument	Model number	Serial #	NIST Certified CD/Recalibration	Resolution	Repeatability
FE-SEM	FEI Verios	9922551	CD-PG01-0211/June 2018	0.9nm	0.03%

D.S. Finch__________
Certified by

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Signature

February 7th, 2018_________
Date

EXAMPLE CERTIFICATE

This certificate shall not be reproduced without the permission of AISthesis Products, Inc.

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