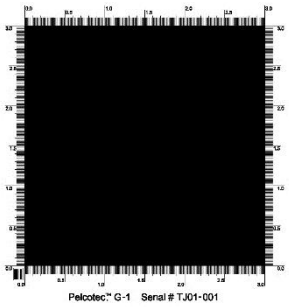
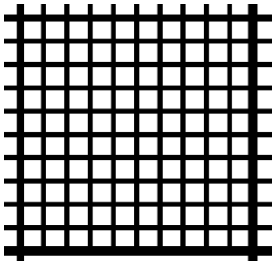
AISthesis Products, Inc.

Advanced Imaging Products for Nanotechnology, Engineering and Life Sciences

Die Level Certificate of Calibration

Pelcotec™ G-1 Silicon Calibration Standard





Product Number: G-1C

Product Description: 3 x 3mm Pelcotec™ 1µm Grid Calibration Standard

Product Serial Number: G-1 TJ01-xxx

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

Line	Average pitch	Standard Deviation (1σ)	Total expanded uncertainty (3σ)
Horizontal	100.00µm	±0.10% (±0.10µm)	± 0.30%
Vertical	100.00µm	±0.10% (±0.10µm)	± 0.30%
Horizontal	10.00µm	±0.12% (±12nm)	± 0.37%
Vertical	10.00µm	±0.12% (±12nm)	± 0.37%
Horizontal	1.00µm	±0.37% (±4nm)	± 1.11%
Vertical	1.00µm	±0.37% (±4nm)	± 1.11%

The average pitch is determined from a total of 195 horizontal and 225 vertical center-to-center measurements taken at five points across the die (top left, top right, center, bottom left, and bottom right). The total expanded uncertainty includes both Type A and Type B uncertainties corrected for sample size using an appropriate Student t-factor.

At the narrowest point, the average vertical line width is 200±xxnm and the average horizontal line width is 200±yynm. The average angle between the horizontal and vertical lines is 90±zzz degrees. The average etch depth measured by AFM of the vertical and horizontal lines is 370nm±10%.

Equipment used:

Instrument	Model number	Serial #	NIST Certified CD/Recalibration	Resolution	Repeatability
Dual Beam FIB	FEI Helios 600	D0410	CD-PG01-0211/June 2014	0.9nm	0.03%

Certified by _____ Signature _____ Date _____

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