



MTF/ITF Calibration Test Target Based on Binary Pseudo-Random (BPR) Array

Available BPR Test Arrays Sizes

Binary Pseudo-Random Arrays			
Product Number	Elementary Size [nm]	BPR Total Pattern Area, X×Y [mm]	Substrate dimensions
HR-400	401	3.39×3.39	1"Ø X .25 0" TK Si
HR-800	801	3.39×3.39	1"Ø X .25 0" TK Si
HR-1200	1201	5.08×5.08	1"Ø X .25 0" TK Si
HR-2500	2,501	10.57×10.57	1"Ø X .25 0" TK Si
An Array of HR-400, HR-800, HR-1200, and HR-2500	Includes all the above	Includes all the above	2"Ø X .375" TK Si
HR-15000	15001	63.39 x 63.39	4"Ø X .75" TK Si
BPR Ultra High Resolution (1D)			
Product Number	Elementary Size [nm]	Total Size	Substrate dimensions
Lamella1.5	1.5	BPR width = 6 μm, BPR is sliced to order	Custom
Lamella3.0	3	BPR width = 6 μm, BPR is sliced to order	Custom

Selection Guide:

For selecting which pattern to use for which objective/magnification, it is a matter of choosing a pattern with elementary size smaller than the effective pixel size, while still filling the field of view of the detector (i.e., Field of View < BPR Total Pattern Area).



Example 1: Binary Pseudo-Random arrays with HR-400, HR-800, HR-1200, and HR-2500 patterns on a 2 inch Si substrate.

Substrate Information: Substrate: 2"Ø X .750" TK., Super Polished Si

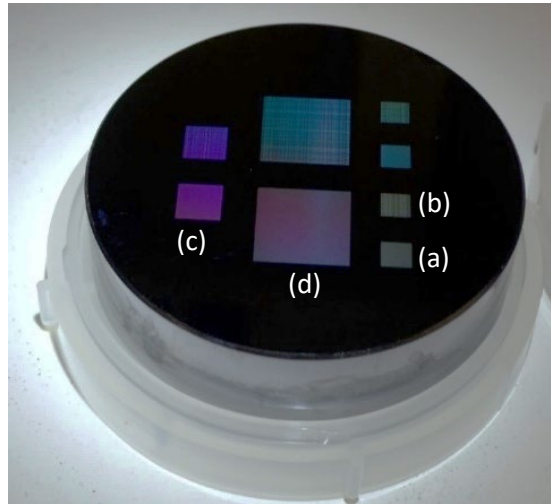


Figure 1: A BPR test sample with (a) HR-400, (b) HR-800, (c) HR-1200 and (d) HR-2500 patterns on a 2 inch Si substrate.

Example 2: BPR Ultra High Resolution with 3.0 nm elementary size (Lamella 3.0).

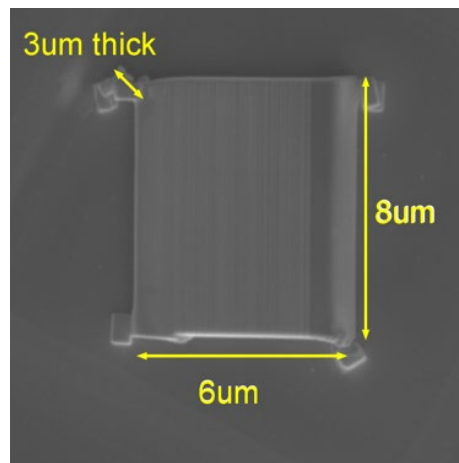


Figure 2: A Ultra-high Resolution BPR test sample with 3.0 nm elementary size (Lamella3.0) slices into 6 µm (width) x 8 µm (length) x 3 µm (thickness). BRR width is 6 µm, and the other dimensions can be customized to order.