EX vs. WX Feature Comparison

The EX Wafer Mapping Sensor has better detection of dark/coated and ultra-thin wafers, improved cross-slot detection, plus it is less sensitive to stray reflections and fluorescent lighting.

- New laser wavelength of 850nm closer to peak response of phototransistors, while maintaining Class 1 status (CDRH)
- Improved electrical gain
  - At least 6 times more sensitive to reflected laser signal
- Improved detector geometry
  - Provides constant response with angle
  - Less sensitive to alignment during setup
  - Able to scan on or off axis
  - Allows for higher optical gain
  - Triggering from spurious reflections highly unlikely
- Standard ambient light filter makes sensor gain constant with fluorescent lighting level
- Decreased laser stripe thickness
  - More light hits wafer edge simultaneously improving precision
  - Allows for smaller stripe at wafer edge
- Increased laser collimator focal length
  - Less “tail” above and below the stripe
- Added three laser collimator apertures
  - Decreased noise above and below the stripe

Feature	EX	WX
Laser Wavelength	2 @ 850nm	2 @ 780nm
Electrical Gain	Relative Gain = 6	Relative Gain = 1.0
Detector Geometry	Wafer Laser line from L1 and L2 Laser line image from L2 Laser line image from L1 L1 L2 D1 D2 Figure 1 – EX detector configuration when sensor is positioned on the wafer radial axis	Wafer Laser line from L1 and L2 Laser line image from L1 Laser line image from L2 D1 L1 D2 L2 D3 Figure 2 – WX detector configuration when sensor is positioned on the wafer radial axis
Ambient Light Filter	Standard	Optional
Thinner Laser Stripe	0.13 – 0.17mm	0.4mm
Laser Collimator Focal Length	12mm	4mm
Laser Collimator Apertures	3	None

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Note: The mechanical and electrical interfaces remain unchanged.

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