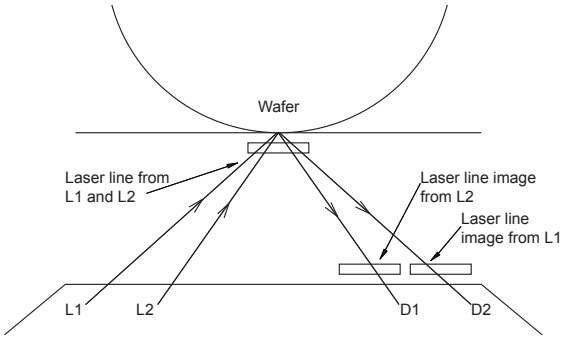
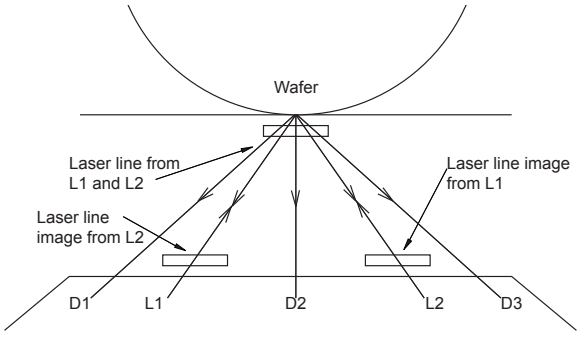
EX-Q vs. WX Feature Comparison

The EX-Q 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 ambient lighting.

- New laser wavelength of 850nm closer to peak response of phototransistors, while maintaining Class 1 status (CDRH)
- Improved electrical gain
  - Sensitivity increased by 17X to result in greater detection headroom
- Improved detector geometry
  - Provides more constant response with angle
  - Less sensitive to alignment during setup
  - Able to scan on or off axis
  - Triggering from spurious reflections eliminated
- Ambient light filter is standard; sensor performance is not affected by lighting
- Decreased laser stripe thickness
  - More light hits wafer edge simultaneously improving precision
  - Allows for smaller stripe at wafer edge
- Increased laser collimator focal length
  - More precise location measurement
- Added three laser collimator apertures
  - Decreased noise above and below the stripe
- Higher quality optics
  - Less scatter from surfaces

Feature	EX	WX
Laser Wavelength	2 @ 850nm	2 @ 780nm
Sensitivity	Relative Gain = 17.4	Relative Gain = 1.0
Detector Geometry	 Figure 1 – EX detector configuration when sensor is positioned on the wafer radial axis	 Figure 2 – WX detector configuration when sensor is positioned on the wafer radial axis
Ambient Light Filter	Standard	Optional
Thinner Laser Stripe	0.05mm	0.4mm
Laser Collimator Focal Length	12mm	4mm
Laser Collimator Apertures	3	None

Note: The mechanical and electrical interfaces remain unchanged.

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