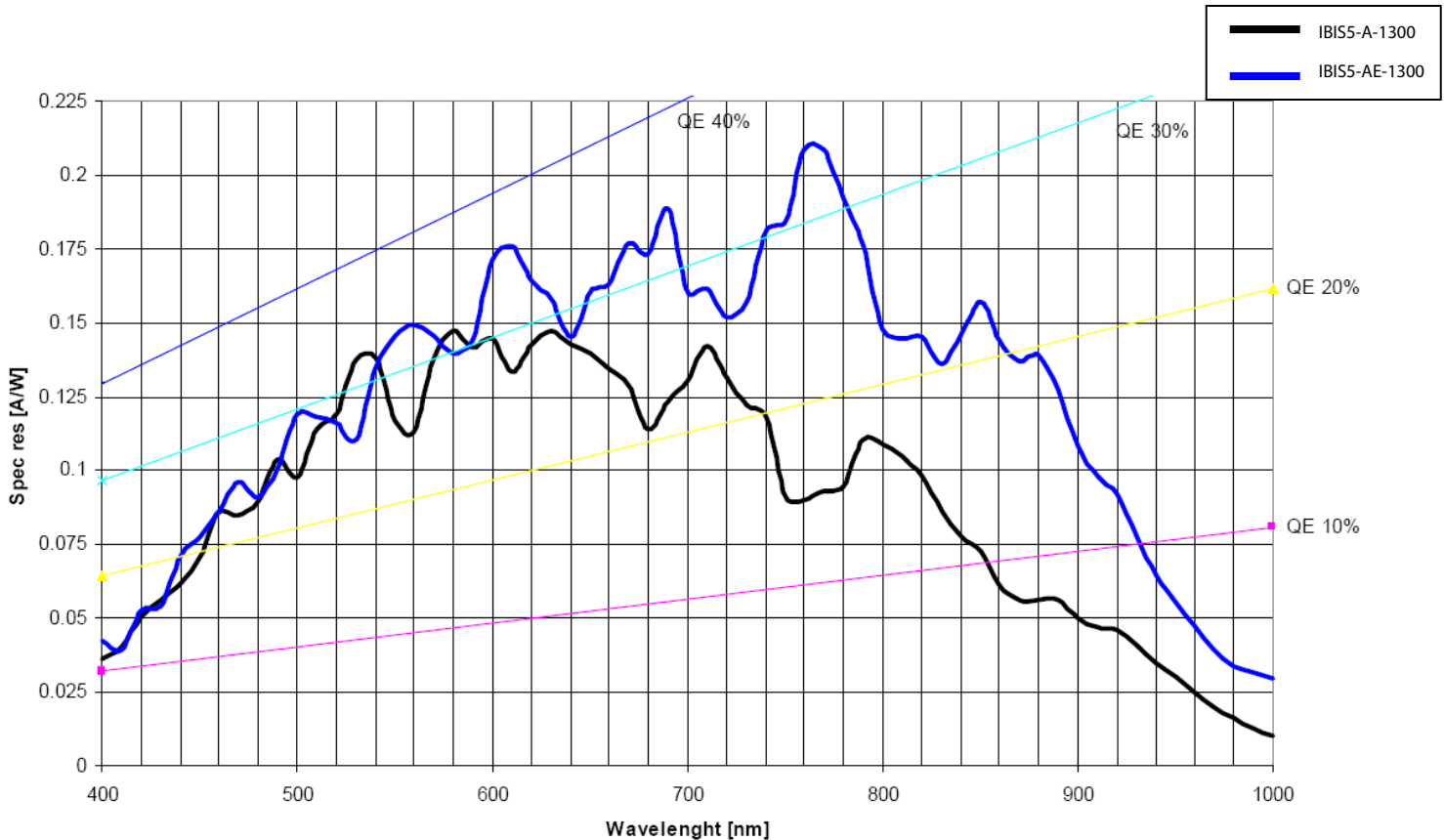


Spectral response characteristics of IBIS5-A-1300 and IBIS5-AE-1300 sensors

The IBIS5-AE-1300 is processed on a thicker epitaxial Si layer featuring a superb sensitivity in the NIR (Near Infra Red) wavelengths (700-900 nm). The curve is measured directly on the pixels. It includes effects of non-sensitive areas in the pixel, e.g., interconnection lines. The sensor is light sensitive between 400 and 1000 nm. The peak QE * FF is 30% approximately around 650 nm. In view of a fill factor of 40%, the QE is thus close to 75% between 500 and 700 nm.

The IBIS5-AE-1300 has superior response in the NIR region (700-900 nm). The spectral response characteristic for the IBIS5-A-1300 and the IBIS-5-AE-1300 is shown below:



The IBIS5-A-1300 and IBIS5-AE-1300 sensor comparison

The IBIS5-AE-1300 is processed on a thicker epitaxial Si layer featuring a superb sensitivity in the NIR (Near Infra Red) wavelengths (700-900 nm). The spectral response curves of the two IBIS5-A-1300 image sensors are shown at the image above. As many machine vision applications use light sources in the NIR, the IBIS5-AE-1300 sensor has a significant sensitivity advantage in the NIR. A drawback of the thicker epitaxial layer is a slight performance decrease in MTF (Modular Transfer Function or electrical pixel to pixel cross-talk) as indicated in the table below.

MTF comparison			
Direction	Wavelength	IBIS5-A-1300	IBIS5-AE-1300
Horizontal	600	0,58	0,37
Horizontal	700		0,18
Horizontal	800		0,16
Horizontal	900		0,07
Vertical	600	0,53	0,26
Vertical	700		0,16
Vertical	800		0,13
Vertical	900		0,11

The resulting image sharpness is hardly affected by this decreased MTF value. Both IBIS5-A-1300 and IBIS5-AE-1300 sensor versions are fully pin compatible and have identical timing and biasing.