

# Aries 6506 / 6510

The Aries 6506 and 6510 achieve perfect combination of sensitivity, large FOV and high-speed performance. The advantages are not only based on the Gpixel Gsense 6510BSI sCMOS sensor, but more importantly, the flexible readout modes and user configurable structure tailored for most challenging scientific applications.



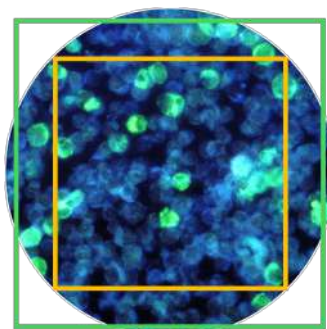
Key Features	Benefits
Ultimate Sensitivity	The Super Sensitivity mode maximizes signal collection power with up to 95% QE, while keeps the noise floor down to 0.7e <sup>-</sup> , makes them ideal for low light imaging.
Large Field of View <sup>[1]</sup>	29.4 mm diagonal sensor delivers the largest field of view among scientific cameras with 6.5 μm pixels.
Useable Full Well Capacity for High Speed Acquisition	We use 11-bit and 1,000 e <sup>-</sup> / 15,000 e <sup>-</sup> full well data for the high speed mode, resulting higher accuracy on intensity measurements over normal 8-bit data with only 200 e <sup>-</sup> full well.
Easy-to-use GigE Interface	High quality data without the need for a 3rd party frame grabber or complicated boot sequence.

## Typical Applications

- Super Resolution Microscopy
- Low light Living Cell Imaging
- Fluorescent Slide Scanning
- High Throughput Imaging

## Noted Examples

[1] Aries 6510 delivers the largest field of view of 29.4 mm diagonal FOV, while Aries 6506 has an ideal FOV of 22 mm for the most of microscopes.

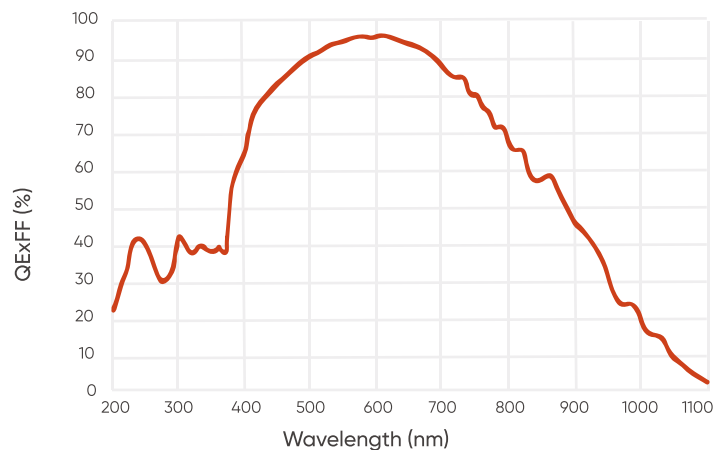


**Aires 6506**  
 Diagonal: 22 mm  
 Area: 15.7 mm x 15.7 mm



**Aires 6510**  
 Diagonal: 29.4 mm  
 Area: 20.8 mm x 20.8 mm

Microscope FOV at 22 mm

## Quantum Efficiency



## Product Series

Air Cooling	Order NO.	Resolution
	Aries 6506 AC	2400 x 2400
	Aries 6510 AC	3200 x 3200
Liquid Cooling	Order NO.	Resolution
	Aries 6506 LC	2400 x 2400
	Aries 6510 LC	3200 x 3200

# Specifications

Ultimate Sensitivity sCMOS Camera

[www.tucsen.com](http://www.tucsen.com)

Model	Aries 6510				Aries 6506			
Sensor Type	BSI sCMOS							
Sensor Model	Gpixel GSENSE 6510BSI							
Peak QE	95 %							
Color / Mono	Mono							
Array Diagonal	29.4 mm				22 mm			
Effective Area	20.8 mm x 20.8 mm				15.7 mm x 15.7 mm			
Resolution	3200 x 3200				2400 x 2400			
Pixel Size	6.5 $\mu\text{m}$ x 6.5 $\mu\text{m}$							
Readout Mode	HDR	Speed	Sensitivity	Super-sensitivity	HDR	Speed	Sensitivity	Super-sensitivity
Bit Depth	16 bit	11 bit	12 bit	12 bit	16 bit	11 bit	12 bit	12 bit
Frame Rate	83 fps	150 fps	88 fps	5.2 fps	111 fps	200 fps	117 fps	6.9 fps
Readout Noise	1.6 e-	2.0 e-	1.2 e-	0.7 e-	1.6 e-	2.0 e-	1.2 e-	0.7 e-
Dark Current@0°C (e- / P/s)	0.5	1.0	0.5	0.5	0.5	1.0	0.5	0.5
Full Well Capacity	15,000 e-	1,000 e- / 15,000 e-	1,500 e-	1,000 e-	15,000 e-	1,000 e- / 15,000 e-	1,500 e-	1,000 e-
Shutter Mode	Rolling							
Image Correction	DPC							
ROI	Support							
Binning (FPGA)	2 x 2, 4 x 4							
Cooling Method	Liquid Cooling , Air Cooling							
Cooling Temperature	Air: 0 °C @ 25 °C ambient; Liquid: -10 °C @ 20 °C liquid temperature							
Trigger Mode	Hardware, software							
Output Trigger Signals	Exposure start, Global, Readout end, High level, Low level							
Trigger Interface	Hirose							
SDK	C / C++ / C#							
Data Interface	2x10G GigE							
Optical Interface	T / F / C Mount				C Mount			
Power	12 V / 8 A							
Power Consumption	$\leq 55$ W							
Dimensions	95 mm (H) x 100 mm (W) x 100 mm (L)							
Camera Weight	TBD							
Operating System	Windows / Linux							
Operating Environment	Working: Temperature 0~40 °C, Humidity 10~85 % Storage: Temperature -10~60 °C, Humidity 0~85 %							