

## 4 MEGA-PIXEL 8/10/12 BIT, 15 FPS, PROGRAMMABLE DIGITAL CAMERA

### IPX-4M15-L



#### Features

- 2048 x 2048 pixels @ 15 fps
- Mono or Color
- 8/10/12 bit data, Base Camera Link
- Single or Dual tap operation
- RS232 serial communication
- 32 bit RISC processor
- Horizontal and vertical binning
- Highly programmable:
  - resolution • frame rate
  - electronic shutter • long integration
  - external trigger • pre-exposure
  - fast triggering • double exposure
  - strobe output • gain and offset
  - area of interest • user LUT
- Dynamic Transfer Function correction
- Dynamic Black Level Compensation
- Temperature monitor
- Field upgradeable:
  - SW • FW • LUT • FFC • DPC
- Defective Pixel Correction
- Flat Field Correction
- Automatic Iris Control - optional

#### Applications

- Medical and Scientific Imaging
- Machine Vision and Metrology
- Microscopy
- Remote Sensing
- Surveillance



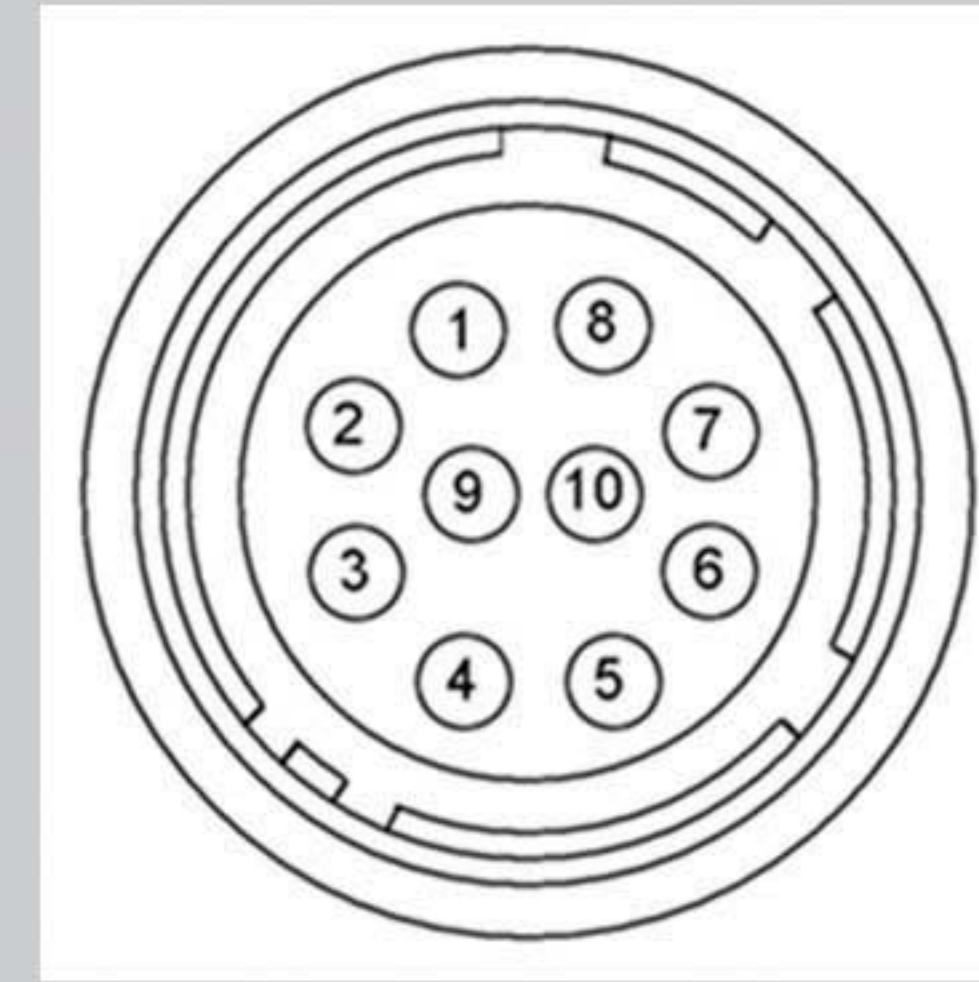
FAST...SMART...FLEXIBLE...  
**LYNNX** FAMILY

The **IPX-4M15-L** is an advanced, high-resolution progressive scan, fully programmable and field upgradeable CCD camera, built around KODAK's KAI-4021 interline transfer CCD. The camera provides 2048 x 2048 resolution and delivers 15 frames per second at full resolution. The camera image processing engine is based on a 1 million gate FPGA and 32 bit RISC processor, featuring programmable resolution, AOI, binning, triggering, shutter, long integration, transfer function correction and user LUT. Support for DPC and FFC.

# Specifications for IPX-4M15-L

<b>Active Image Pixels</b>	2048 (H) x 2048 (V), Mono or Color
<b>Active Image Area</b>	15.15 mm x 15.15 mm
<b>Pixel size</b>	7.4 $\mu$ m
<b>Video Output</b>	Digital, 8/10/12 bit, one or two outputs
<b>Camera Interface</b>	Base Camera Link
<b>Data Clock</b>	40.000 MHz
<b>Resolution</b>	2048 x 2048 pixels max
<b>Frame Rate</b>	15 fps (dual) / 7.5 fps (single), up to 118 fps w/AOI
<b>Shutter Speed</b>	1/30000 sec to 1/7 sec
<b>Long Integration</b>	1/7 sec to 10 sec
<b>Gamma Correction</b>	G=1.0, G=0.45, User defined LUT
<b>Black Level Offset</b>	256 levels/output
<b>Video Gain</b>	6-40 dB, 1024 steps/output
<b>External Trigger</b>	Asynchronous
<b>Hardware Trigger</b>	External, level sensitive, 3.3V - 5.0V, 10 mA., optically isolated, programmable exposure
<b>Software Trigger</b>	Frame-grabber, CC1, programmable exposure
<b>S/N Ratio</b>	60 dB
<b>Strobe Output</b>	Active HIGH, for external light source
<b>Lens Mount</b>	F mount, 21.43 mm image diagonal
<b>Environmental</b>	Operating: -5 to 50 C, Storage: -10 to 65 C
<b>Min. Illumination</b>	1.0 Lux, f=1.4, no IR cut filter, no shutter
<b>Mechanical</b>	(67 x 67 x 47) mm; 13 oz (360 g)

## Power Connector



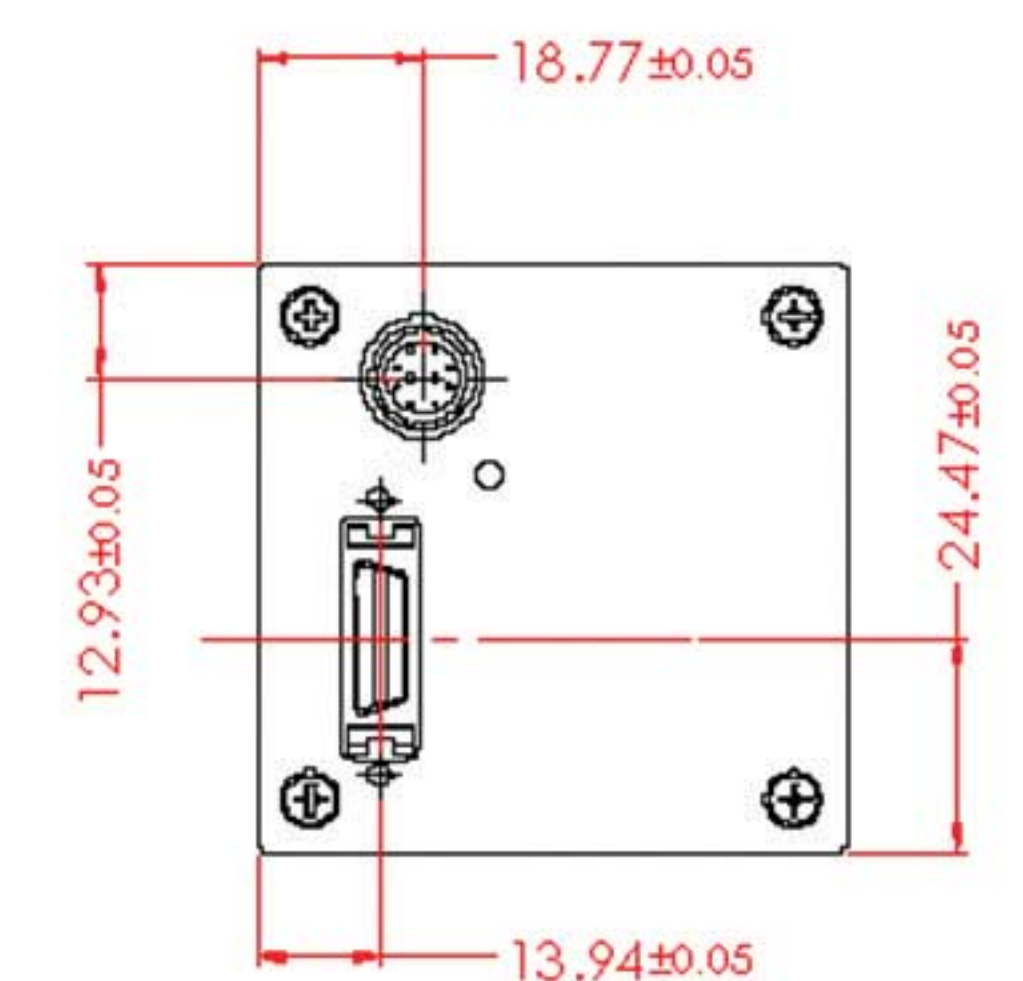
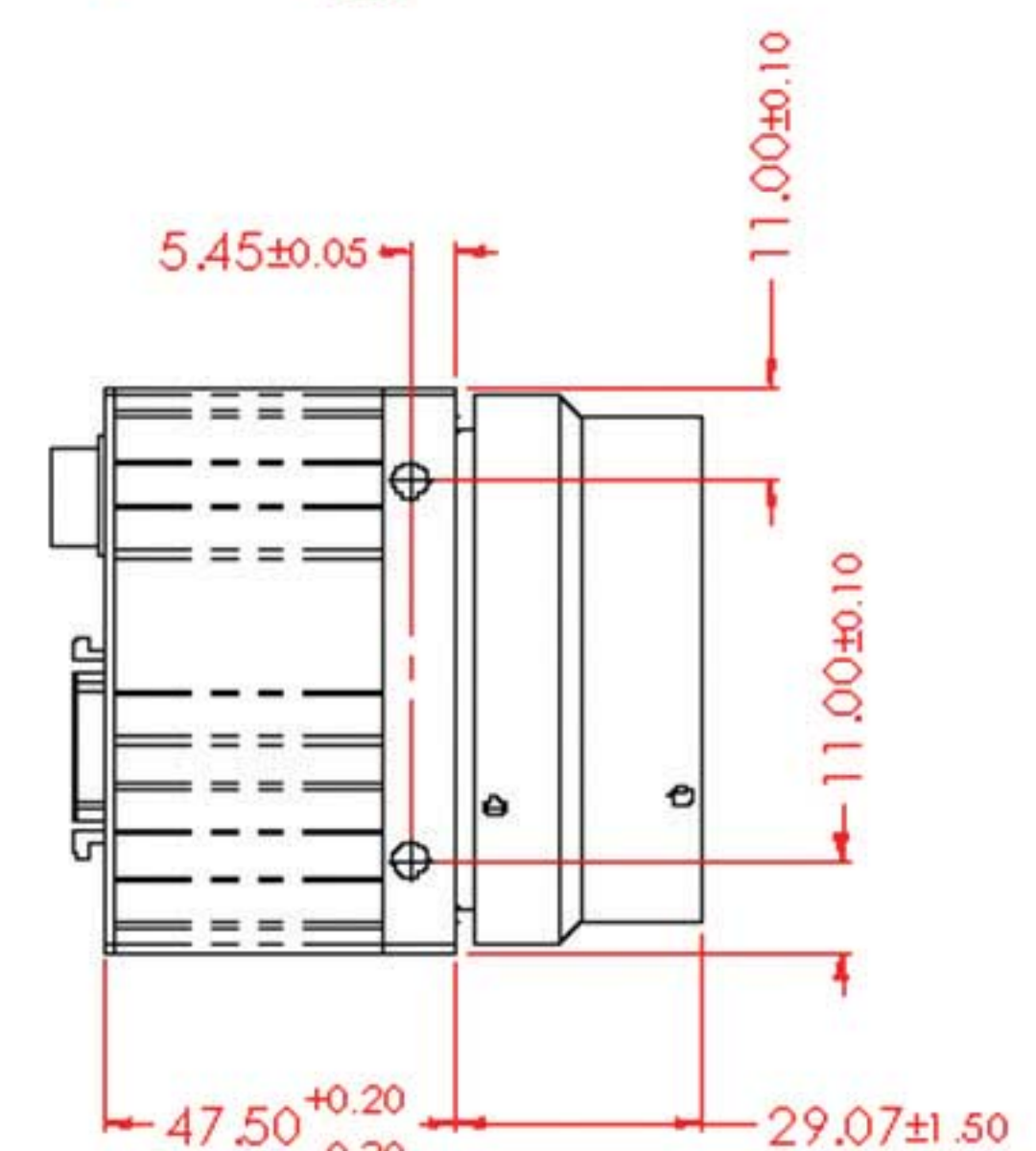
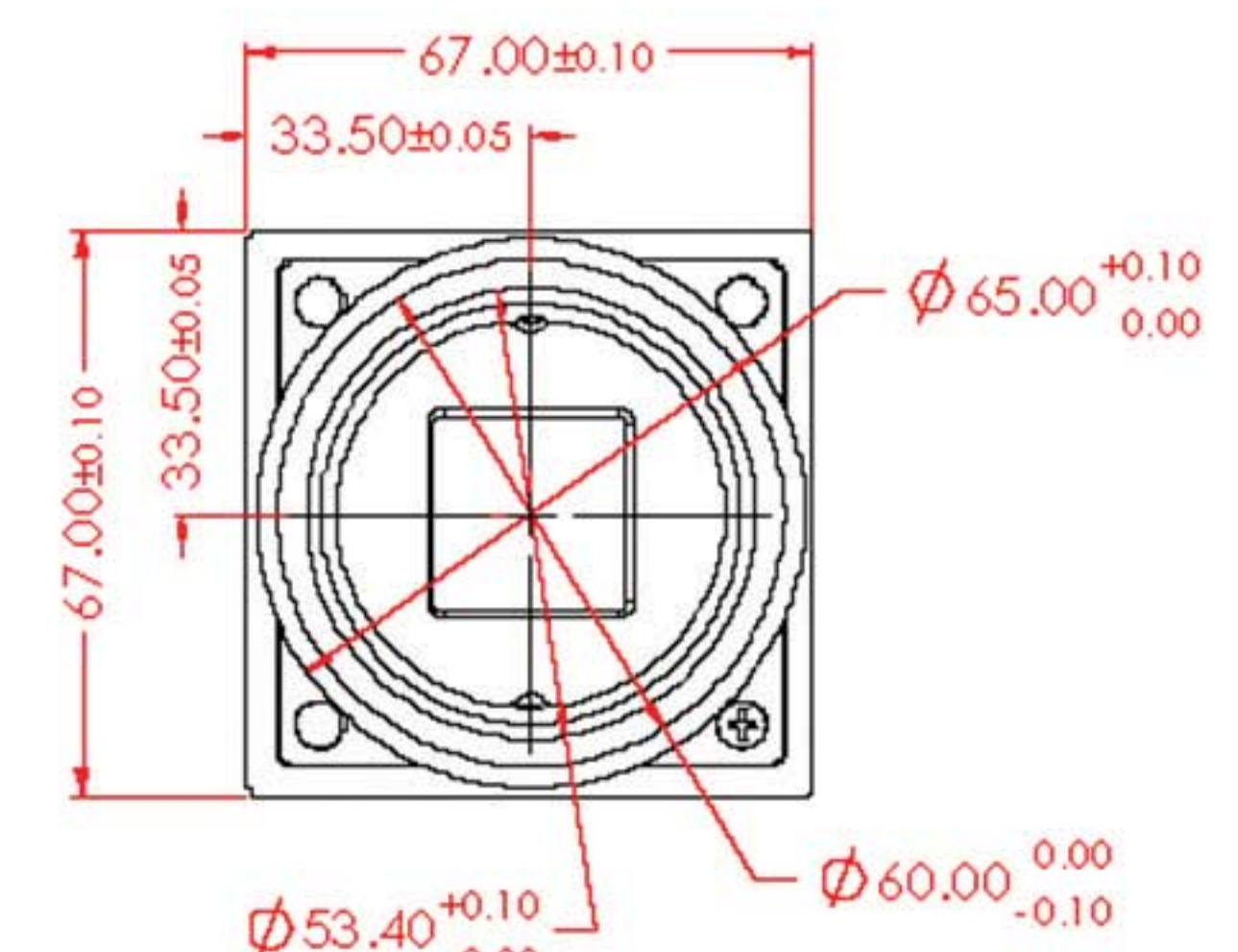
Rear Camera View

- 1 Trigger IN -
- 2 Trigger IN +
- 3 -12 VDC
- 4 -12 VDC
- 5 +12 VDC
- 6 +12 VDC
- 7 Strobe OUT -
- 8 Strobe OUT +
- 9 Auto Iris +
- 10 Auto Iris -

## Power Requirements

- 12V DC, (10V min, 15V max)
- 430 mA steady, 1.5 A inrush
- 5.1 W constant power
- Connector: Hirose HR 10A-10R-10P

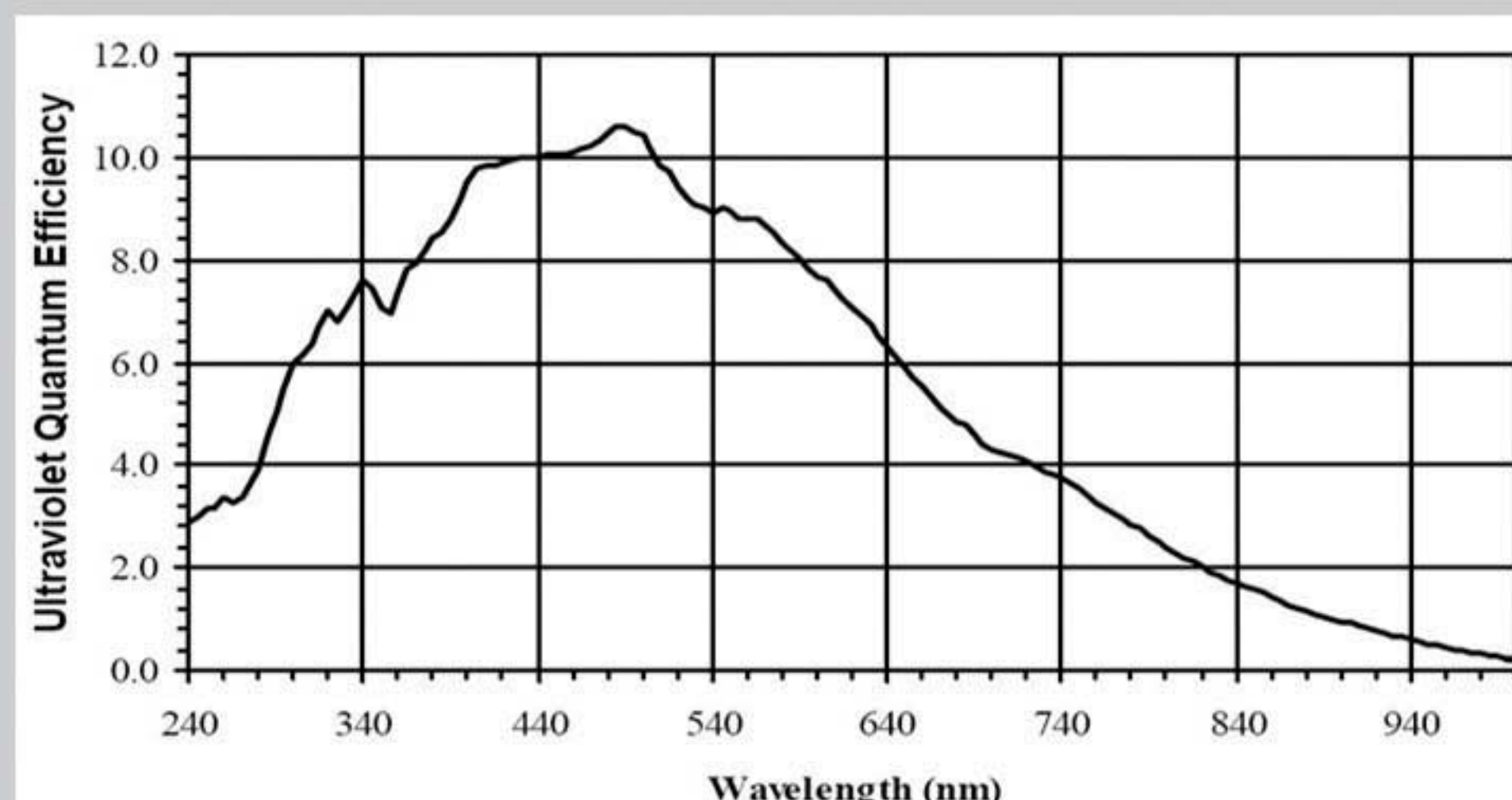
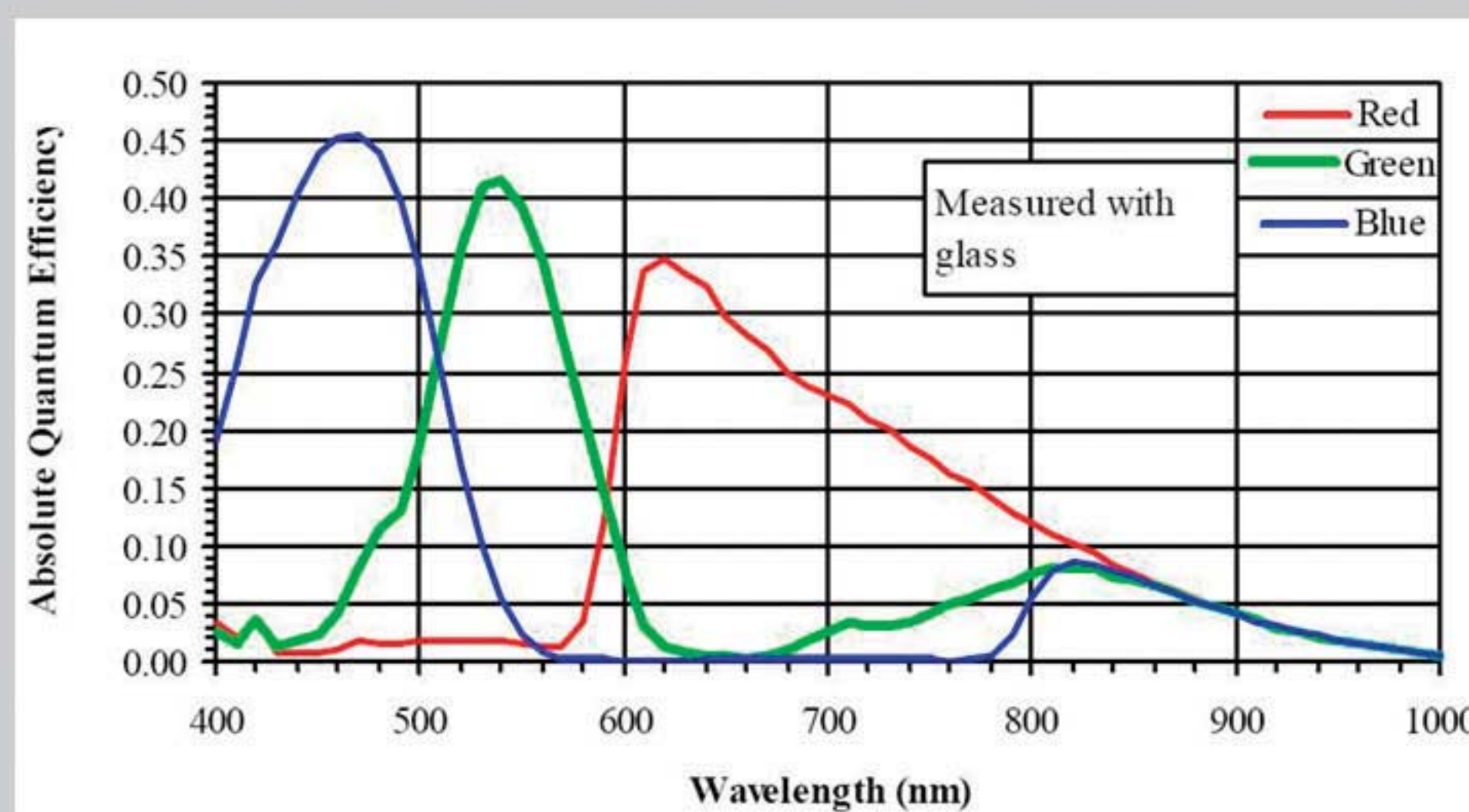
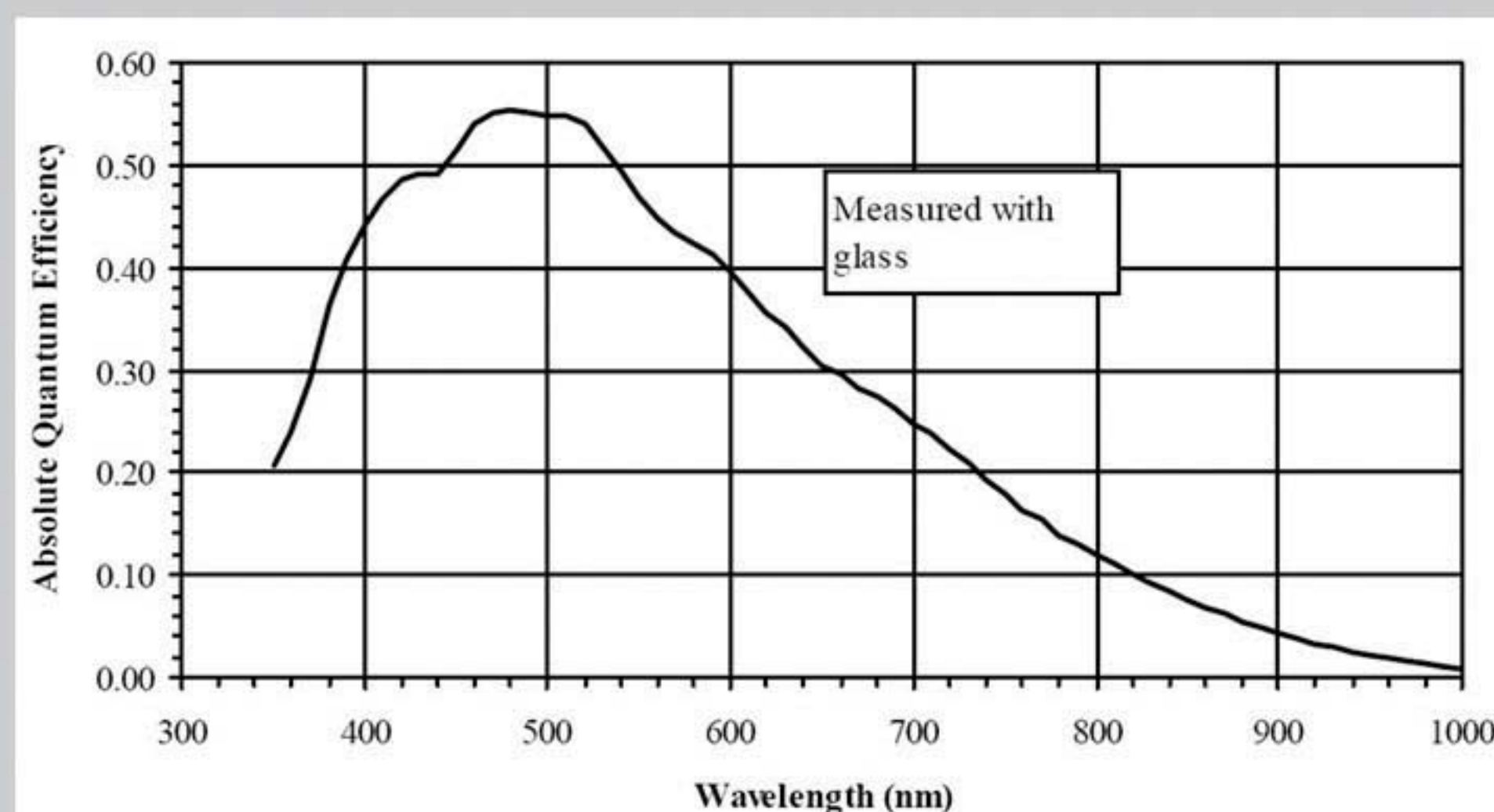
## Mechanical Dimensions



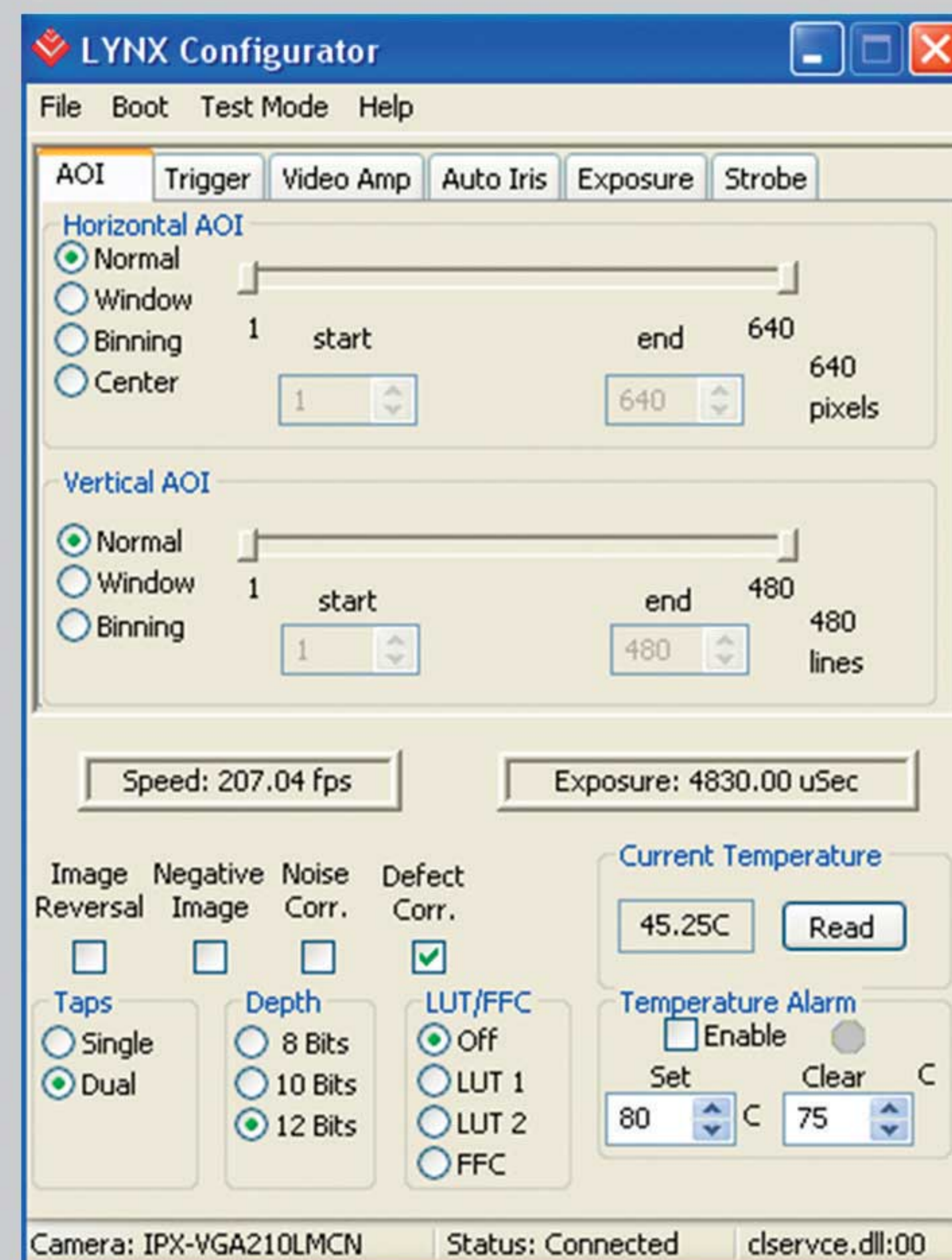
Ordering: **IPX-4M15-LMCI**

Camera Family	Options
<b>L</b> - LYNX Family	<b>blank</b> - none
<b>Sensor Type</b>	<b>I</b> - Auto Iris
<b>M</b> - Monochrome	<b>Lens Mount</b>
<b>C</b> - Color	<b>F</b> - "F" mount (default)
<b>U</b> - UV sensitive (no glass)	<b>C</b> - "C" mount
<b>S</b> - Special - user filter	<b>O</b> - Open frame

## Spectral Response



## Configuration Utility



- CameraLink protocol compliant
- Control all camera features via:
  - our intuitive, easy-to-use GUI, or
  - simple ASCII commands

For specific details and ordering information, consult the camera user's manual or contact us at [sales@imperx.com](mailto:sales@imperx.com).

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