# TrueChrome PDAF Autofocus HDMI Microscope Camera, 50 fps, USB 2.0

Model TrueChrome PDAF · waveqvanta.com/products/truechrome-pdaf-microscope-camera

An HDMI microscope camera with phase-detection autofocus for fast focusing, capture and measurement without a PC.



The TrueChrome PDAF uses phase-detection autofocus (PDAF), the focusing method used in DSLRs and smartphones, to bring samples into focus quickly with little manual adjustment. Images are captured, processed and measured directly on an HDMI monitor at 50 fps, with USB 2.0 and SD card options for saving and transferring data.

## Key features

- Phase-detection autofocus reduces manual focusing and speeds up routine microscopy
- Runs without a PC: capture, process, measure and save on an HDMI monitor using a mouse
- Built-in measurement tools: freehand line, rectangle, polygon, circle, semicircle, angle and point-to-line distance, in mm, cm or µm
- 50 fps preview over HDMI and USB 2.0; still capture up to 3264 × 1836 via HDMI
- Video recording at 30 fps to SD card, or 49 fps at 1920 × 1080 to a PC
- Sony color CMOS sensor, 5.95 mm (Type 1/2.8) diagonal, 1.6 µm pixels
- Color processing tuned so the monitor image matches the view through the eyepiece

## Specifications

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| **Sensor Type** | Sony CMOS |
| **Color / Mono** | Color |
| **Preview Resolution** | 1920 × 1080 |
| **Capture Resolution** | 3264 × 1836 (HDMI); 1920 × 1080 (USB 2.0) |
| **Pixel Size** | 1.6 µm × 1.6 µm |
| **Effective Area** | 5.2 mm × 2.9 mm |
| **Array Diagonal** | 5.95 mm (Type 1/2.8) |
| **Frame Rate (HDMI)** | 50 fps |
| **Frame Rate (USB 2.0)** | 50 fps |
| **Video Recording** | 30 fps to SD card; 49 fps @ 1920 × 1080 to PC |
| **Focus** | Phase-detection autofocus (PDAF) |
| **Shutter Type** | Rolling |
| **Exposure Time** | 1 ms – 5 s |
| **Color Temperature** | 1800–10000 K |
| **Data Interface** | HDMI, USB 2.0, SD card |
| **Storage** | SD card (FAT32) |
| **Image Format** | HDMI: JPG, TIF; PC: TIF, JPG, PNG, DICOM |
| **Optical Interface** | C-mount |

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| **Power Consumption** | 2.4 W |
| **Dimensions** | 97.7 mm (H) × 78 mm (W) × 70.8 mm (L) |
| **Weight** | 534 g |
| **Operating Environment** | −10 to 45 °C, 10–85% RH |
| **Multi-Camera** | Up to 4 cameras simultaneously via SDK |
| **Software / SDK Support** | HDMI: on-camera software; PC: acquisition and analysis software |
| **Operating System** | Windows 10 (64-bit), Mac |
| **PC Requirements** | Intel Core i5 quad-core or above, 8 GB RAM or more |

## Typical applications

- Biological microscopy (e.g. epiphyseal plate sections)
- Stereo microscopy
- Metallographic microscopy
- Polarizing microscopy