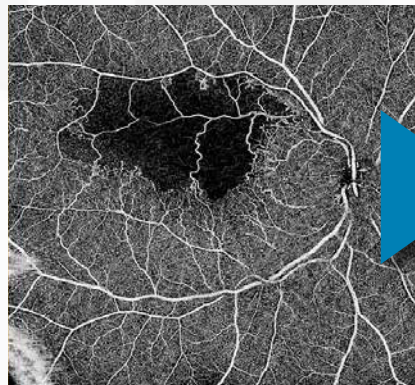# Canon

Xephilio OCT-S1

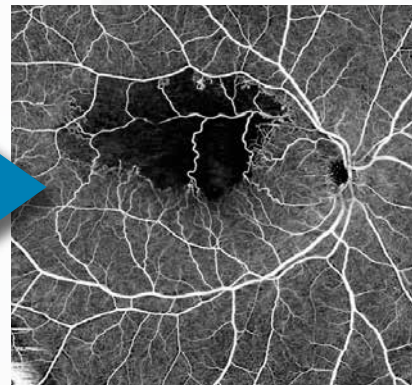# Wide-Field Swept Source OCT

AI-powered performance

AI helps you save time and improve imaging

Canon's Deep Learning technology Intelligent Denoise offers a new quality of OCTA images based on individual scans – without the need to acquire and merge multiple images. The revolutionary technology delivers images with greatly reduced image noise, increased detail and improved visibility within just seconds.

Single OCTA scan

Intelligent Denoise-optimized scan
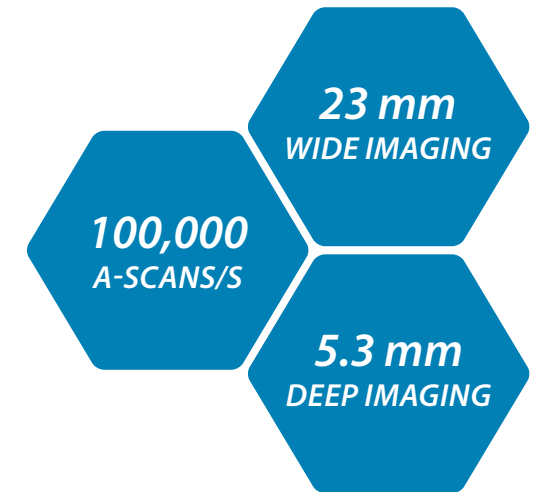
Xephilio OCT-S1

Wide-field swept source imaging in one single capture

With Xephilio OCT-S1 Canon introduces revolutionary swept source technology allowing you to capture wide-field images of up to 23 mm in a single scan. Xephilio OCT-S1 enables superior penetration of dense objects and provides outstanding tomographic images. Intelligent Denoise, the system's Deep Learning AI technology, offers a new quality of OCTA images in a single scan with greatly reduced noise, increased detail and improved visibility within just seconds.

Outstanding imaging is your best friend

Canon's recognized optical expertise enables the Xephilio OCT-S1 to offer superb image quality with minimal scatter. The swept source technology results in enhanced penetration further into the deeper tissue structures such as the choroid and even the sclera. Imaging depths of up to 5.3 mm allows for detailed visualization of the vitreous body and choroid in a single scan while the high scanning speed of 100,000 A-scans/s reduces examination time and offers very high resolution scans.

23 mm
WIDE IMAGING

100,000
A-SCANS/S

5.3 mm
DEEP IMAGING

Wider and deeper

With Xephilio OCT-S1 wide-field images of up to 23 mm width can be acquired in just one scan, equaling an 80° viewing angle. The 5.3 mm depth allows for visualization of the vitreous body and choroid in a single scan with superior image quality.
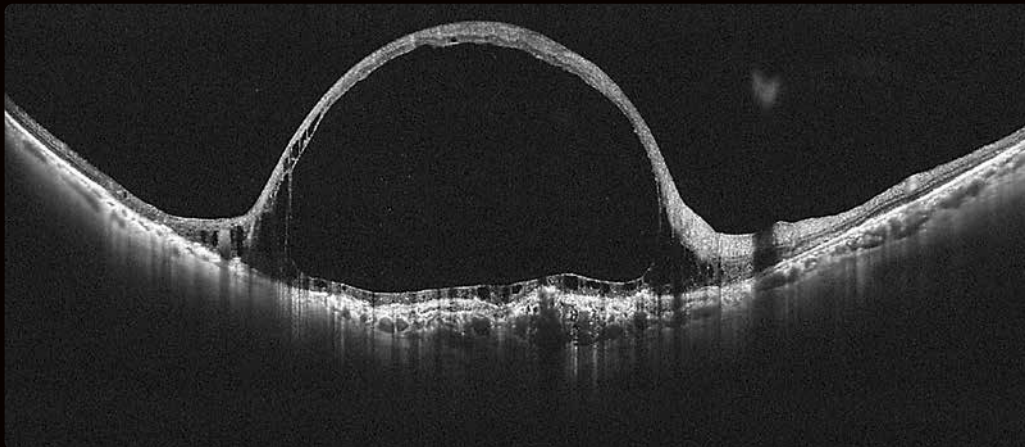
This 23 mm wide angle scan nicely depicts a chronic central retinal vein occlusion with edema.

The curvature of the retina (especially posterior staphyloma) is well visualized in this Myopic Choroidal Neovascularization (mCNV) thanks to the 5.3 mm scan depth.
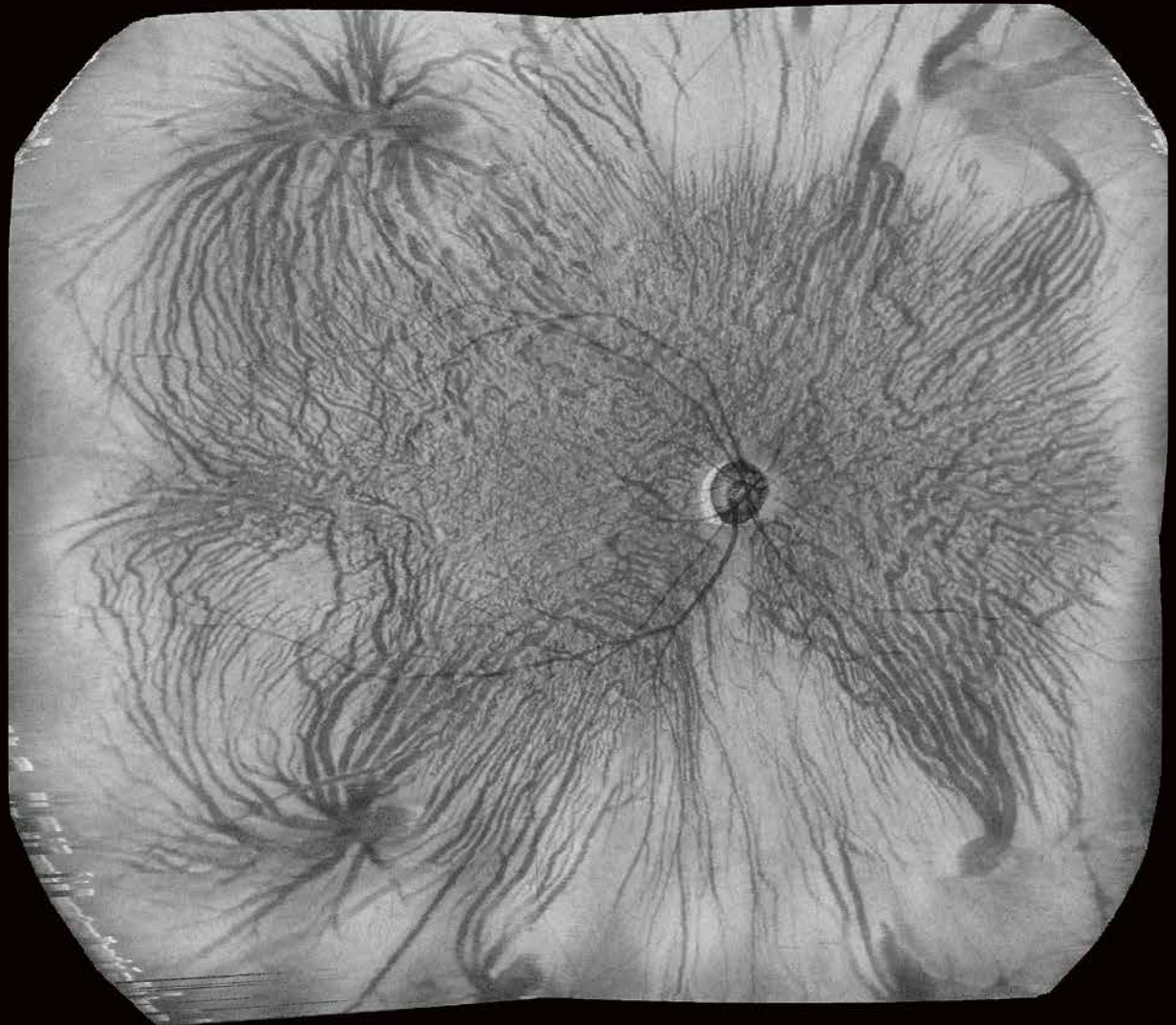
Single capture wide-field OCT

Xephilio OCT-S1 provides wide-field imaging of up to 23 ×20 mm width with just one scan. Mosaic imaging allows you to create a wide-field OCT image of approximately up to 31 x 27 mm with just 4 or 5 images.
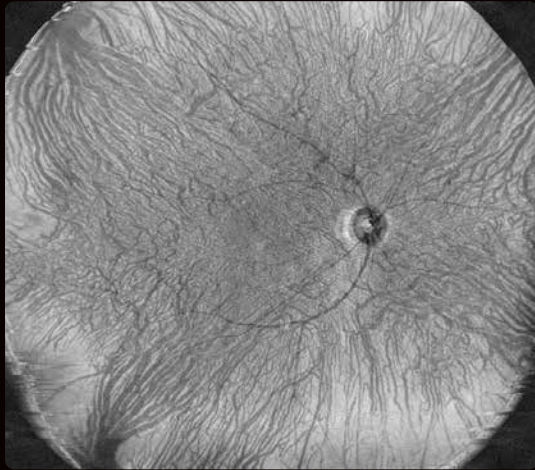
En-face Sattler's layer

En-face Haller's layer

Mosaic en-face image showing choroidal vortex veins.

Easy and quick operation

The Xephilio OCT-S1 utilizes a joystick for initial anterior alignment, but operation is also aided by several automated functions. It has built-in SLO for real-time retinal tracking and accurate follow-ups.

Auto alignment

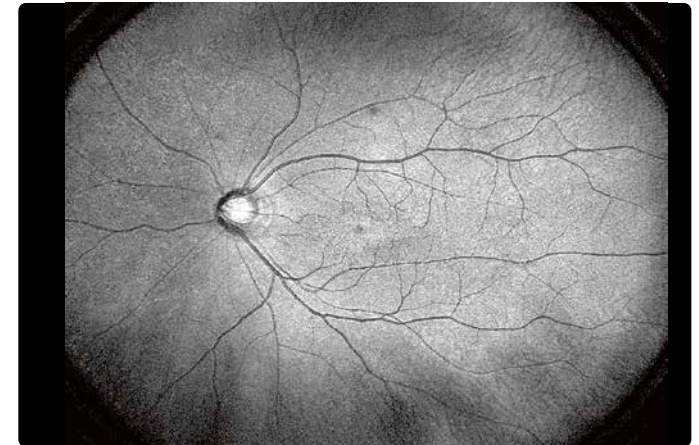**SLO auto focus**

OCT auto focus

Auto C-gate

Retinal tracking

The system's joystick provides easy, quick operation combined with pin-point precision.

The built-in optimization function automatically takes care of alignment, focus and C-gate.

The wide-field SLO images acquired with Xephilio OCT-S1 allow for superior observation.

Versatile reporting possibilities

Xephilio OCT-S1 provides you with a comprehensive range of reporting tools. Thanks to its extensive DICOM and EMR capability, results can be stored, shared and analyzed as needed in your daily practice.
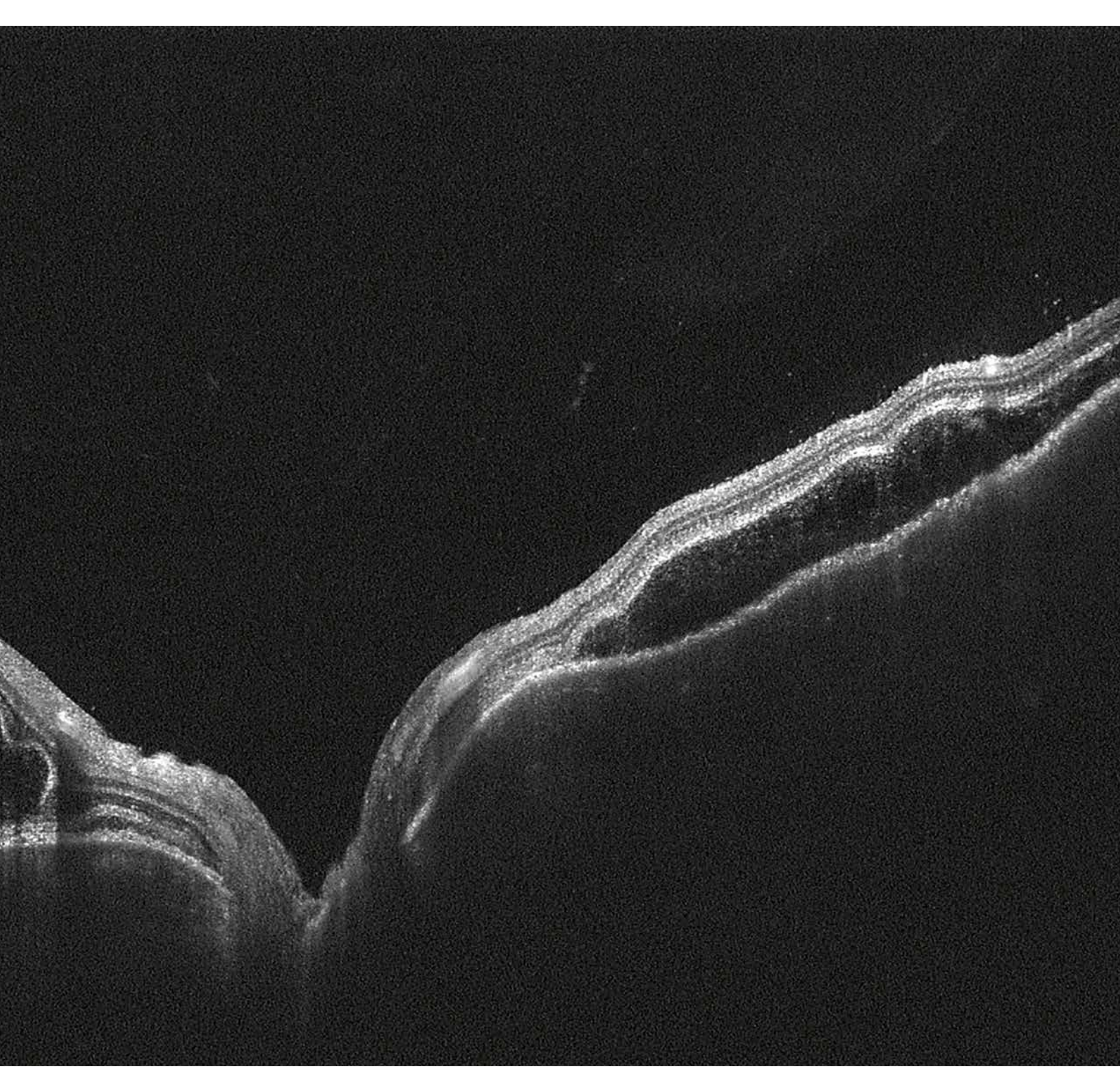

3D reporting

OCT-A reporting

With Xephilio OCT-S1 Canon introduces revolutionary swept source technology allowing you to capture wide-field images of up to 23 mm in a single scan. Xephilio OCT-S1 enables superior penetration of dense objects and provides outstanding tomographic images.

Xephilio OCT-S1

Faster

100,000 A-scans per second combined with invisible 1,060 nm wavelength provide ultra-fast swept source technology maximizing data quantity of the patient's eye while reducing acquisition time. Invisible scan lines ensure better patient collaboration and reduce the impact of patient eye movements.

Wider

With a single capture the swept source Xephilio OCT-S1 shows a large wide-field OCT image of up to 23 x 20 mm, which can be very beneficial for retina thickness observation of retinal detachment or retinitis pigmentosa. Mosaic imaging allows you to create an incredibly wide-field OCT image of approximately up to 31 x 27 mm.

Deeper

Canon's deep scanning swept source technology allows better penetration of cataracts, hemorrhages, blood vessels and sclera and at the same time optimizes capture of retinal and choroidal data – all in a single shot. With Xephilio OCT-S1 vitreous body and choroid appear in the same image with superior image quality providing more information for better patient care.

Visualize the microvasculature of the retina with OCT angiography

OCT angiography is a sophisticated technology that detects the movement of red blood cells in the retinal vasculature and allows you to visualize tiny vessels in detail.
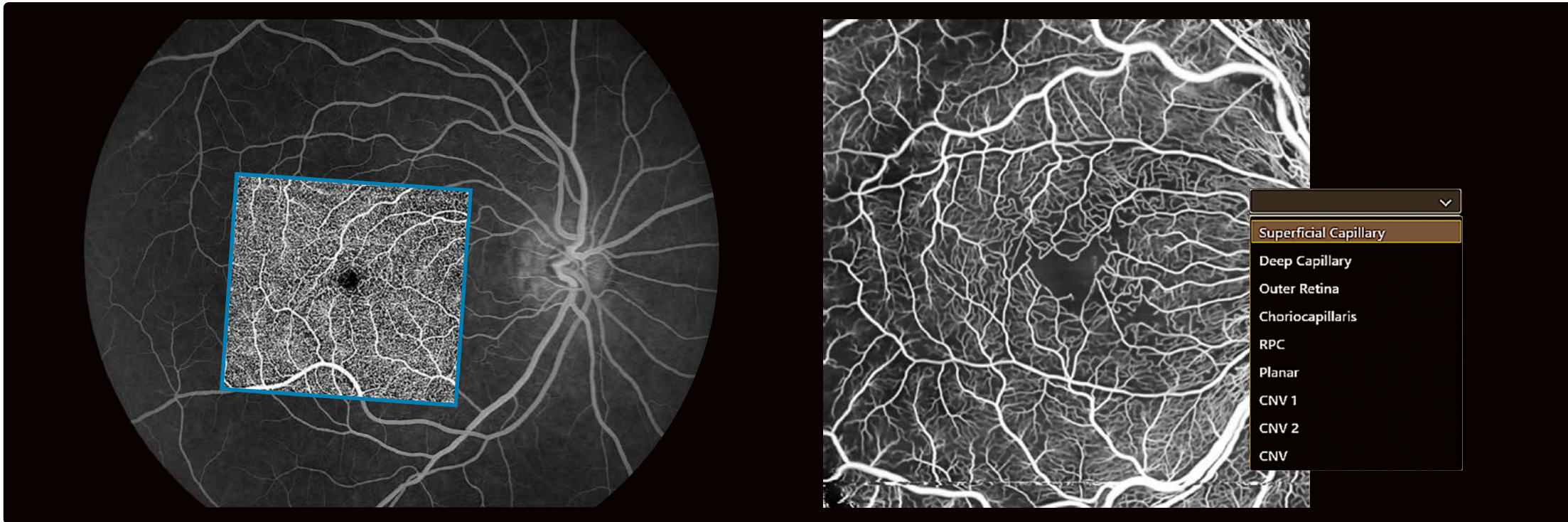

Non-invasive examination, results within seconds

OCT Angio does not require fluorescein injection or pupil dilation, and the examination takes only seconds. SLO-based real-time tracking minimizes artefacts. Sophisticated image post-processing with 3D projection artefact removal enables excellent image quality.

Angio Expert with freely selectable layers

With OCT angiography even the smallest blood vessels can be observed in 2D and 3D. With Canon's OCT Angio software, you can freely select layers to create the preferred image. Layers can be defined based on automatic segmentation or as a custom offset.
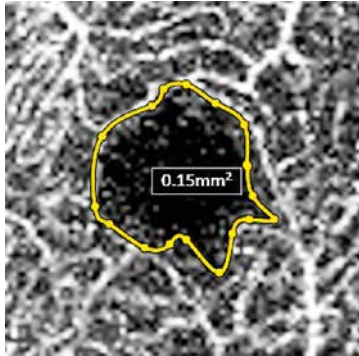
Automated area analysis and measurement

With a simple click on a non-perfused area or the foveal avascular zone, the target area is automatically detected, analyzed and displayed. If needed, users can change the automatically drawn borders or trace the area completely manually.

Analysis and reporting tools

Canon Medical's Angio Expert software provides a comprehensive set of manual and automated analyses.

High density and single capture

The Xephilio OCT-S1 offers an enormous diversity of scan areas and scan densities for OCT Angiography examinations. While scan areas range from small (3 x 3 ~ 8 x 8 mm) to super large (23 x 20 mm), a high scan density of up to 928 x 807 pixels allows for visualization of small vessels at the same time.
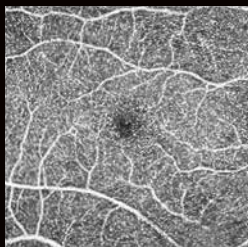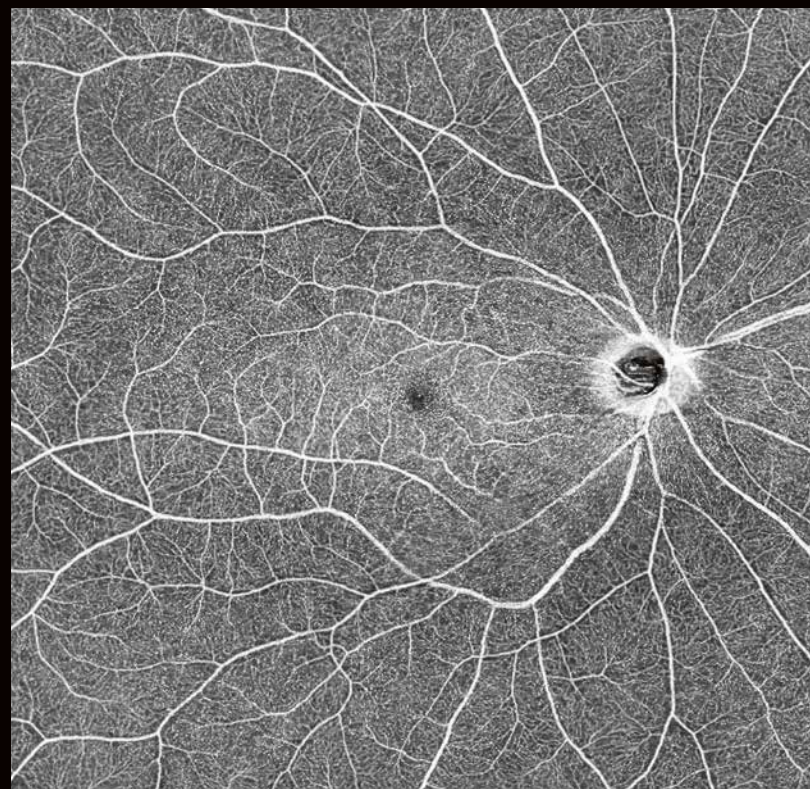
Always the right angle
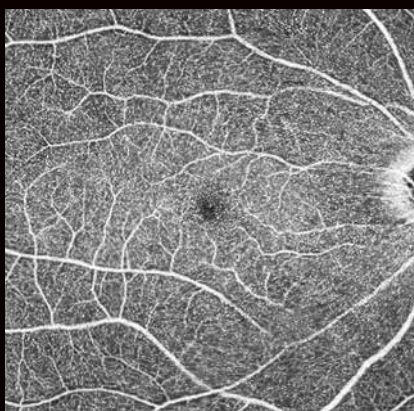
10 x 10 mm
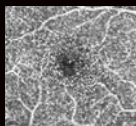
3 x 3 mm

6 x 6 mm

With Angio Expert, you can choose the optimal scan density for any viewing angle. The system provides various square and rectangular formats from 3 x 3 mm to 23 x 20 mm.

Single capture wide-field imaging

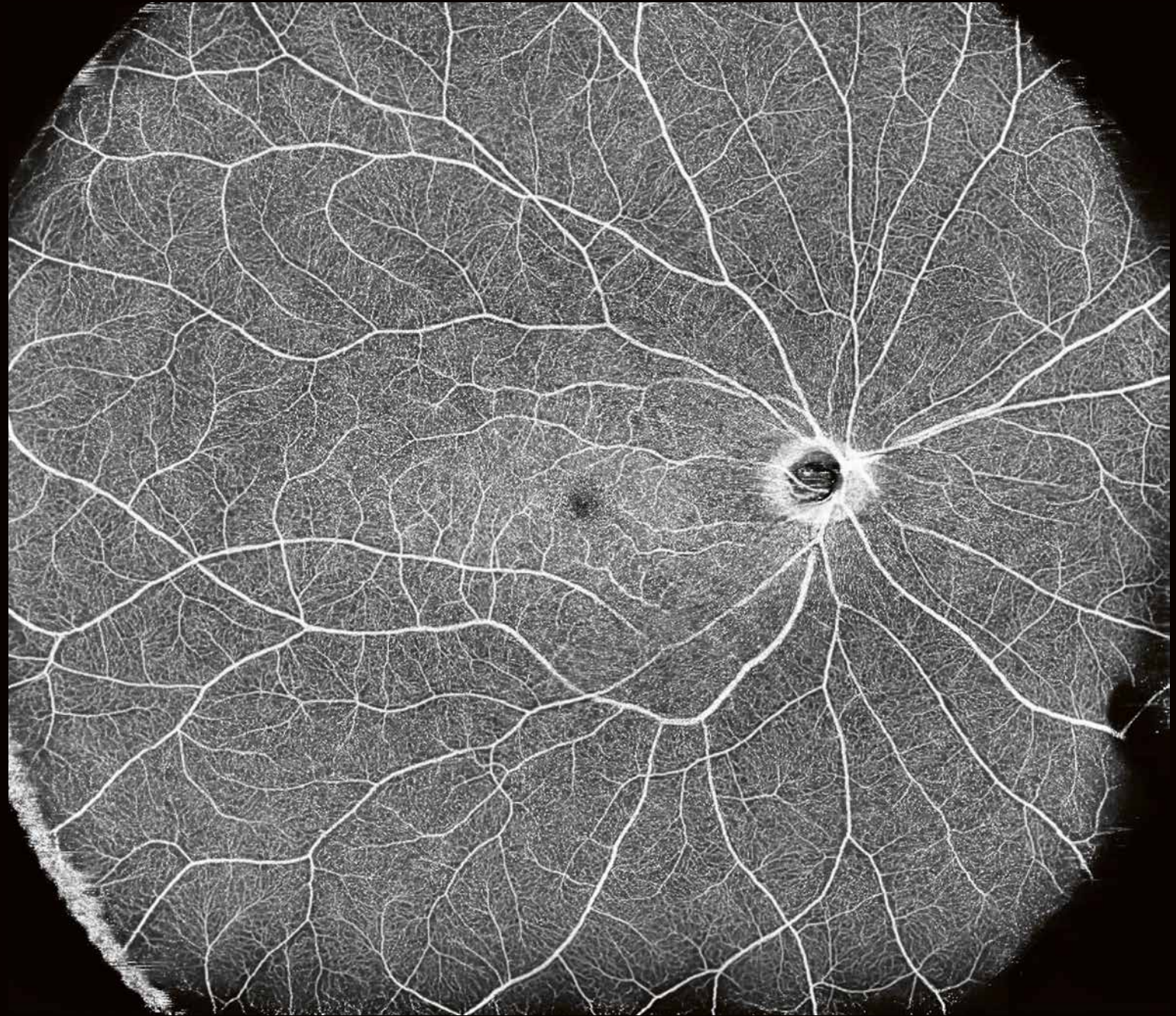23 x 20 mm

Single scan wide-field imaging enables OCT Angiography of up to 23 mm width. This allows wide-spread non-perfused areas to be visualized which is useful in diagnosing diabetic retinopathy and retinal vein occlusion. At the same time, a single high-density OCTA scan visualizes even small capillaries.

Panoramic imaging

The optional Mosaic software allows you to create ultra-wide OCTA images of approximately up to 31 x 27 mm.
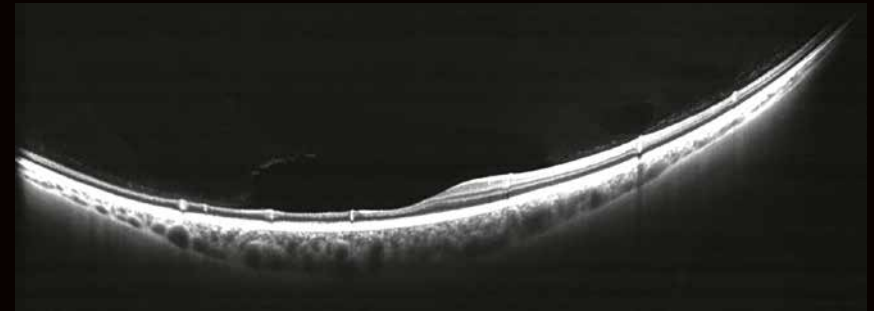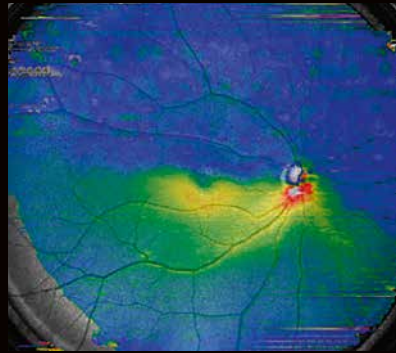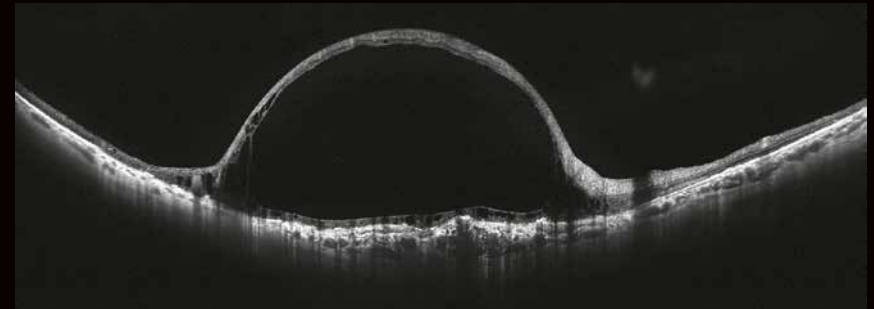
HIGH DENSITY
928 x 807
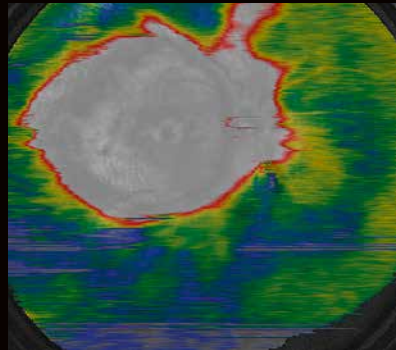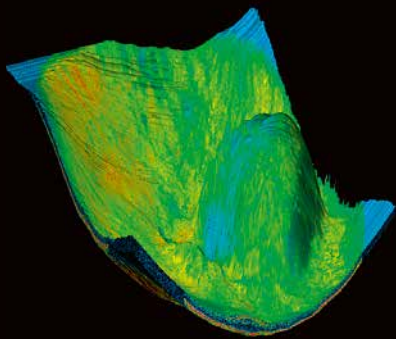**PIXELS**
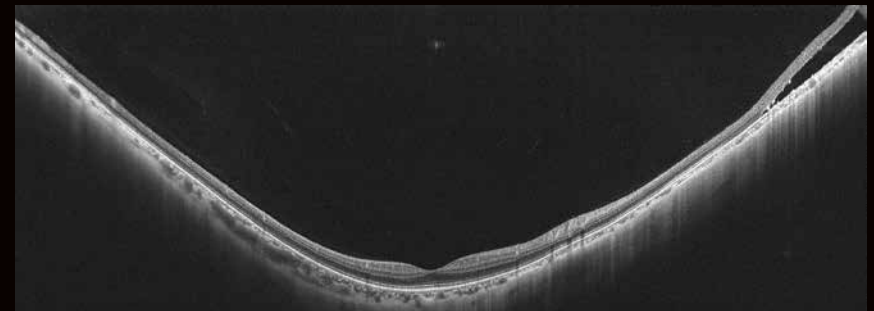
23 x 20 mm
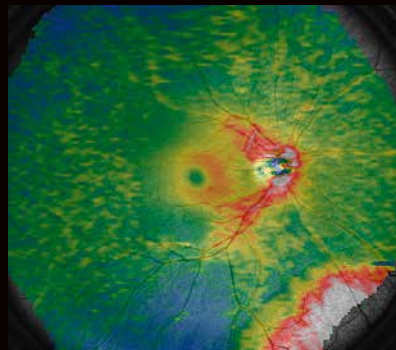**IN A SINGLE**
SCAN

31 x 27 mm
MOSAIC
SCAN

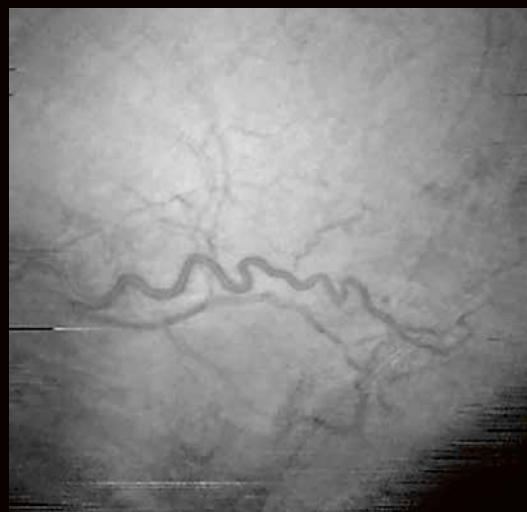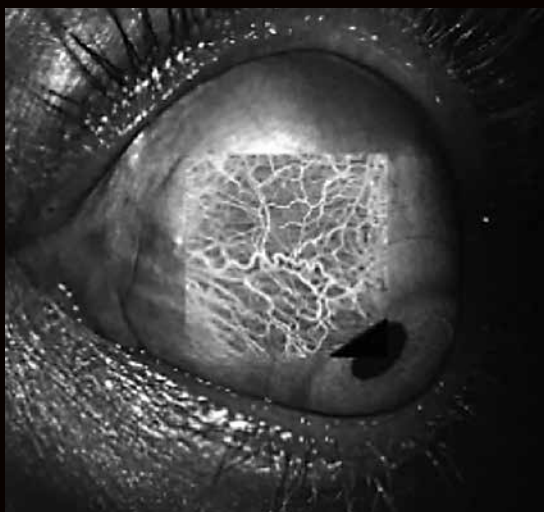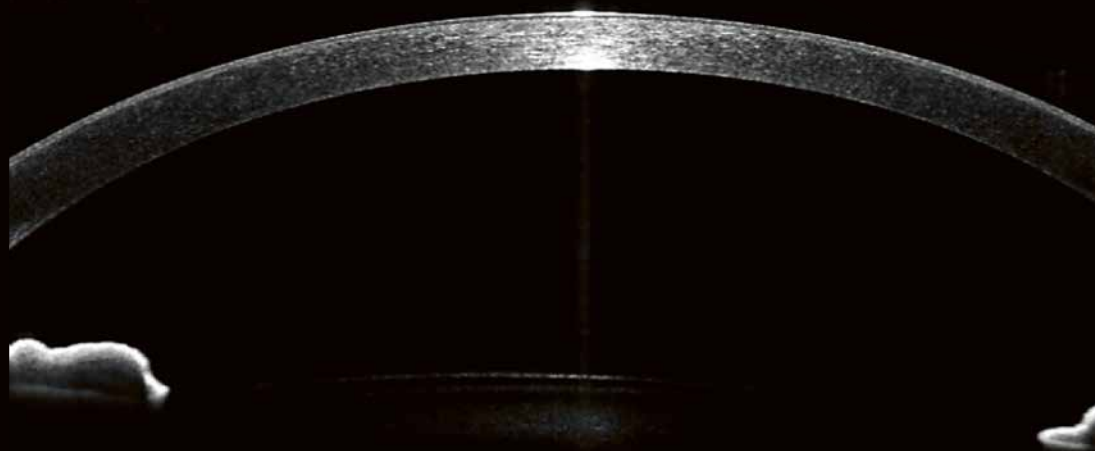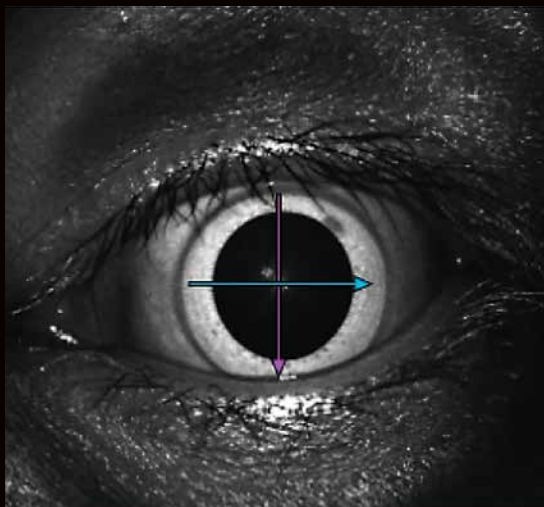# Clinical cases

Branch retinal
artery occlusion

Chronic central
retinal vein
occlusion

Rhegmatogenous
retinal
detachment

Anterior segment OCT*
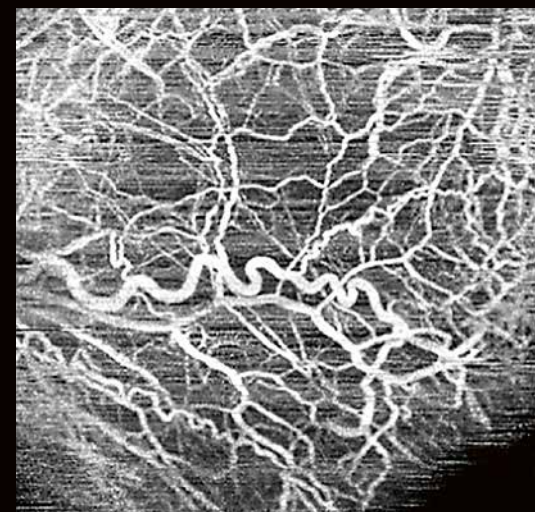
En-face OCT

OCTA

Xephilio OCT-S1 allows you not only to visualize the microvasculature of the retina, but also of the conjunctiva. The anterior segment can be observed without the need for any additional lens attachments.

Specifications Xephilio OCT-S1

Scan speed	Max. 100,000 A scan/second
Horizontal resolution	30 µm
Axial resolution	8 µm
Light source wavelength	OCT: 1060 nm, SLO: 780 nm
Small pupil size	Φ3.0 mm
Working distance	20 mm
Retina observation method	Flying spot SLO
SLO FOV (H x V)	23 mm x 20 mm
OCT scan width	3~23 mm
OCT scan depth	5.3 mm
Internal fixation	"x" shape display on retina: green
External fixation light	EL-1 (option)

Dimension and weight

Dimension (W x D x H)	510 mm x 330 mm x 590 mm
Weight	35 kg (main unit only)

Optical power on cornea < 2.0mW for OCT, 1.0mW for SLO (scanning beam controlled by the laser safety system)

Specifications Xephilio OCT-S1

OCT scan parameters

Retina scan mode

Custom 3D	512 x 512 1024 x 128 1024 x 1024 2048 x 512 Vertical/Horizontal
Multi-cross	1024 x 1024 2048 x 2048 4096 x 4096 Averaging: 1–50
Cross	1024 x 1024 2048 x 2048 4096 x 4096 Averaging: 1–200
Radial	1024 2048 4096 12 directions (15 degree intervals) Averaging: 1–50
OCTA	Small: 232 x 232 (3 x 3 ~ 8 x 8 mm) Medium: 464 x 464 (4 x 4 ~20 x 20 mm) Large: 696 x 696 (6 x 6 ~ 20 x 20) Super Large: 928 x 807 (23 x 20 mm)