

Technical Specifications

Optical & Engine Performance	
Imaging Technologies	Confocal Scanning Laser Ophthalmoscopy (cSLO) Swept-Source Optical Coherence Tomography (SS-OCT)
Light Sources	cSLO Lasers: 488 nm (Blue), 520 nm (Green), 665 nm (Red), 785 nm (NIR) SS-OCT Laser: 1060 nm Swept Source
A-Scan Rate	100,000 A-scans/sec (100 kHz)
cSLO Resolution	5 μm
OCT Resolution	Axial Resolution: 4.5 μm (Optical) / 1.4 μm (Digital) Lateral Resolution: 10 μm (Optical)
Min. Pupil Requirement	2.0 mm (Non-mydriatic)
Dioptr Compensation	-35D to +50D
Scan Range & Geometry	
Fundus Field of View (FOV)	135° (Single-shot), 90° and 45° with Lossless Zoom ≥ 245° (Automated Montage)
Scan Width	Posterior: Up to 28 mm; Anterior: Up to 18 mm
Scan Depth	Up to 12 mm*
3D & OCTA Scan Range	6 × 6 mm, 12 × 12 mm
Modalities & True-Synchronization	
cSLO Imaging	Color, MCOLOR, IR, Red, Green, Blue, B-FAF, G-FAF, FFA*, ICGA*, Simultaneous FFA+ICGA*
OCT Imaging	Posterior OCT, Anterior OCT*, 3D OCT, OCT Angiography (OCTA)
OCT Scan Patterns	HD Single Line, Cross, Radial, Multi-Line, Grid, 3D (Macula/Optic Disc), OCTA
Real-Time Synchronized Imaging	cSLO (Color / IR / FAF / FFA* / ICGA*) + SS-OCT B-Scan
Dynamic Monitoring	Real-time 135° IR preview and recording for retinal and vitreous dynamics
Video Recording	Dynamic video capture for IR, FFA*, ICGA*, and Simultaneous FFA+ICGA*
Software & Analytics	
Retinal & Macular	Macular Thickness Analysis & Topography, Layer Segmentation & Thickness Mapping
Glaucoma Analysis	Automated ONH, RNFL & BMO Analysis
Follow-up Analysis	Synchronized linkage, viewing, and comparative analysis
Anterior Segment*	Automated Anterior Chamber Measurements, Corneal Pachymetry & Topography
Data Connectivity	
DICOM 3.0 (MWL/PACS), Multi-Viewer Stations, Network Server Export	

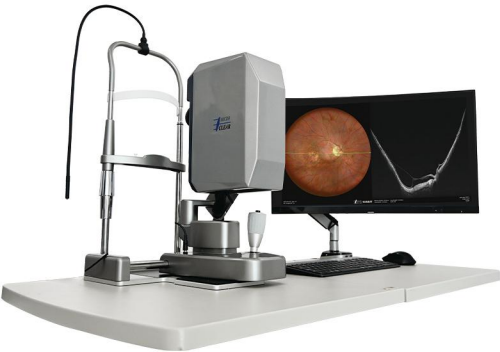
***Note 1:** Features such as FFA, ICGA, Anterior Segment OCT (AS-OCT), and maximum scan depth depend on specific model configurations (SE / PRO / MAX series).
***Note 2:** The 12 mm maximum scan depth applies to models equipped with AS-OCT or FFA/ICGA; models without AS-OCT and FFA/ICGA feature a maximum scan depth of 9 mm.

Microclear is committed to setting new standards in ophthalmic imaging.
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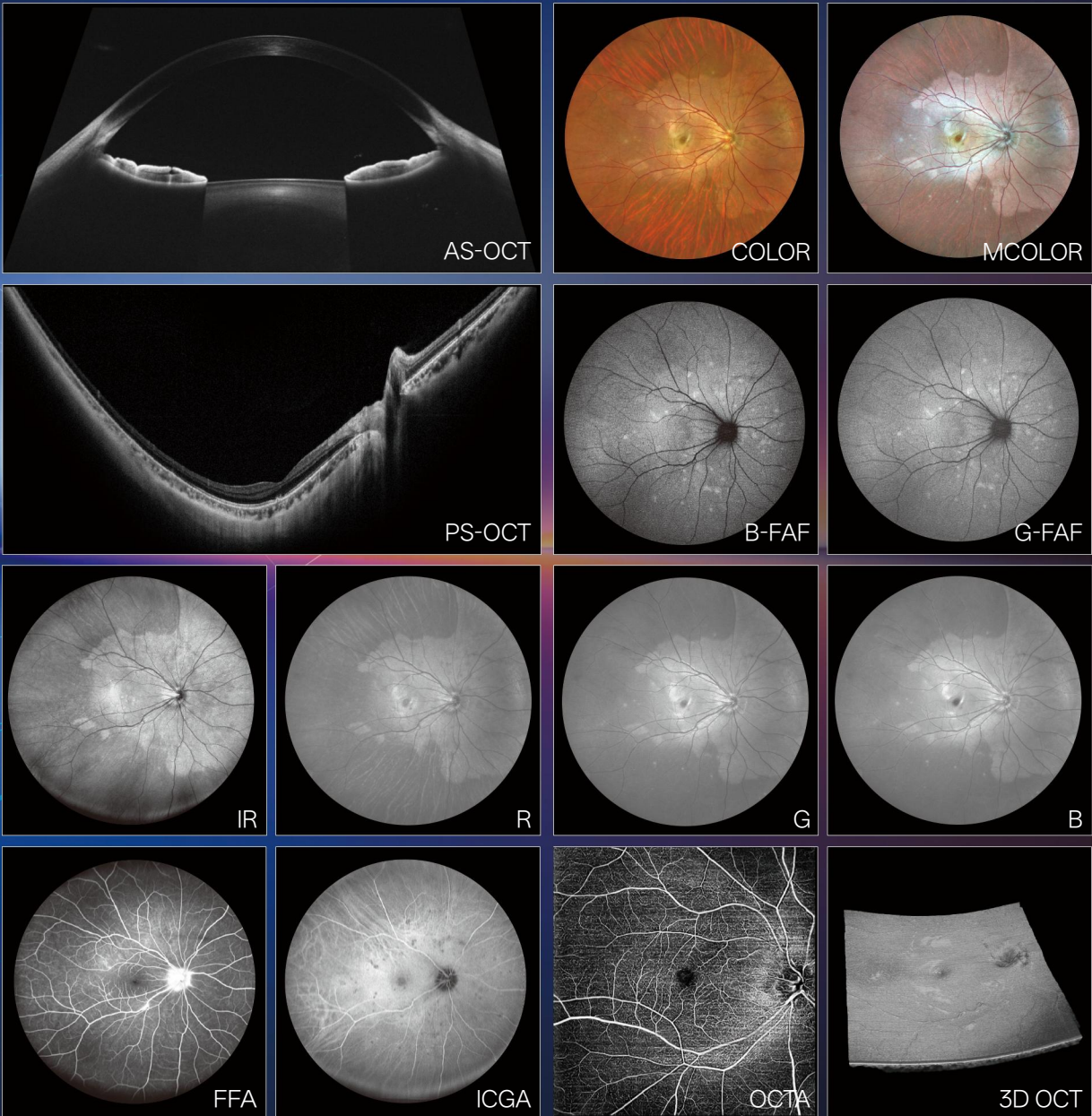
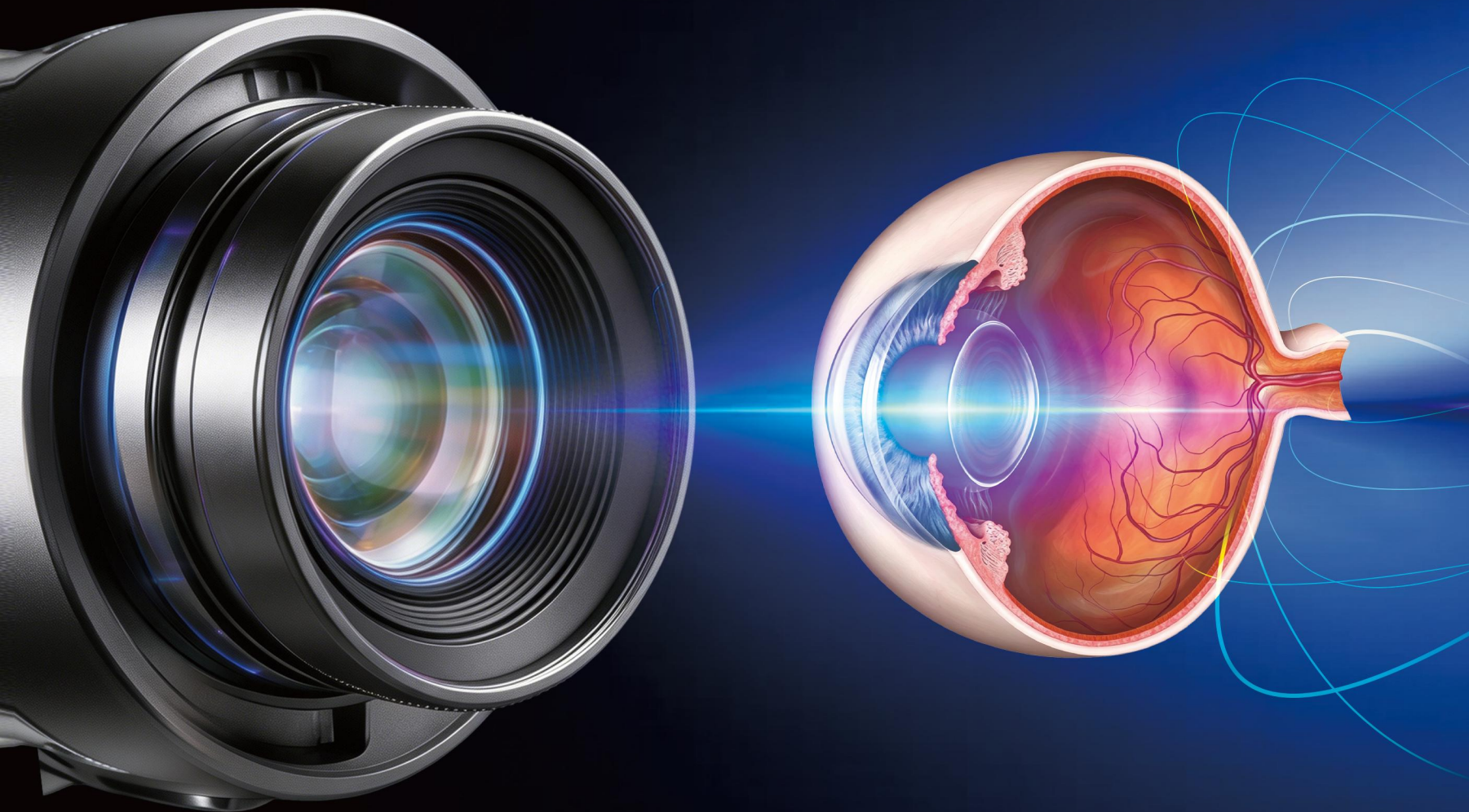
Multimodal • True-Sync • Wider & Deeper

SKY Whole-Eye Imaging Platform



The Next-Generation Flagship in Multimodal Ophthalmic Imaging
—Powered by UWF Confocal SLO and Swept-Source OCT

See Wider, Deeper, and Faster.

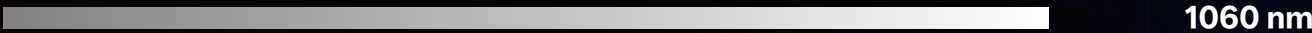


UWF Confocal SLO



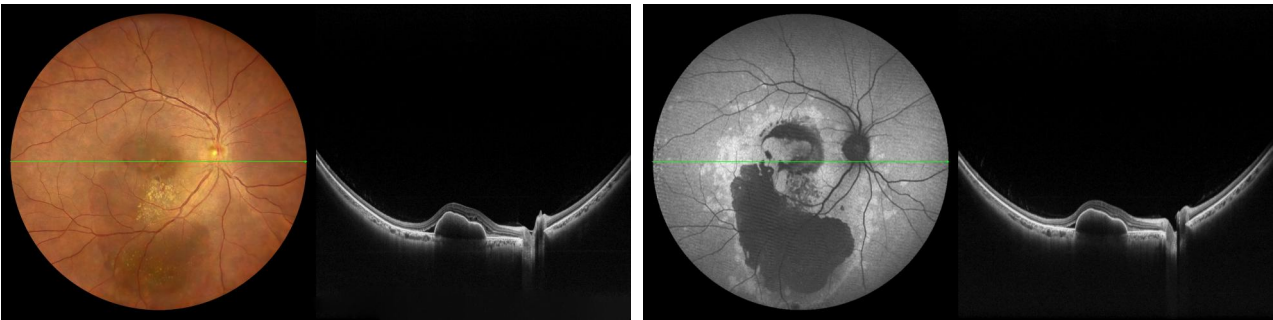
Blue	488 nm
Green	520 nm
Red	665 nm
Infrared	785 nm

Swept-Source OCT



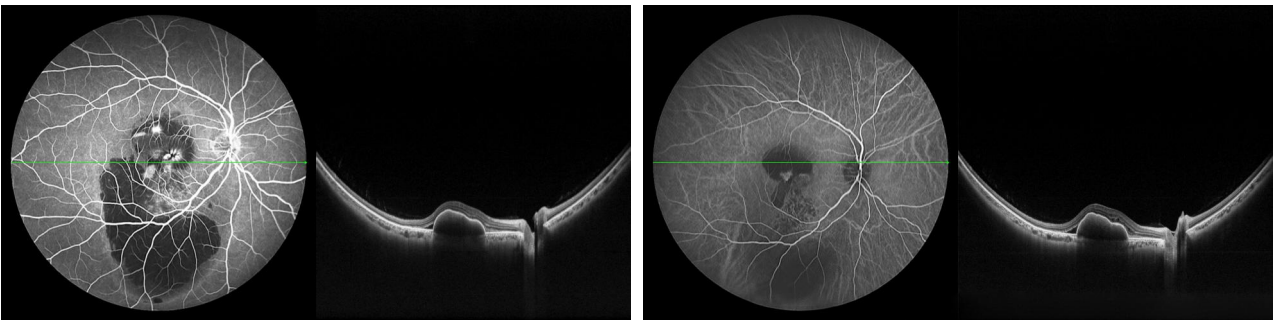
- Ultra-Wide & Ultra-Deep Vision:**
135° single-shot capture with full-depth visualization, expandable to 245° via montage.
- Synchronized Precision:**
100 kHz SS-OCT enables simultaneous planar and cross-sectional imaging.
- Ultimate Multimodality:**
An all-in-one powerhouse featuring Color, Multicolor, FAF, FFA, ICGA, PS-OCT, AS-OCT, OCT-A, and 3D-OCT.

True Multimodal Synchronization



COLOR + SS-OCT
Color photography & deep structural profiling

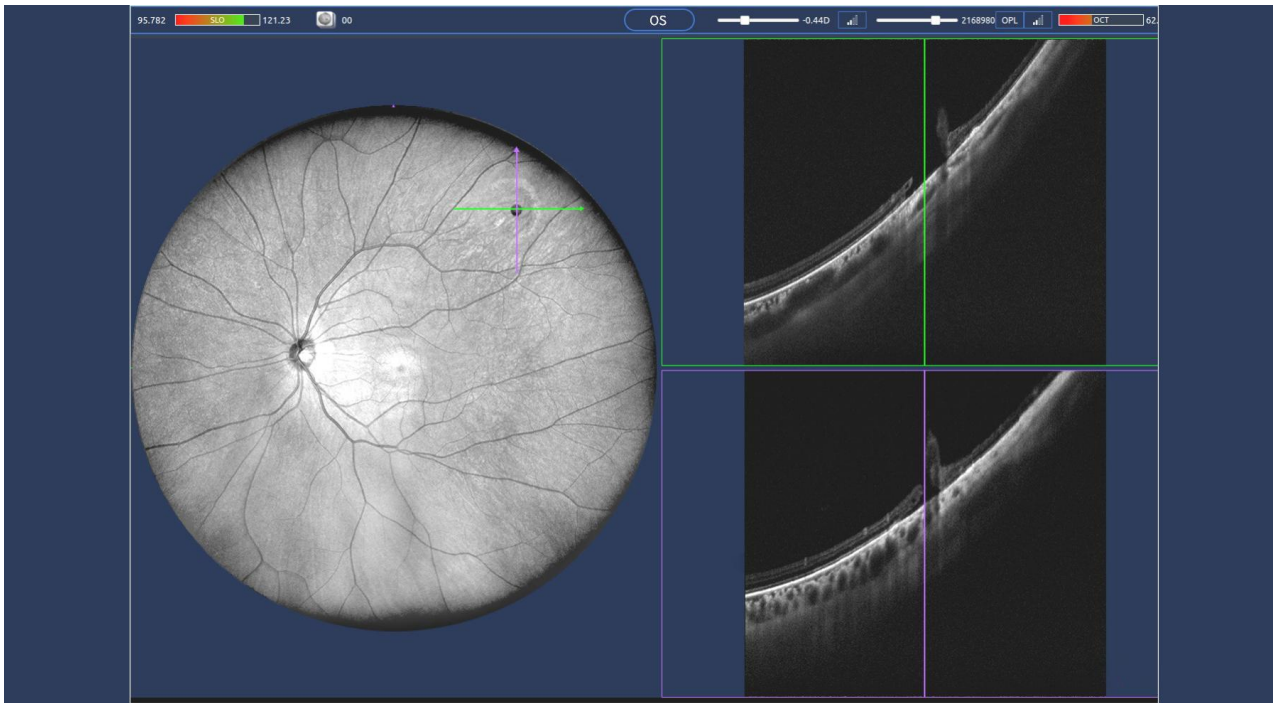
FAF + SS-OCT
Structural & metabolic evaluation



FFA + SS-OCT
Dynamic retinal vascular transit

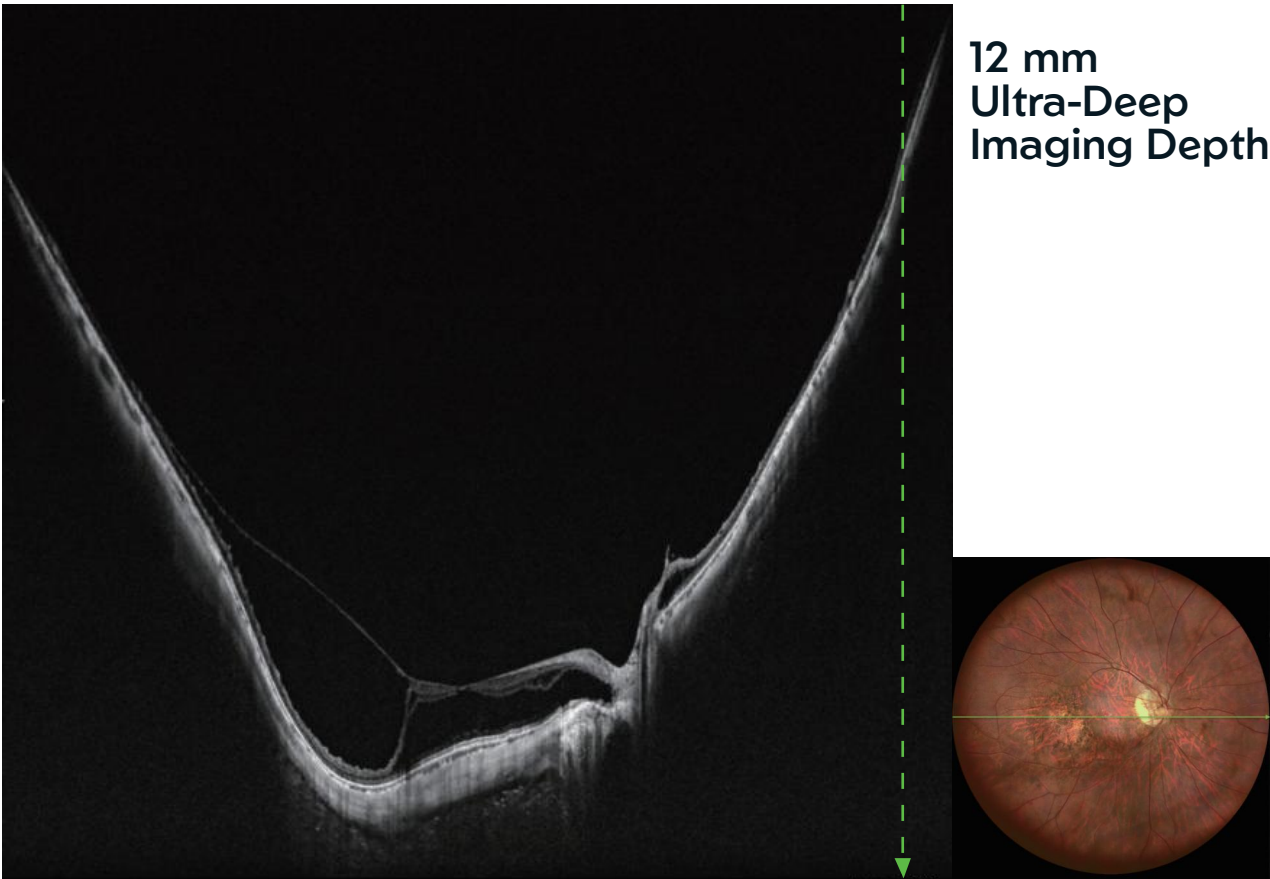
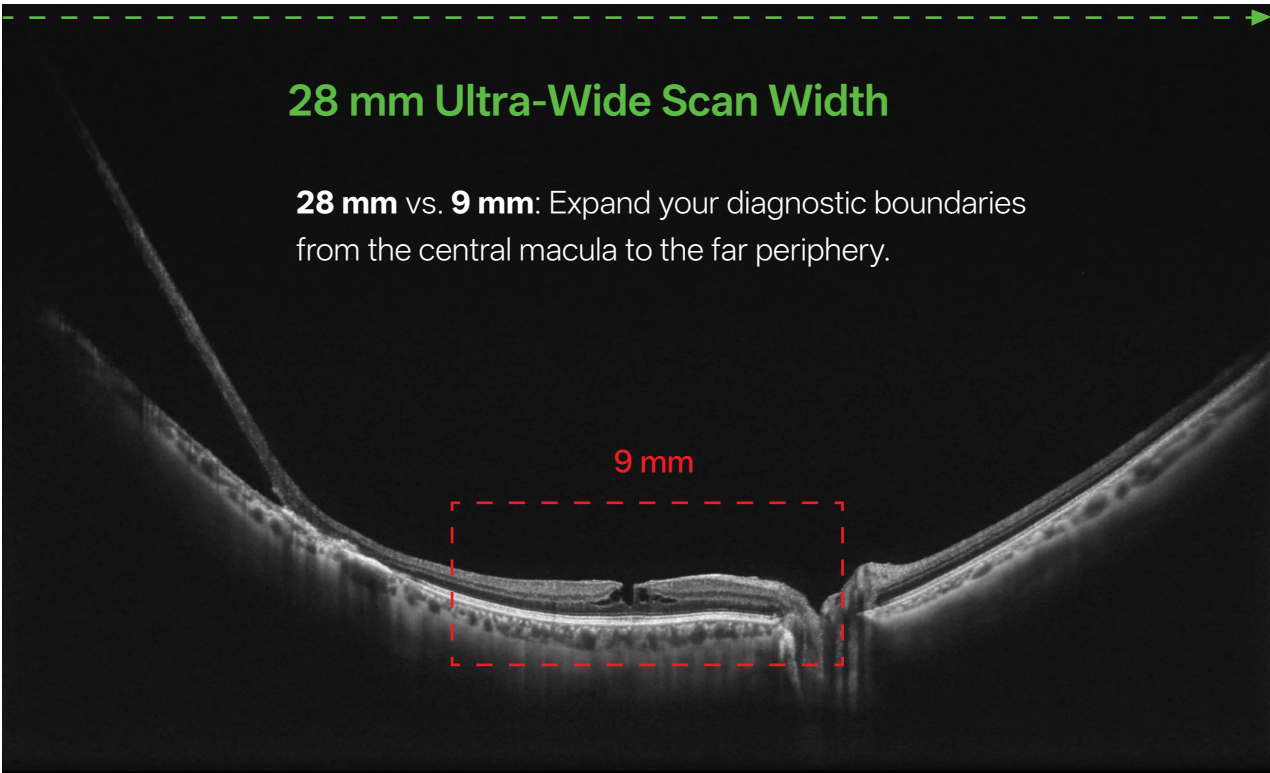
ICGA + SS-OCT
Deep choroidal angiography

See It, Scan It.



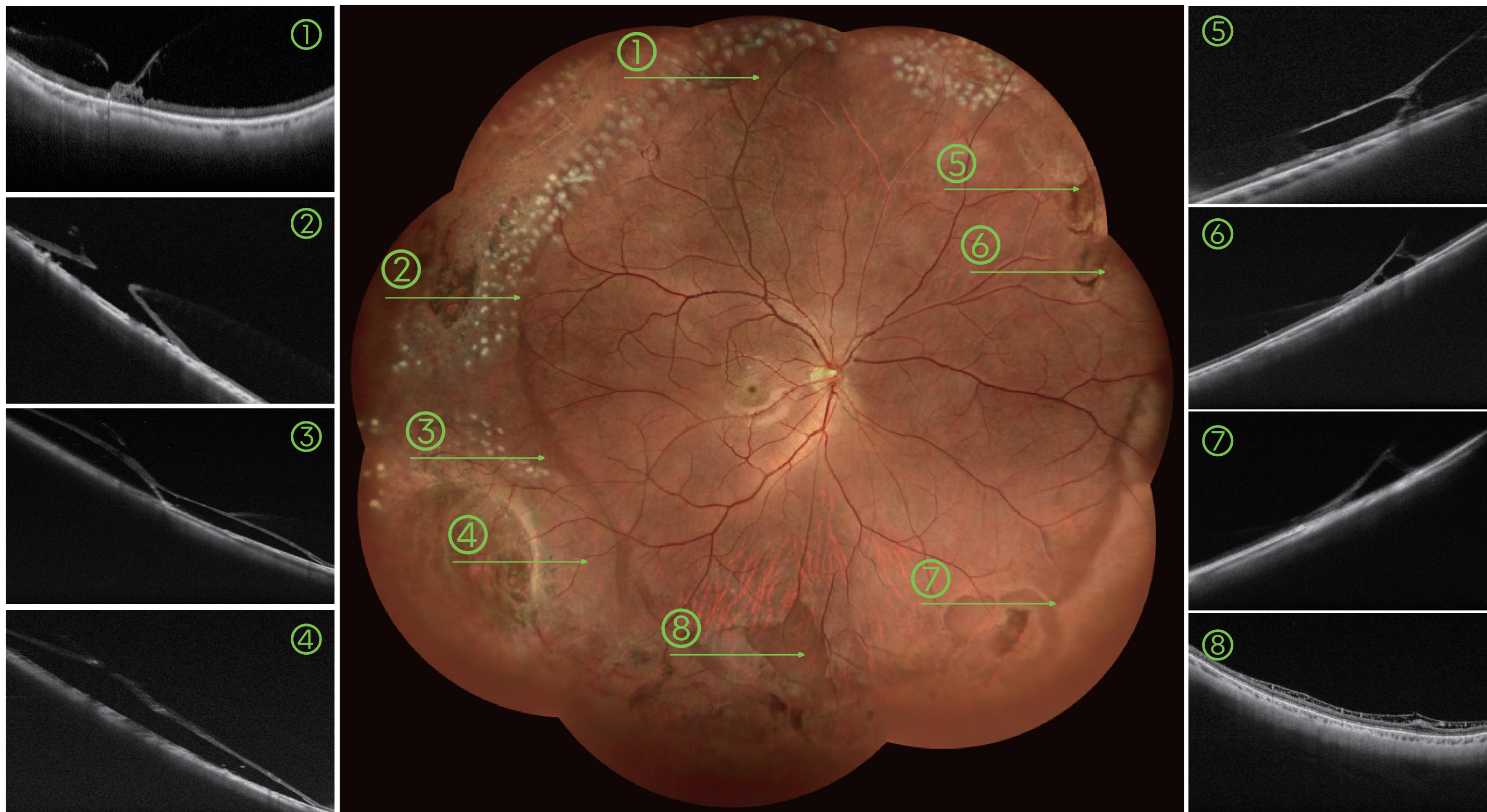
Real-Time IR Navigation: Utilize the 135° ultra-widefield IR preview for live OCT tracking. Simply drag the scan line directly over any lesion to instantly acquire targeted, high-resolution cross-sections.

Ultra-wide and Ultra-deep SS-OCT



COLOR + SS-OCT: Complete visualization of retinoschisis and scleral profile in severe high myopia, without mirrored artifact.

Mastering the Peripheral Retina: Panoramic Discovery meets Cross-Sectional Precision

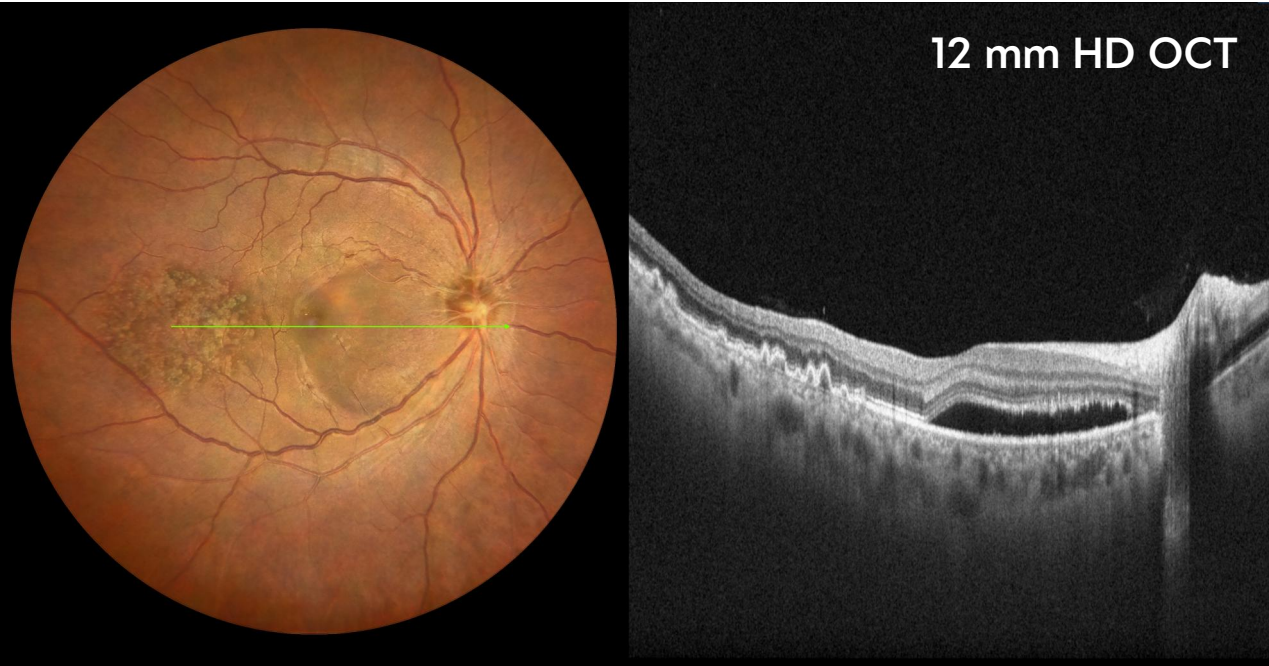


Leave No Lesion in the Dark.

Peripheral retinal pathologies—such as asymptomatic tears, holes, and lattice degeneration—are frequently missed by conventional narrow-field imaging.

The SKY platform revolutionizes peripheral evaluation. By combining an automated UWF montage with targeted Swept-Source OCT, clinicians can seamlessly navigate from panoramic discovery to cross-sectional confirmation. Detect early, evaluate accurately, and intervene with confidence.

Macular Evaluation

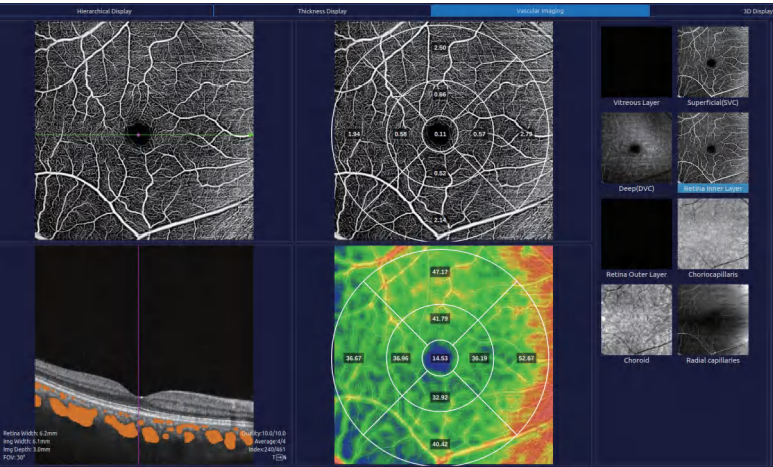


Multi-Layer Macular Thickness Topography

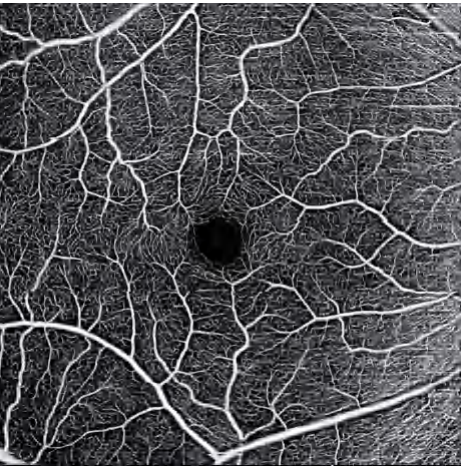
- Full-Thickness Retina
- Choroid Layer
- Ganglion Cell Complex (GCC)
- Outer Retina & Inner Retina

En Face Structural Imaging:

Seamless multimodal comparison, including IR and True Color imaging.

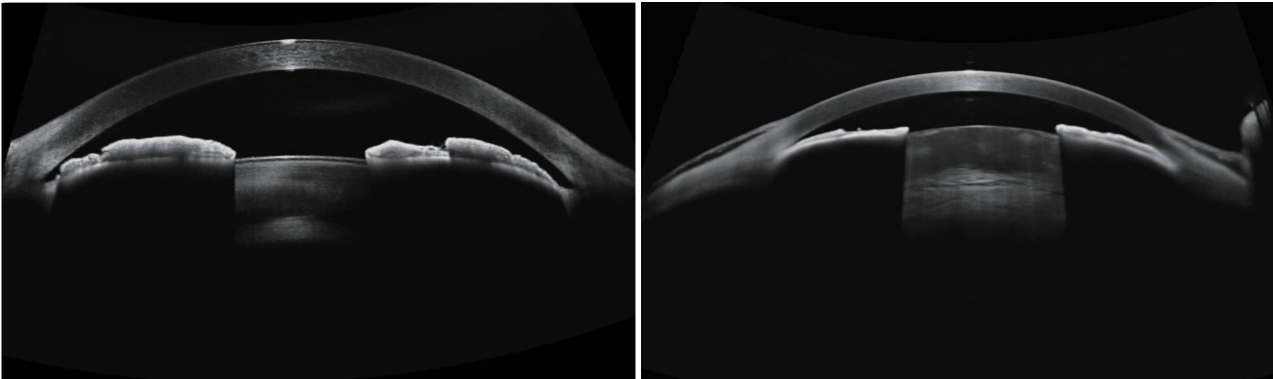


Layer-Specific OCTA Analytics



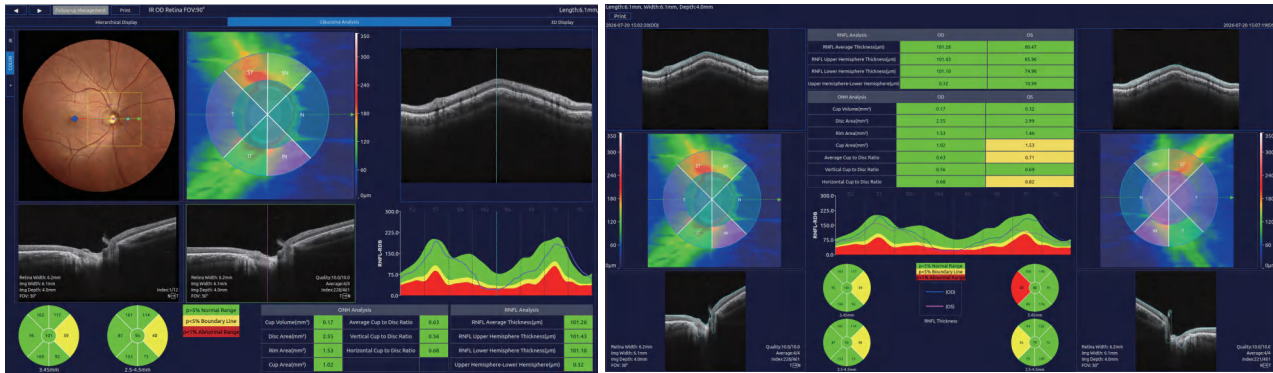
Standard 6x6mm, up to 12x12mm OCTA

Glaucoma Management



Primary Angle-Closure Glaucoma AS-OCT

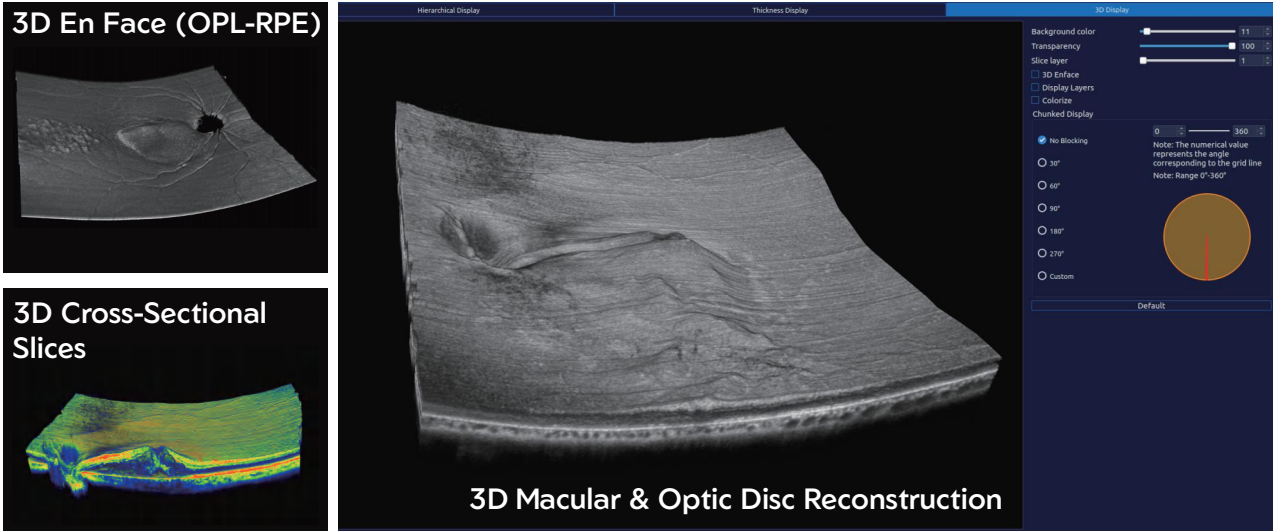
Secondary Angle-Closure Glaucoma with Cataract



Glaucoma Data Analysis:

Automated profiling of the Optic Nerve Head (ONH), Retinal Nerve Fiber Layer (RNFL), and Bruch's Membrane Opening (BMO).

Volumetric 3D Visualization



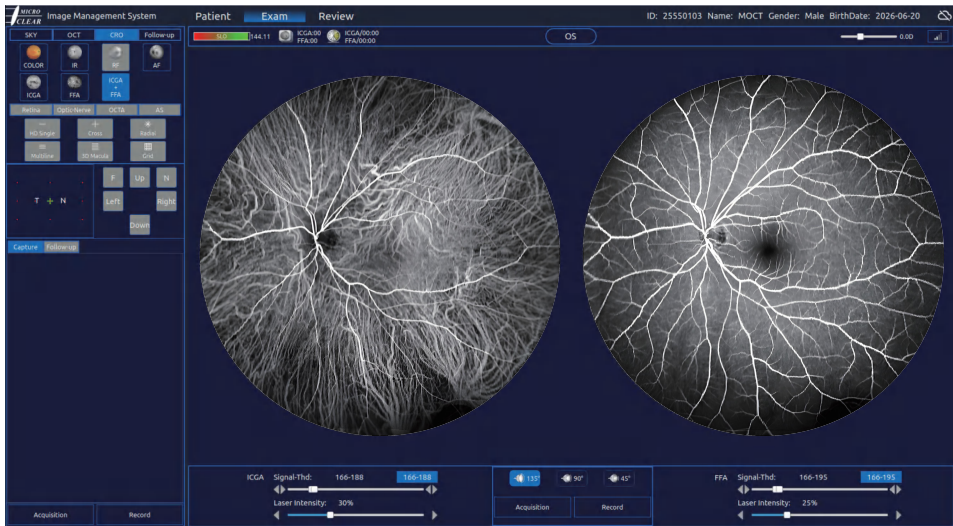
3D En Face (OPL-RPE)

3D Cross-Sectional Slices

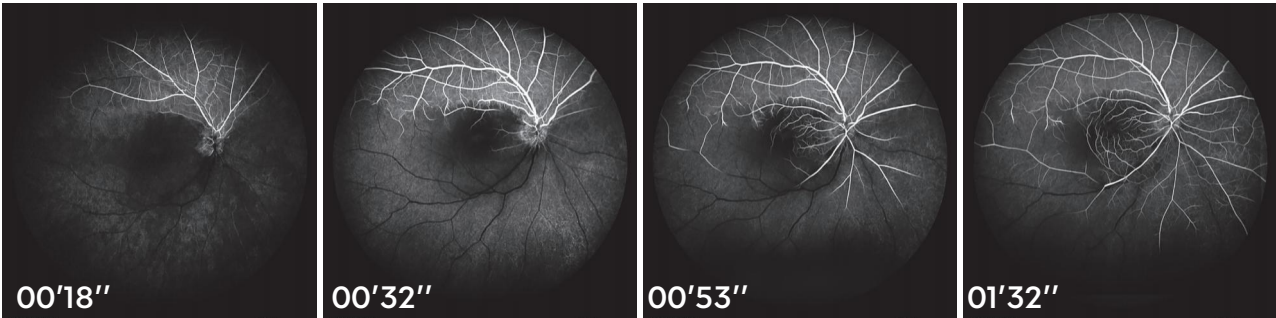
3D Macular & Optic Disc Reconstruction

FFA & ICGA

FFA and ICGA remain the absolute gold standard because they show the function and dynamics of the vessels—specifically leakage, pooling, and staining. Utilizing advanced confocal scanning laser technology, SKY delivers real-time, ultra-widefield dynamic transit videos through a pupil as small as 2.0 mm.

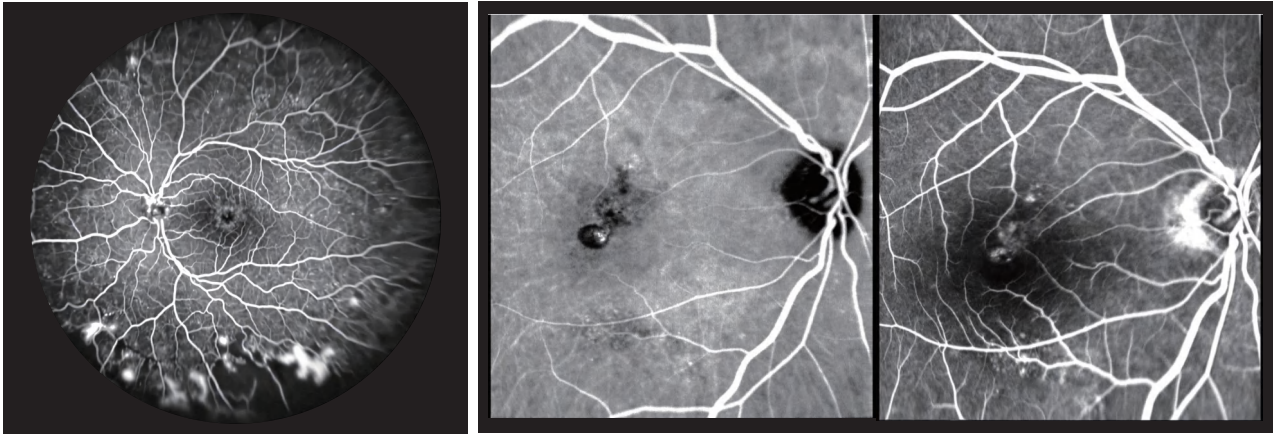


Simultaneous ICGA + FFA



The Irreplaceable Gold Standard:

Track real-time dye transit across critical phases (00'18" – 01'32") with continuous video recording. Dynamic FFA remains the only definitive way to visualize functional hemodynamics, active leakage, and pooling as they unfold.



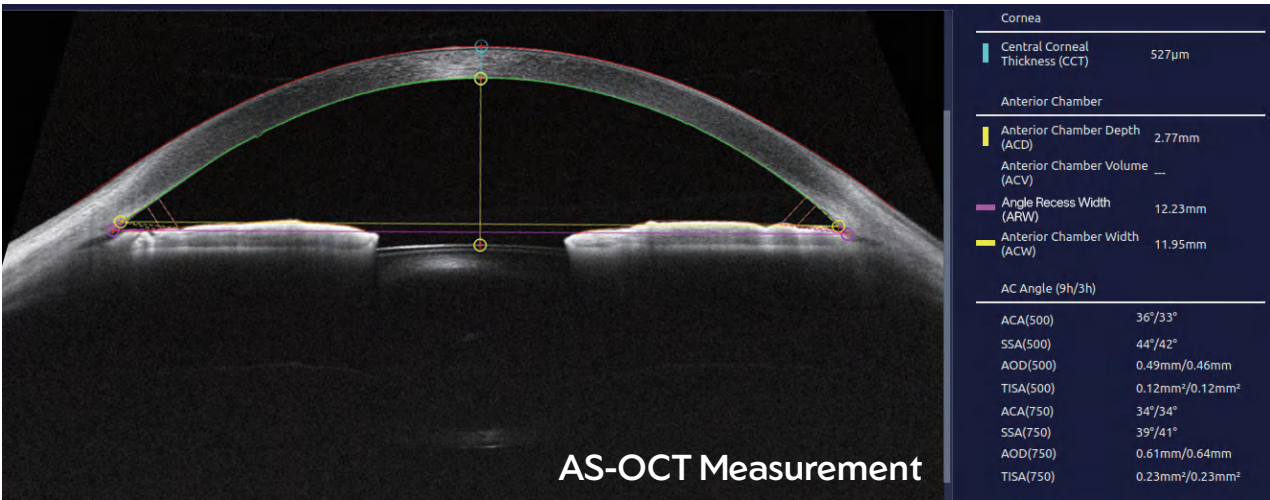
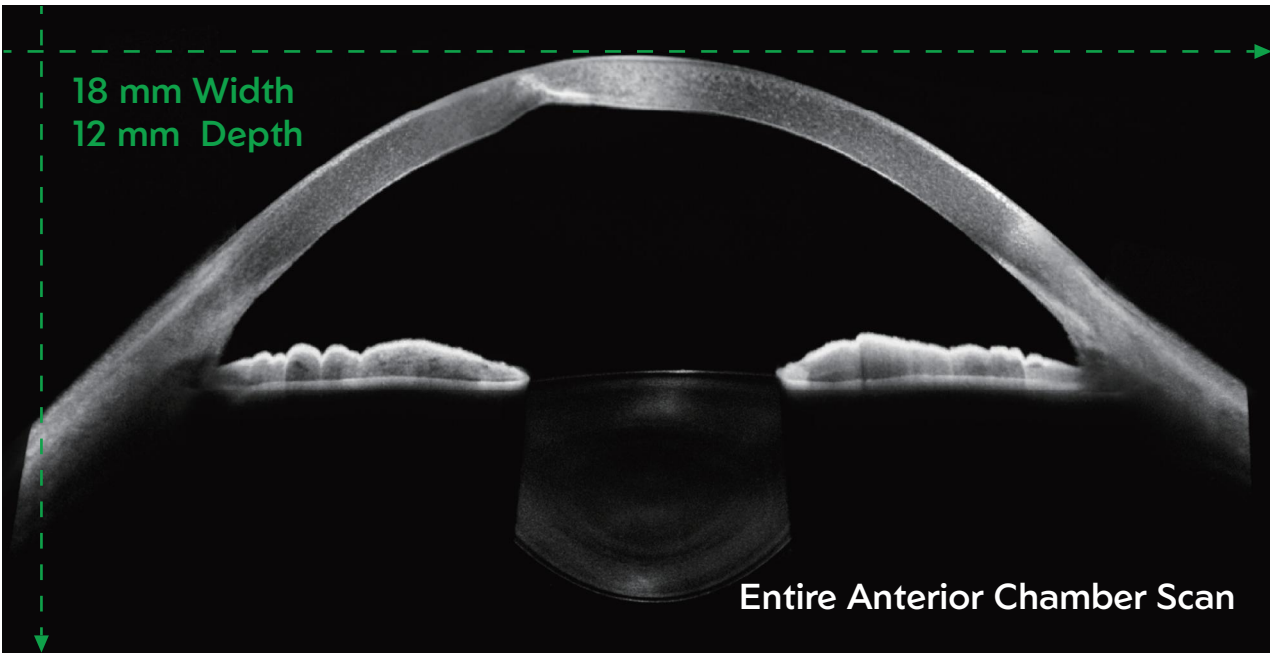
DR Management:

UWF FFA exposing peripheral ischemia and neovascularization.

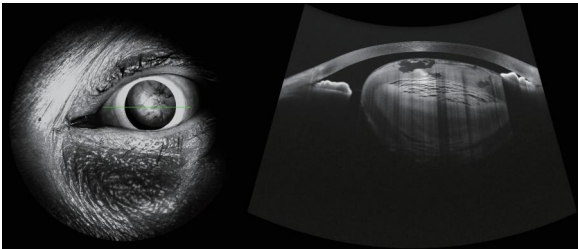
PCV Evaluation:

Simultaneous ICGA+FFA pinpointing deep choroidal polyps.

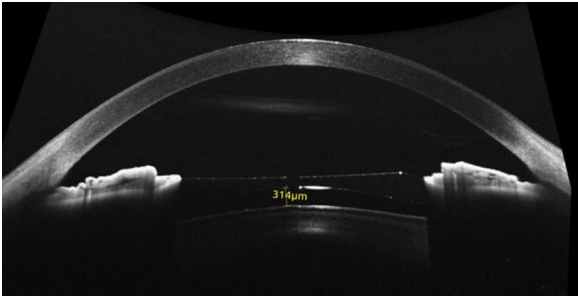
Anterior Segment



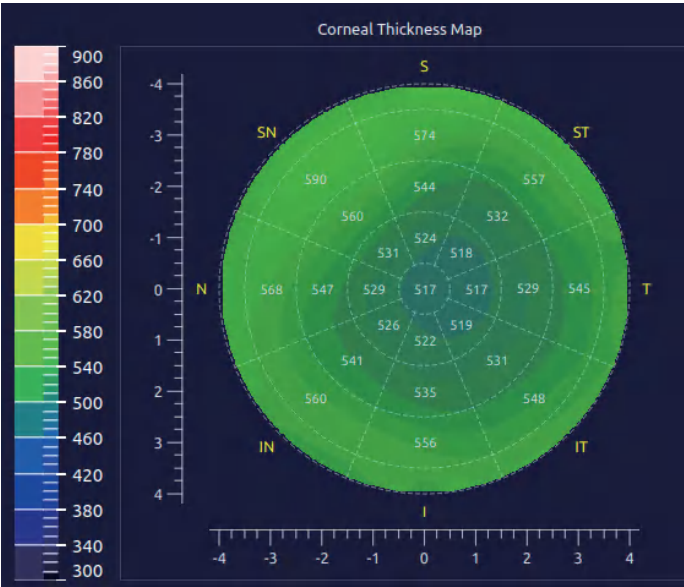
AS-OCT Measurement



Cataract & Lens Dislocation



Post-ICL Vault Measurement

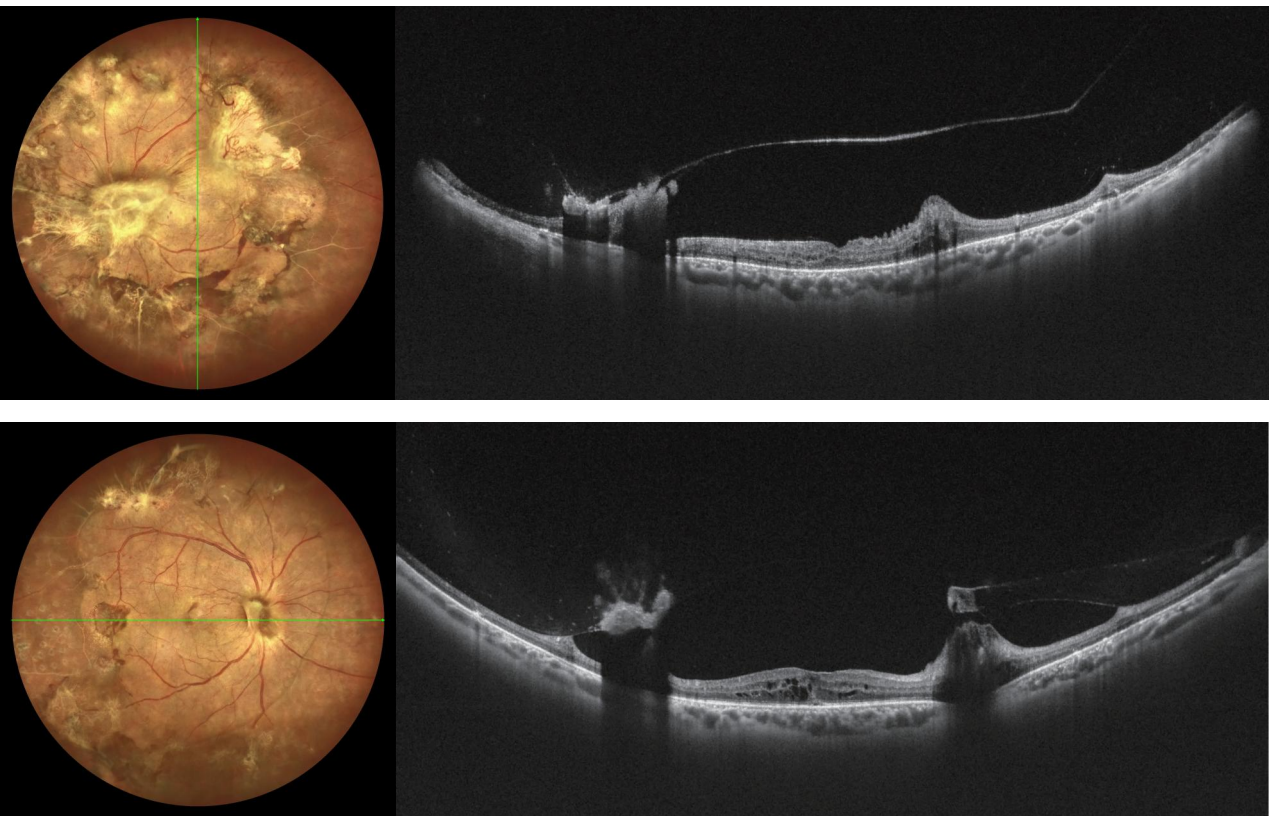
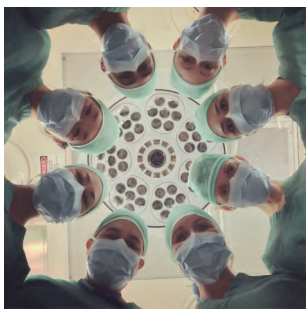


Corneal Pachymetry & Topography

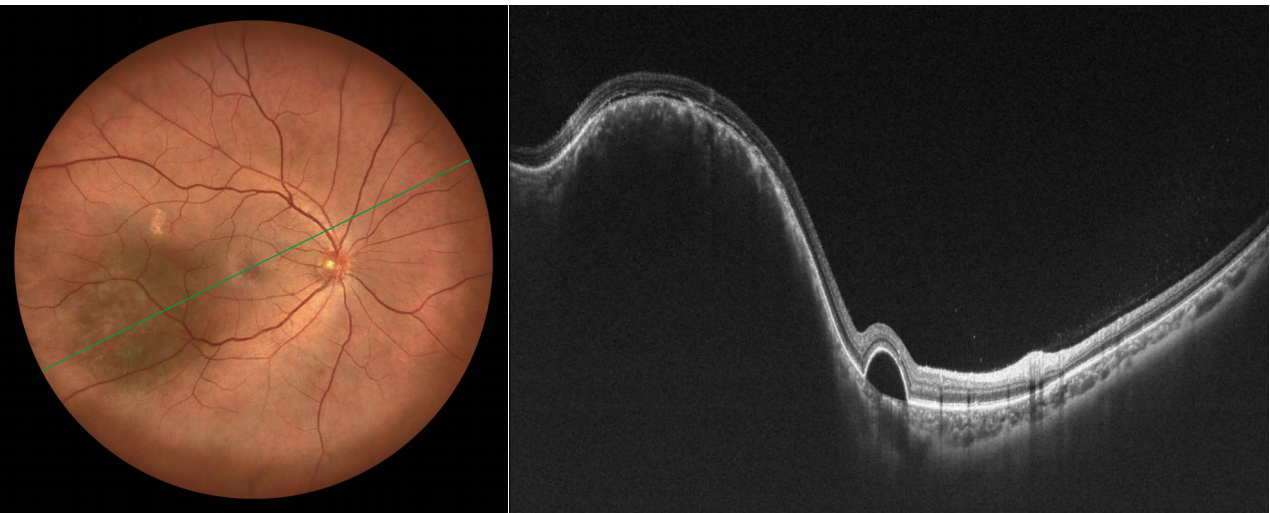
Surgical Retina

The Pre-Operative Mastermind.

Equip your surgical team with uncompromising anatomical mapping. From complex vitreoretinal tractions to severe pathological myopia, SKY delivers the widefield context and deep structural profiling required for confident, risk-mitigated surgical planning.



135° single-shot cSLO paired with ultra-wide SS-OCT precisely visualizes the extent of vitreo-retinal traction, retinal tears, and subretinal fluid in a single view.

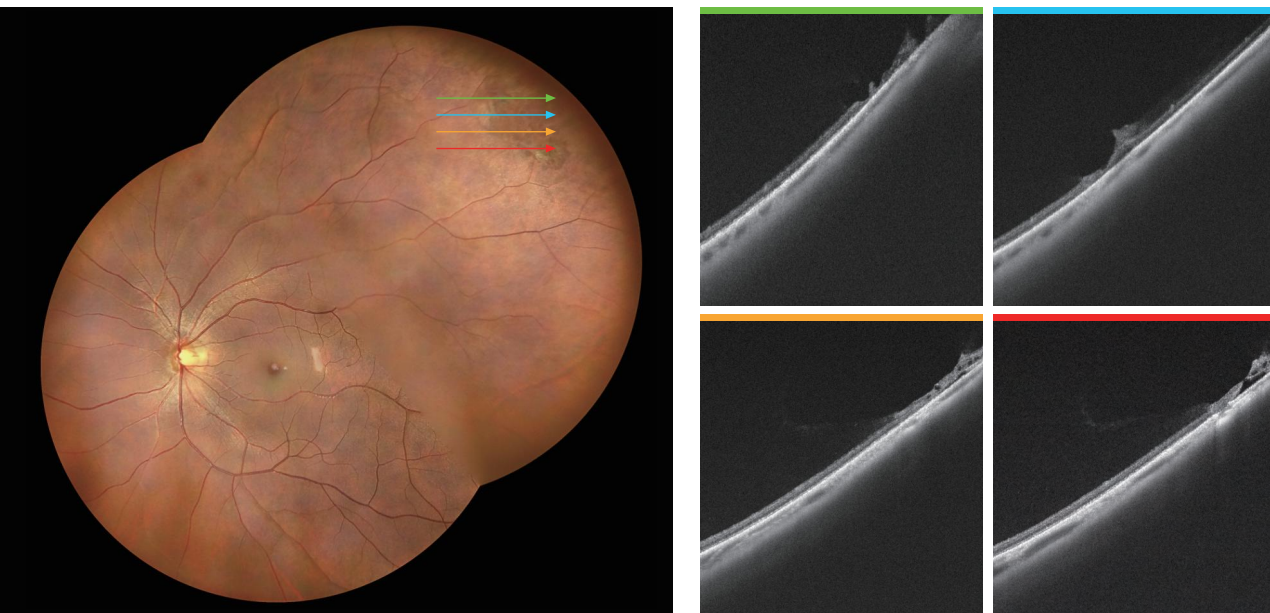


SKY’s unprecedented 12 mm imaging depth penetrates highly elevated intraocular tumors.

Refractive & Cataract

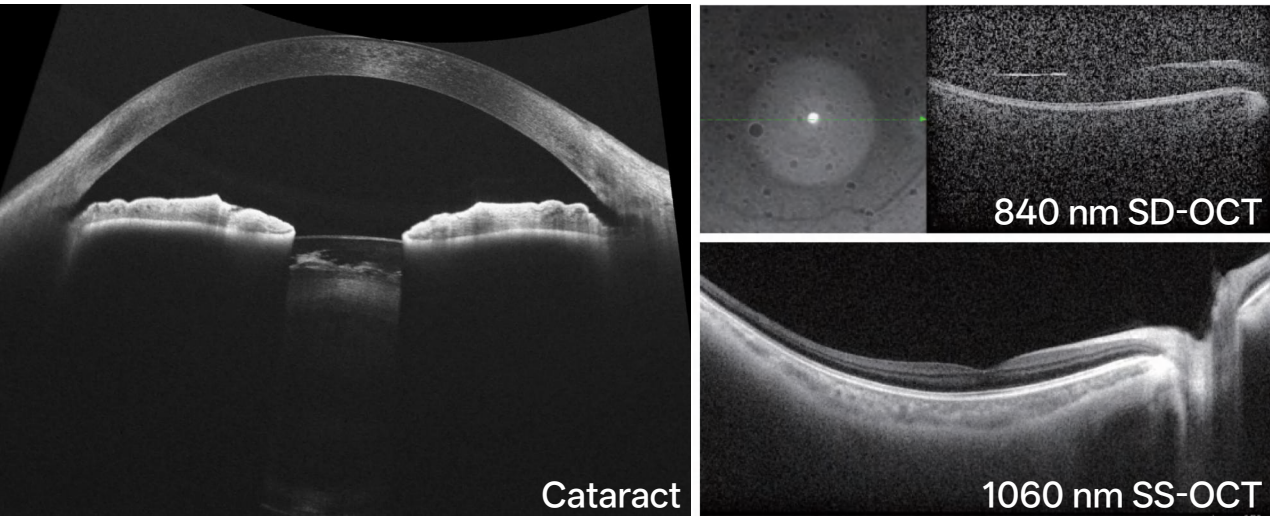
Comprehensive Pre-Operative Screening.

Safeguard your premium refractive and cataract outcomes. Routine ultra-widefield fundus screening prior to surgery is essential to detect asymptomatic peripheral retinal breaks (pre-LASIK/ICL) and confirm macular integrity through dense opacities (pre-cataract), ensuring surgical safety and maximum patient satisfaction.



Pre-Refractive Peripheral Screening:

Automatically map and cross-section peripheral retinal holes and lattice degeneration. Detect silent threats before LASIK or ICL procedures to prevent post-operative detachments.



Superior Media Penetration (1060 nm vs. 840 nm):

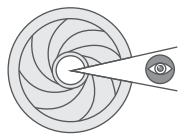
Unlike conventional 840 nm SD-OCT which fails in opaque media, SKY’s 1060 nm Swept-Source engine effortlessly cuts through dense cataracts. Secure high-definition macular evaluations.

The Ultimate Clinical Workflow

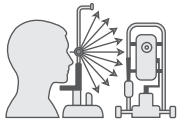
Boost Clinic ROI & Premium Patient Comfort



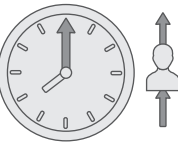
Designed for premium ophthalmology clinics, SKY redefines diagnostic workflows by balancing clinical efficiency and patient comfort.



Single Scan, Full Information
Capture ultra-widefield Color/IR/FAF/FFA/ICGA, and SS-OCT in a single scan.



Reduced Patient Re-positioning
Reduce the discomfort of bright flashes and prolonged multi-device testing.

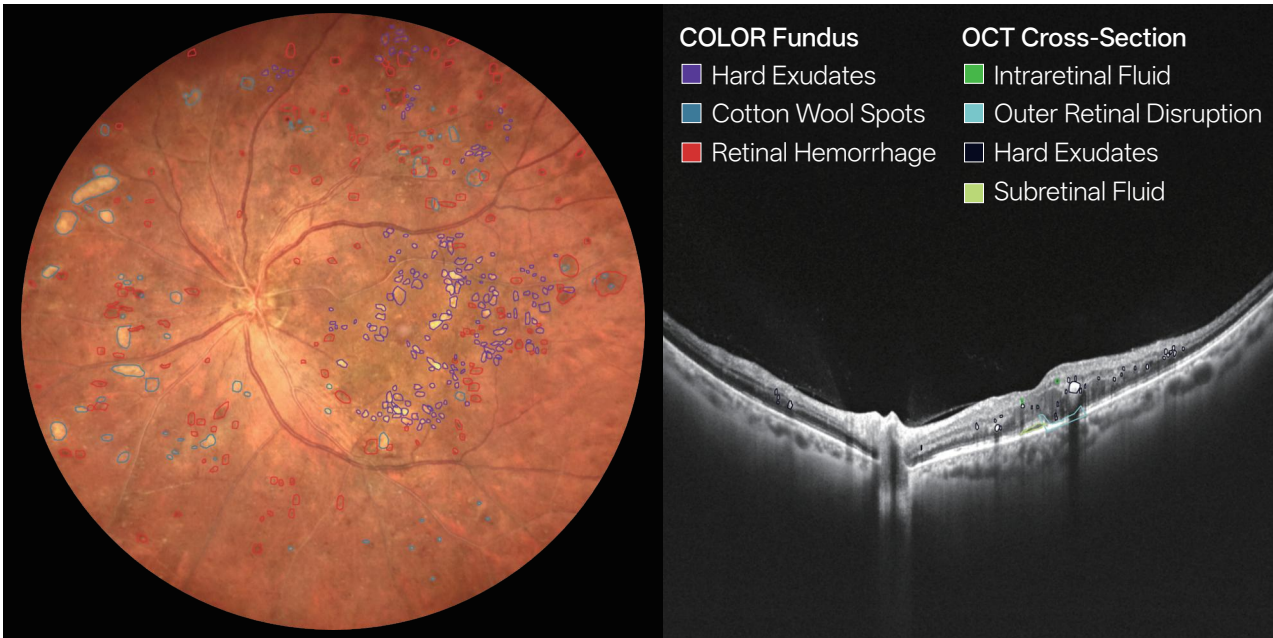


Maximized Throughput
Reduce chair time by 50%, doubling your clinical capacity while delivering a frictionless, premium diagnostic experience.

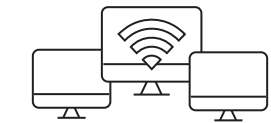
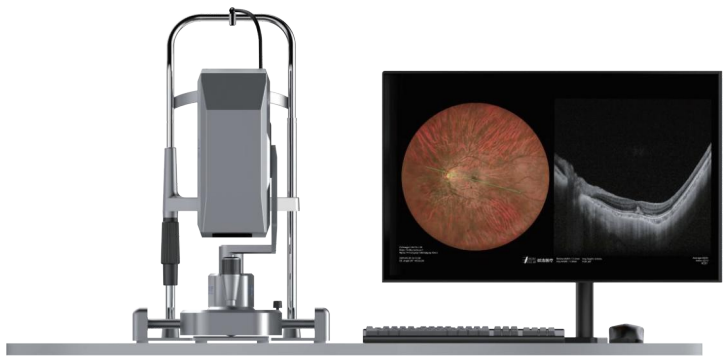
Off-Line Retina Assistant

Enhance your image review capabilities with advanced processing algorithms. Our Retina Assistant module automatically evaluates both True Color fundus images and SS-OCT cross-sections simultaneously. It provides qualitative analysis of typical retinal lesions and highlights morphological features associated with common fundus diseases, offering robust visual references during high-volume clinic days.

(Note: This upcoming software feature is currently in development.)



Integrated Data Connectivity



Multi-Viewer Stations

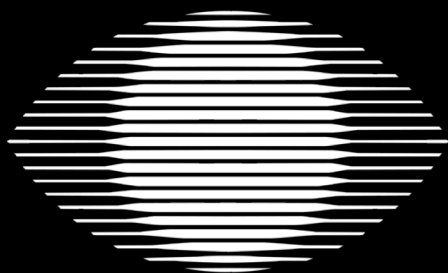


DICOM & EMR



Shared Folder

Fully DICOM-compliant, the SKY system enables seamless clinical data exchange. All multimodal ophthalmic scans acquired by the device can be immediately transmitted to local PACS, hospital EMR platforms and remote Multi-Viewer workstations.



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