



TowardPi Technology · Originated from Tsinghua

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TOWARD  $\pi$   
Medical Technology

★ **YALK AID** ★

- Full-Range HD •
- Anterior & Posterior SS-OCT

## TOWARD $\pi$ Medical Technology

- Founded in 2017, originated from top scientific and technological achievements of Tsinghua University. Supported by billions size industry funds. TowardPi develops cutting-edge swept source OCT and optical biometers. More hi-end ophthalmic devices including endoscopic OCT, microscope, ultra-wide-field fundus camera, etc. are in the line of our R&D as well.
- TowardPi scientists welcome academic research cooperation. We look forward to our collaboration in industrial, academic and medical areas.

### TowardPi Swept Source OCT YALKAID

- 100KHz A-scan
- Full range anterior & posterior OCT
- Wide field anterior & posterior OCTA

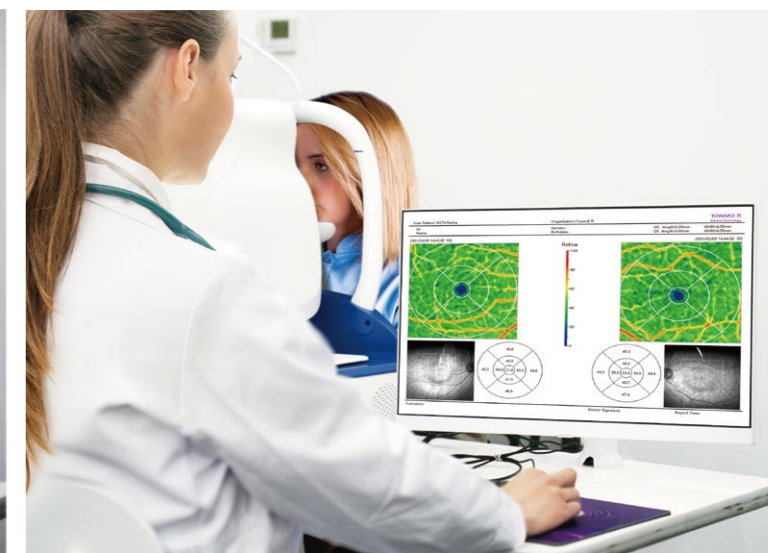
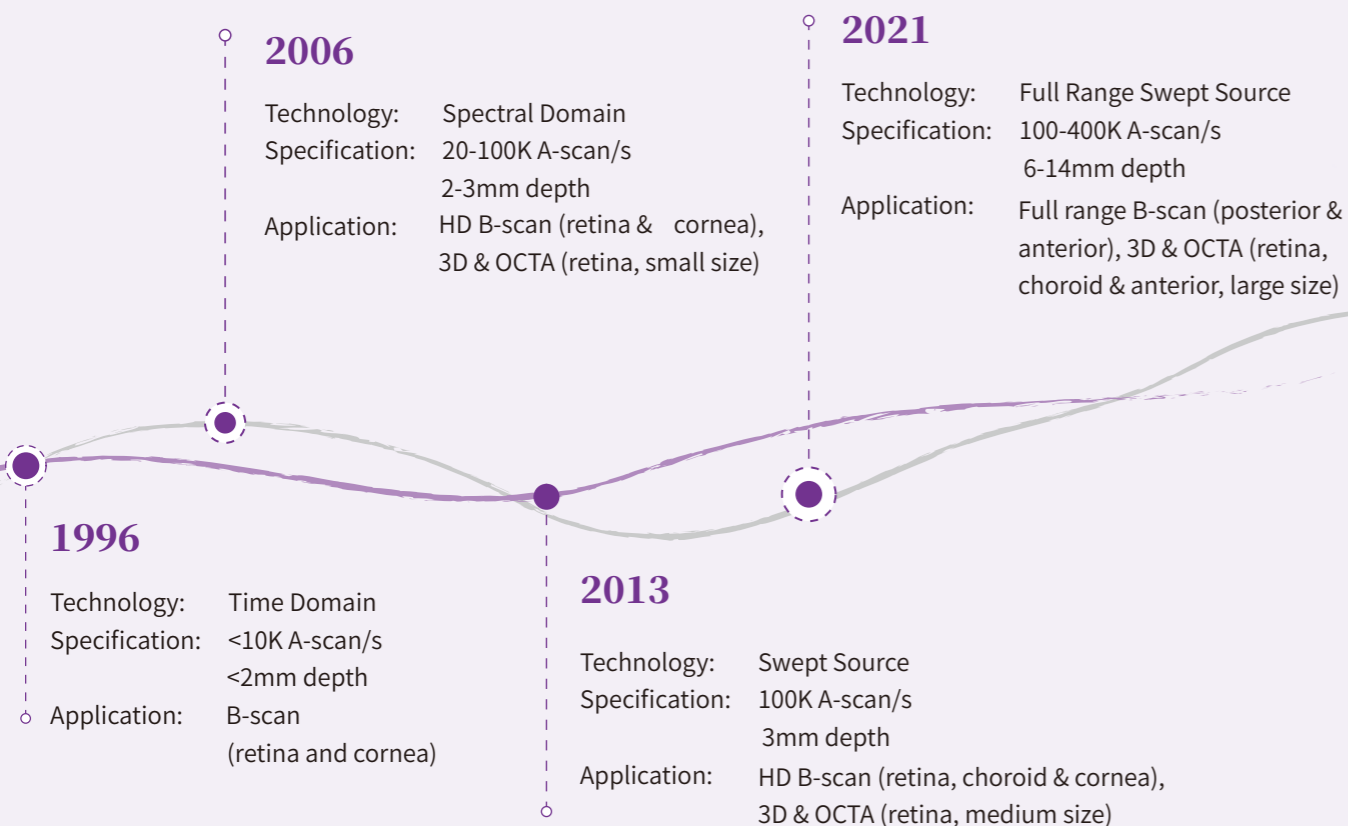


Model: YG-100K

SS-OCT: **YALKAID**

## The development of OCT

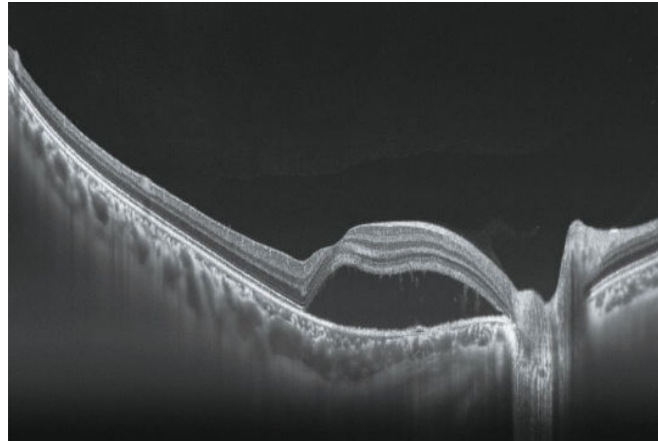
The development of OCT leads us to the latest generation of full range swept source OCT technology. Go faster, deeper, wider and sharper!



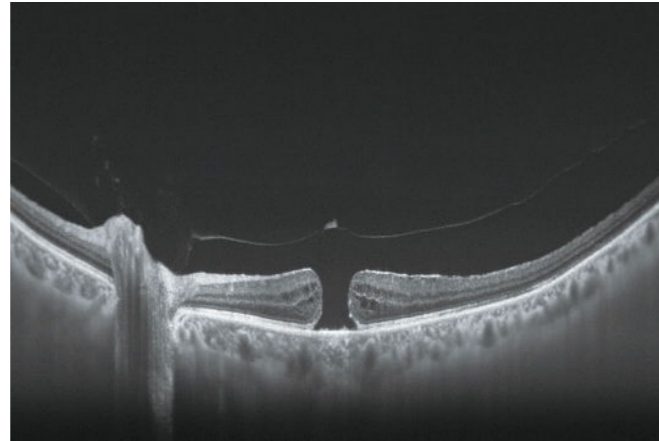
High definition B-scans

Resolution

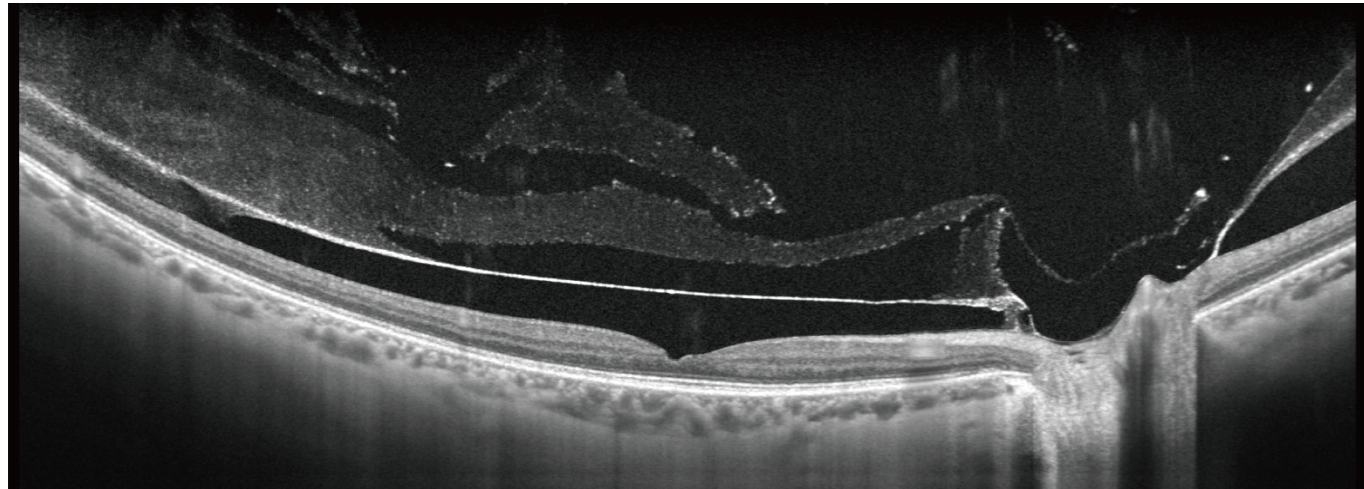
- ▶ Axial: 3.8μm optical, 1.4μm digital
- ▶ Lateral: 10μm optical, 1.4μm digital



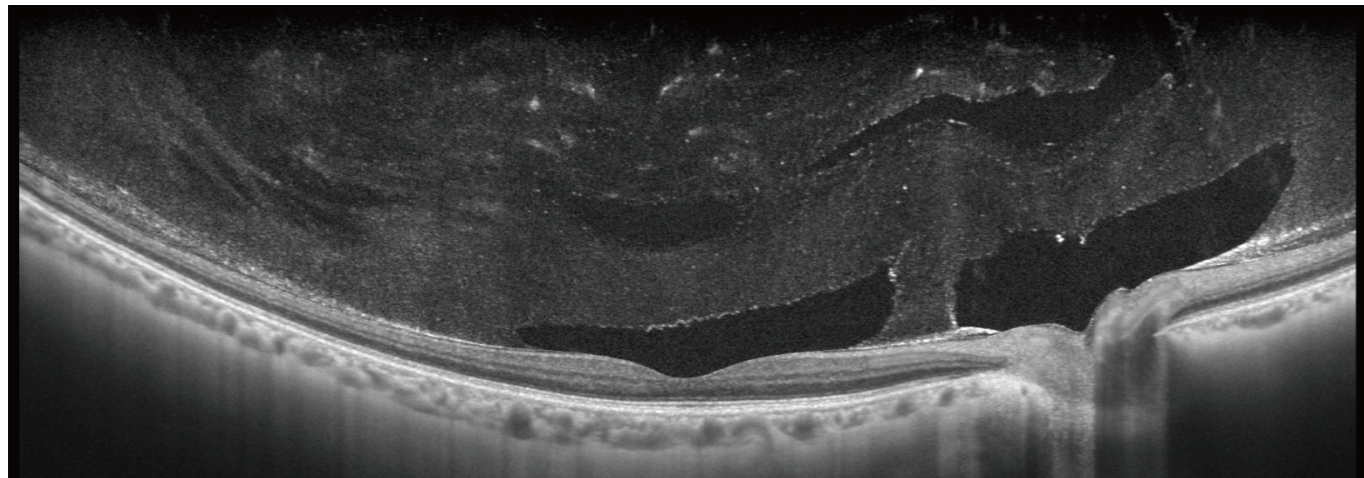
• Central Serous Retinopathy



• Macular Hole

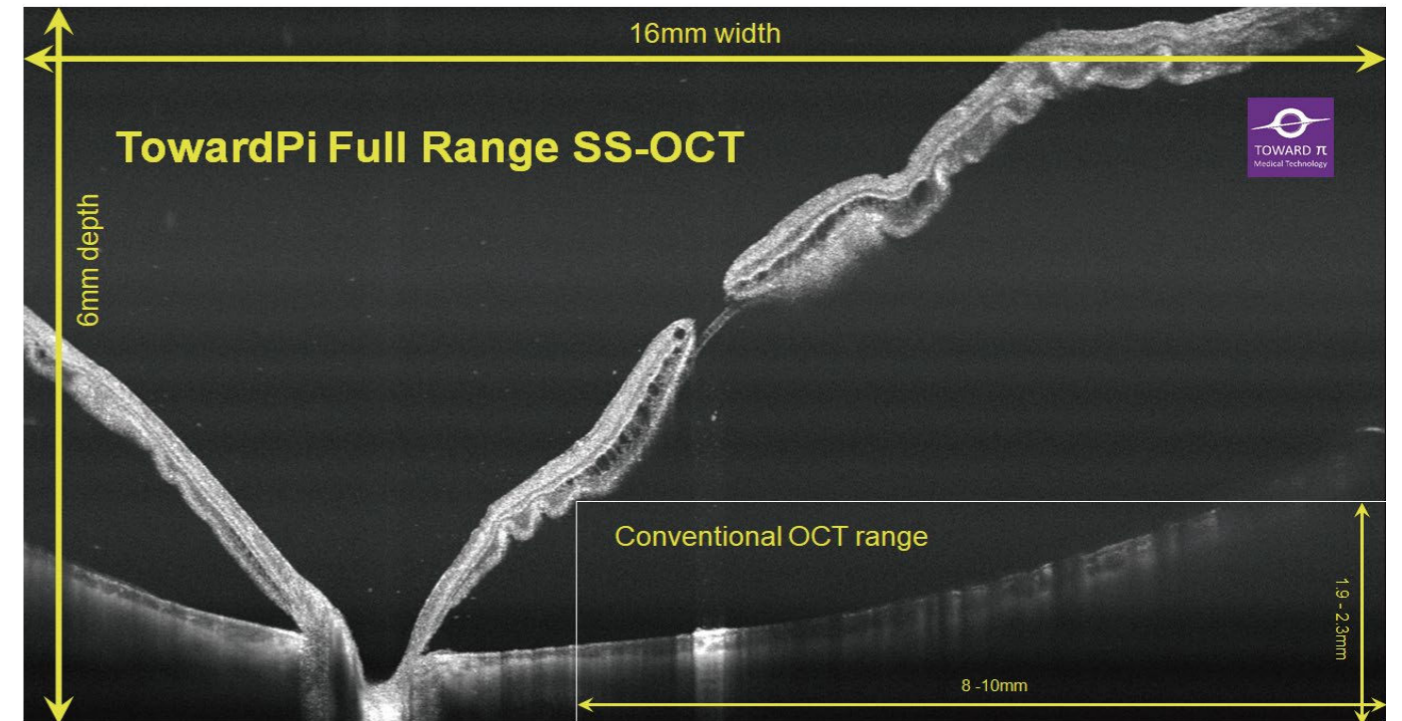


• Posterior Vitreous Detachment

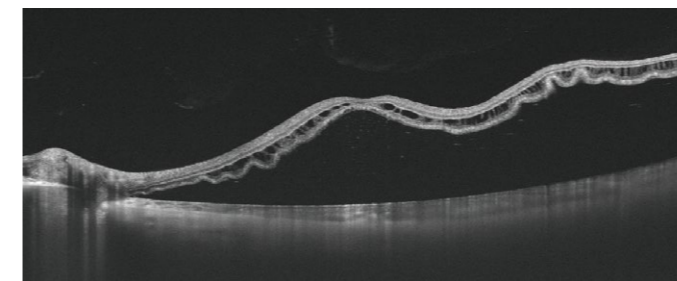


• Posterior Precortical Vitreous Pockets (PPVP)

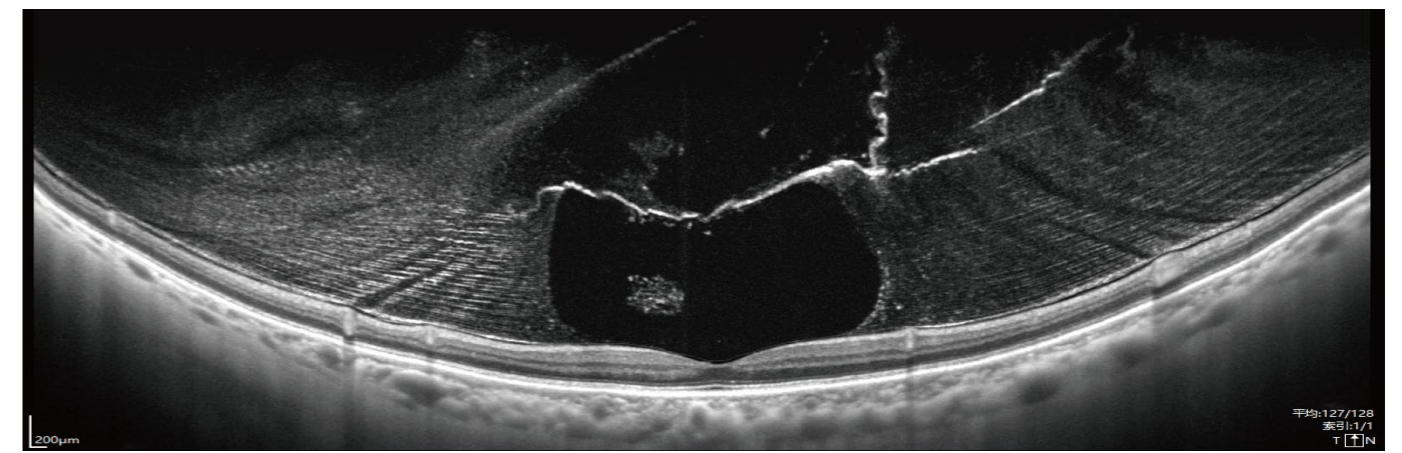
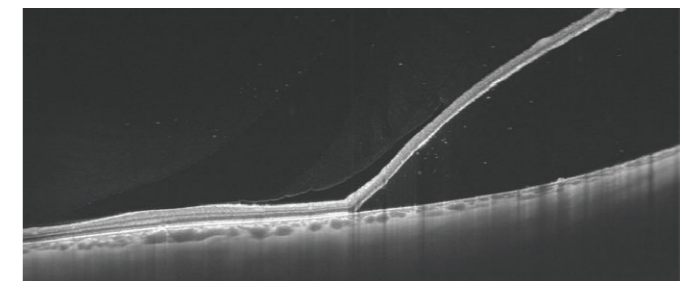
- ▶ Better coherence ensures deeper visual field
- ▶ **6mm scanning depth** makes scan easier with myopia staphyloma or extensive retinal detachment
- ▶ **1060nm wavelength** penetrates better in opacity such as cataract, vitreous hemorrhage, provides full thickness imaging of retina and choroid
- ▶ Wide-field optic design extends the **scanning length up to 16mm**



• Extensive Retinal Detachment



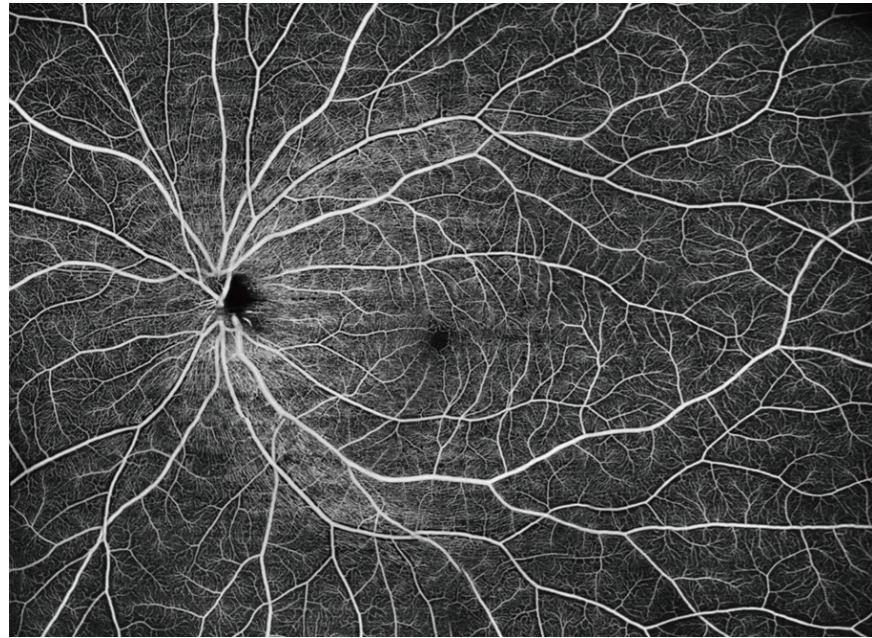
• Retinal Detachment



• Posterior Precortical Vitreous Pockets (PPVP)

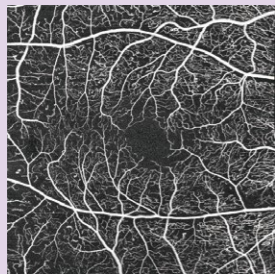
# OCT Angiography

- Fast, non-invasive, high resolution OCT Angiography (OCTA)
- Optional upgrade on YAILKAID OCT system

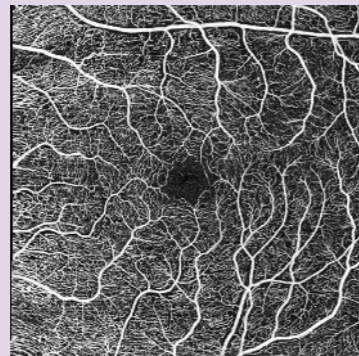


• Larger field montage from multiple scans

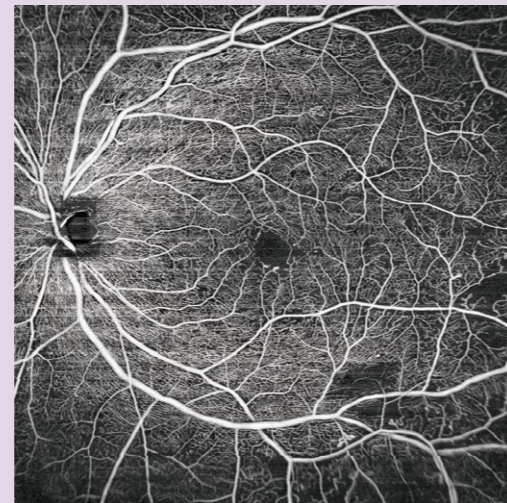
## Full functional OCTA features



• 3x3mm OCTA

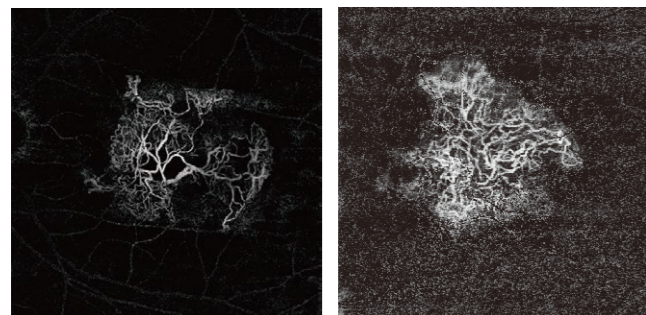


• 6x6mm OCTA

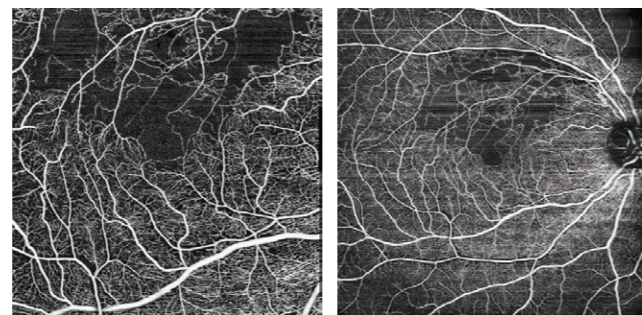


• 12x12mm OCTA (1024 x 1024)

■ Diabetic Retinopathy



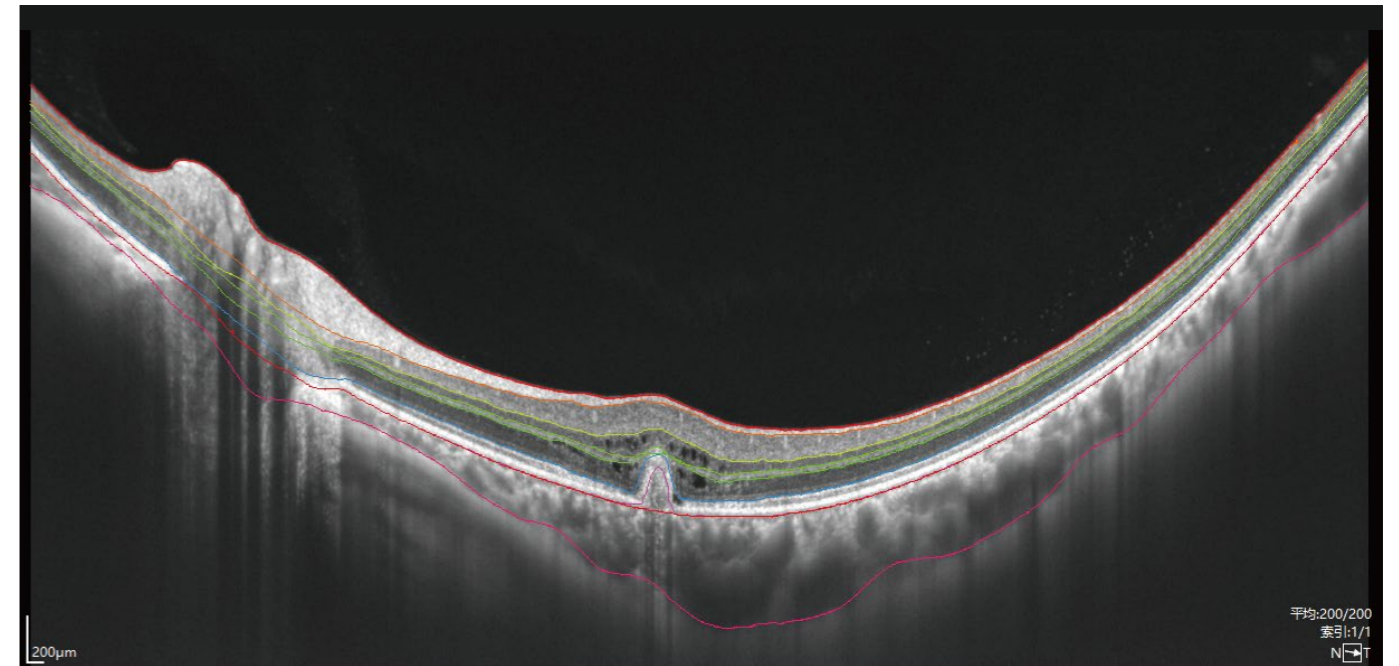
• Choroidal Neovascularization



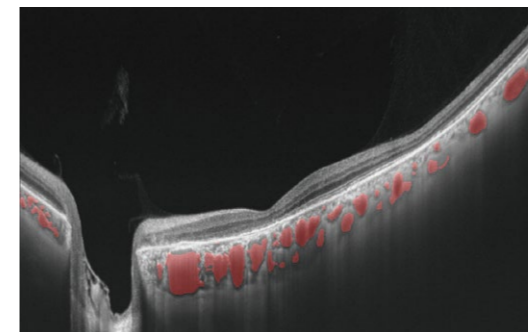
• Branch Retinal Vein Occlusion

# Posterior Analysis tools

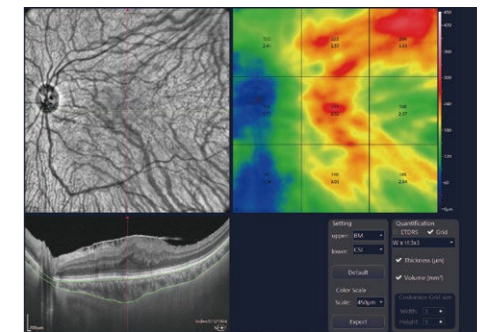
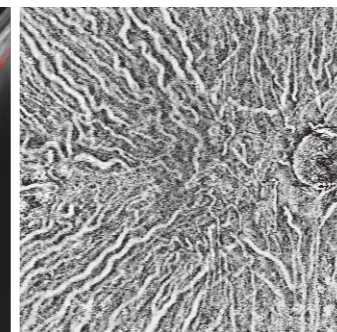
- Comprehensive analysis software provides automatic segmentation with flow projection artifact removal. The algorithm detects anatomic boundaries of retina and choroid, evaluates thicknesses individually.



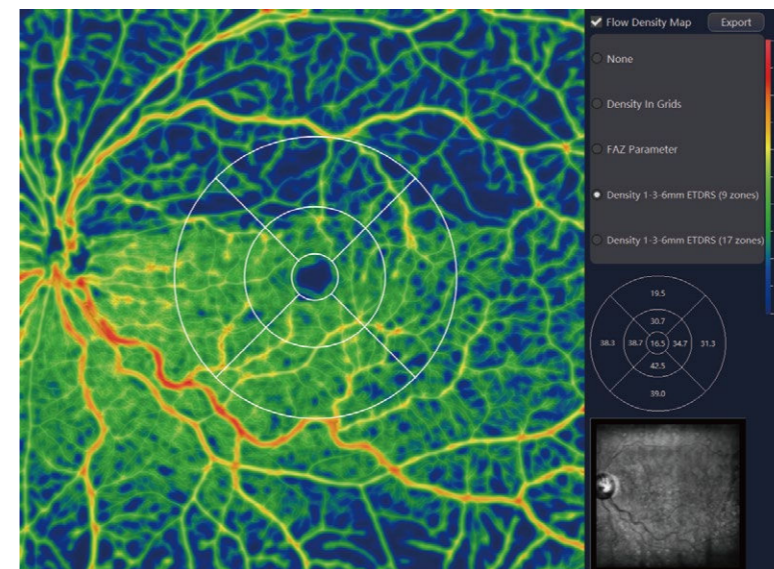
• Automatic segmentation



• Choroid vessels



• Choroid Thickness Map

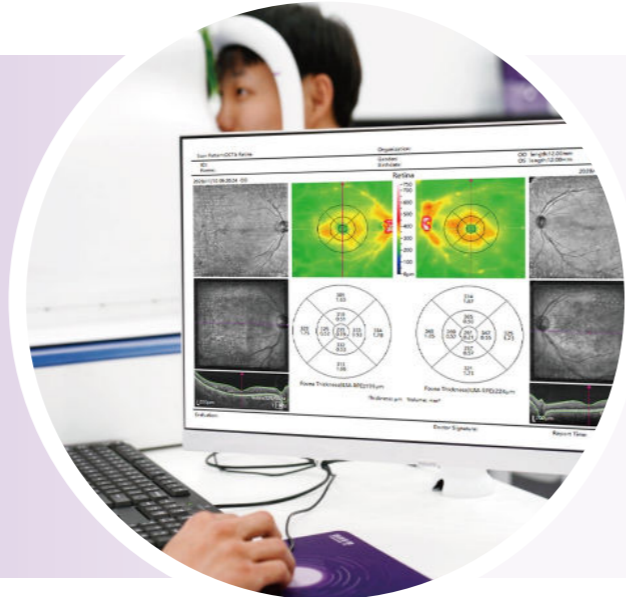


• Blood flow quantification

Multi-section flow density, CNV flow area, FAZ indexes, etc.

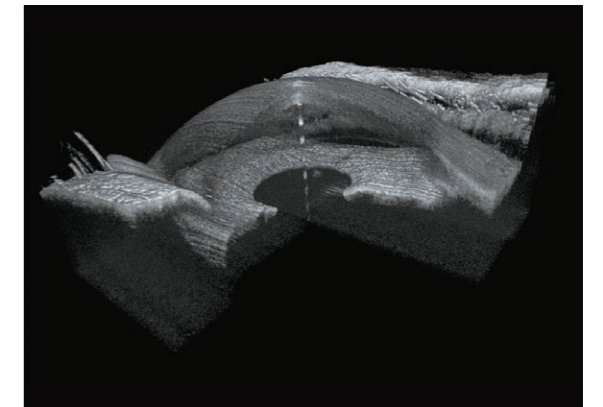
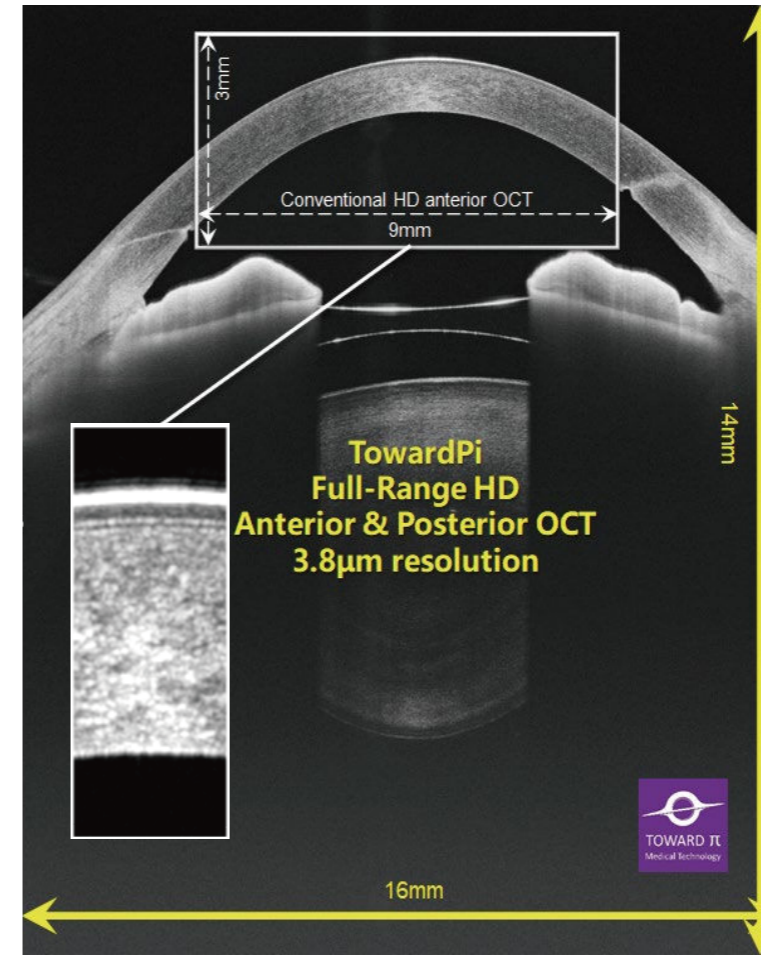
# Comprehensive reports

- ▶ B-scan report
- ▶ 3D tomography
- ▶ Thickness report
- ▶ Volume report
- ▶ Blood flow report
- ▶ Quantification report
- ▶ OU report
- ▶ Follow-up report

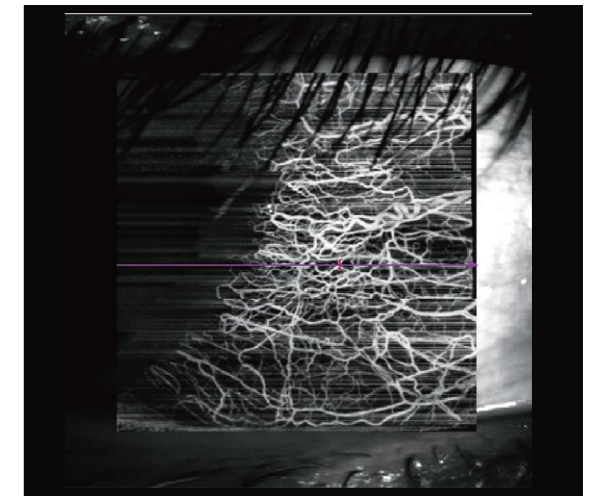


# Full Range Anterior OCT

- ▶ 16mm length, 14mm depth for anterior
- ▶ Better resolution and S/N ratio than 1310nm wavelength

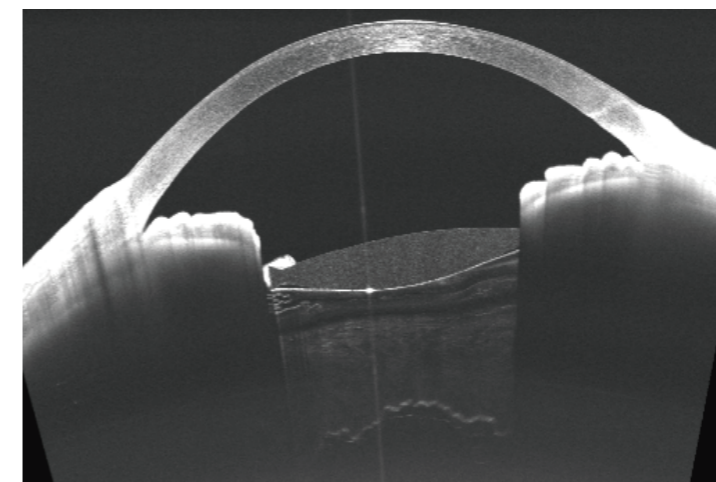


• 3D rendering

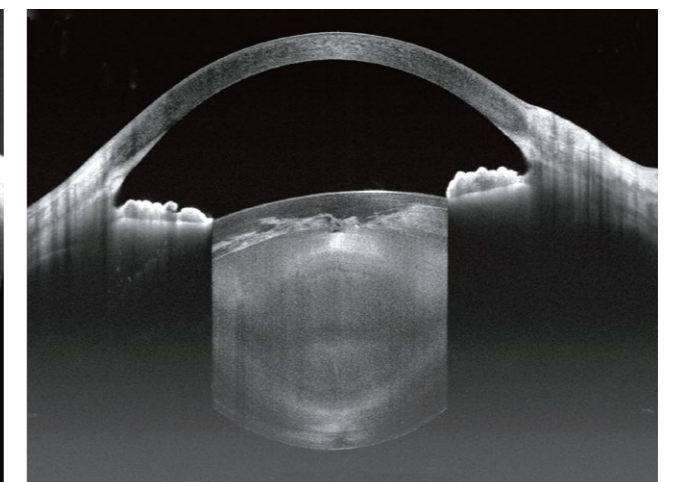


• Anterior blood flow

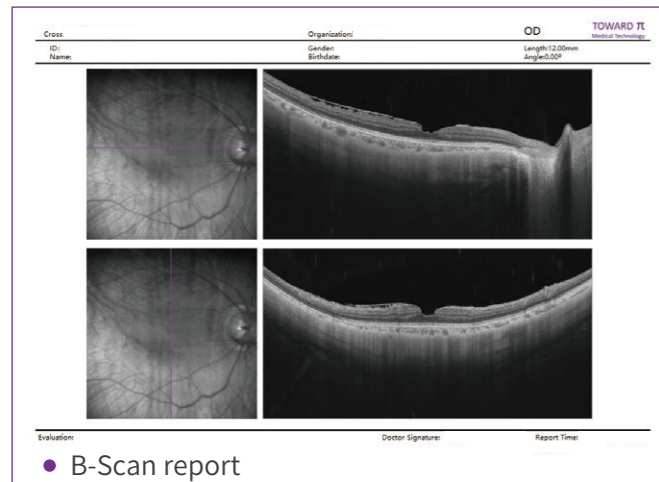
• Full Range anterior scan



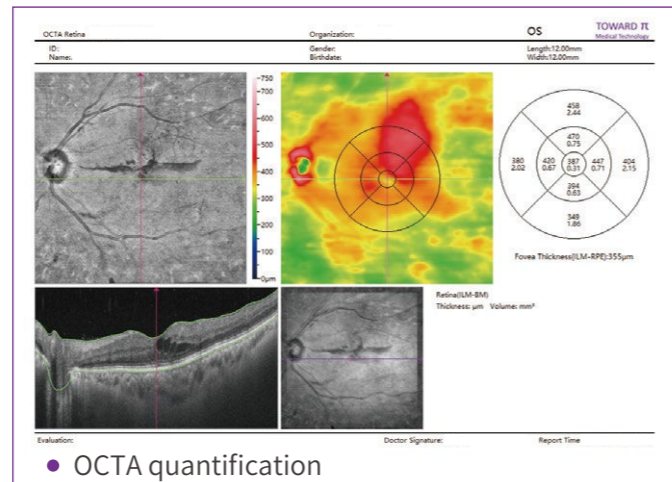
• IOL & anterior hyaloid



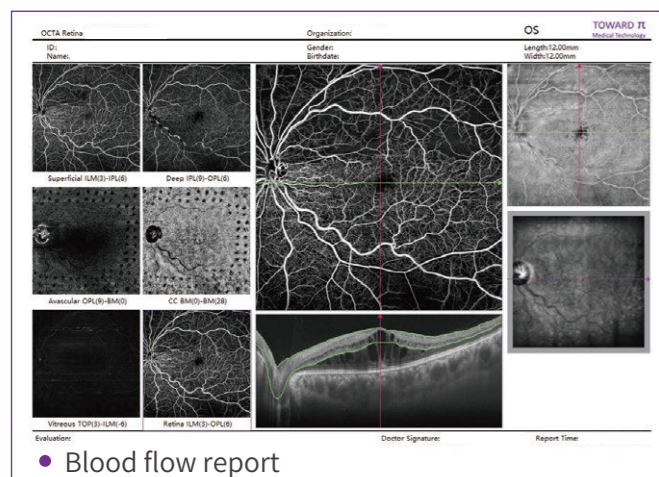
• Cataract



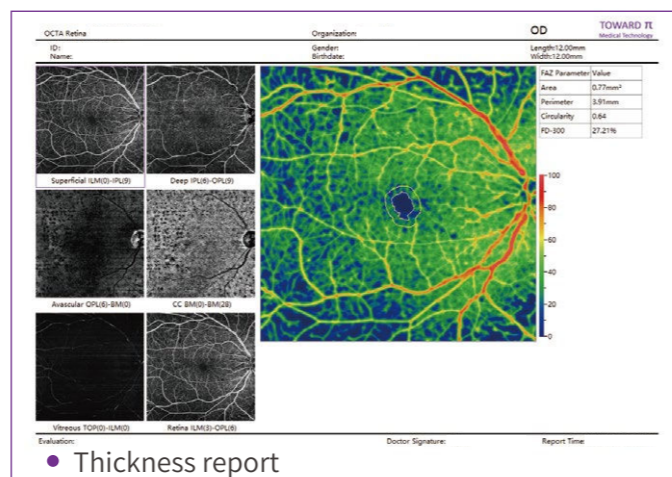
• B-Scan report



• OCTA quantification



• Blood flow report

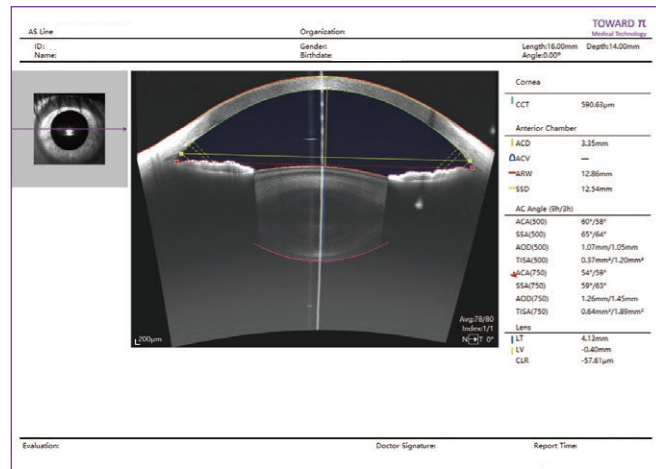


• Thickness report

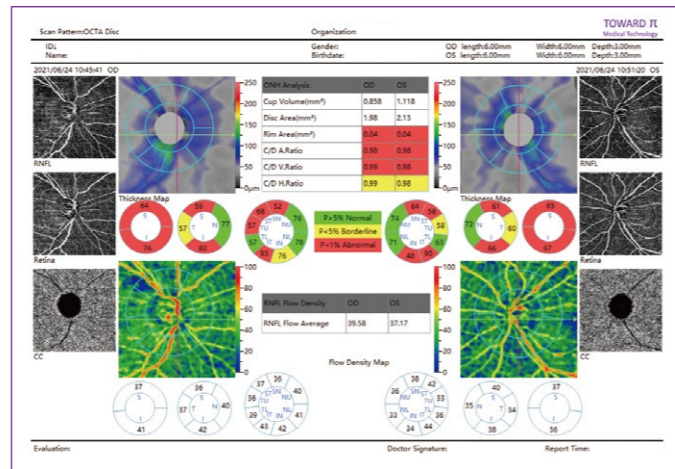
# Glaucoma analysis

Comprehensive glaucoma reports include:

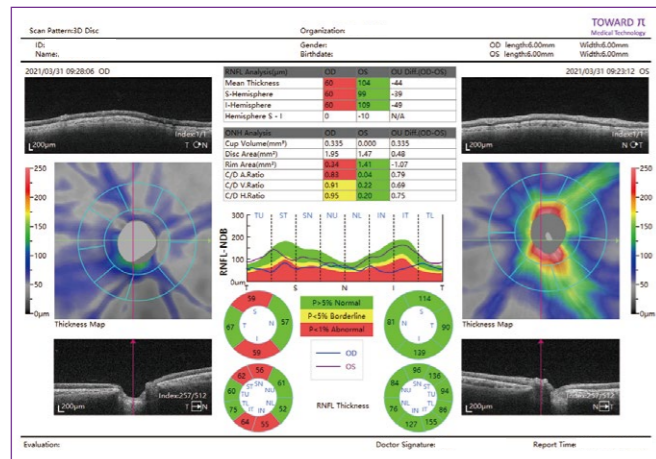
- Anterior parameters
- Optic nerve head analysis
- Ganglion map analysis
- Blood flow analysis



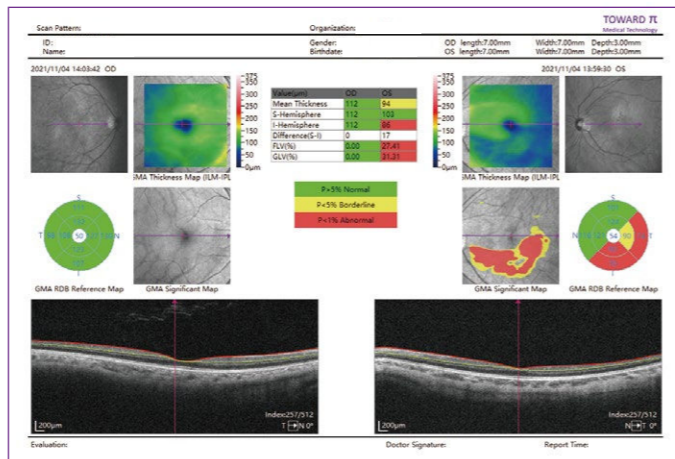
• Anterior parameters



• Blood flow analysis



• Optic nerve head analysis



• Ganglion map analysis

# Specification (YG-100K)

## Structural OCT

|                        |  |                |
|------------------------|--|----------------|
| Light source           | Swept Source                             |                |
| Wavelength             | 1060nm (±5%)                             |                |
| Scanning speed         | 100,000 A-scan/second                    |                |
| Scan length(anterior)  | 24mm                                     |                |
| Scan length(posterior) | 16mm                                     |                |
| Scan depth(anterior)   | 14mm                                     |                |
| Scan depth(posterior)  | 6mm                                      |                |
| Axial                  | optical resolution<br>digital resolution | 3.8µm<br>1.4µm |
| Lateral                | optical resolution<br>digital resolution | 10µm<br>1.4µm  |
| Dioptic range          | -20D ~ +15D                              |                |
| Pupil size             | ≥ 2.0mm                                  |                |

## Fundus Image

|                |       |
|----------------|-------|
| Module         | LSO   |
| Wavelength     | 840nm |
| Field of view  | 40°   |
| Tracking speed | 100Hz |

## OCTA

|            |                |
|------------|----------------|
| Anterior   | up to 16x16 mm |
| Posterior  | up to 12x12 mm |
| Montage    | up to 28x24 mm |
| Resolution | up to 768X768  |

## Network upgrade

|                 |
|-----------------|
| DICOM           |
| Review software |