

Biometry OCT in SOCT software 8.0 version

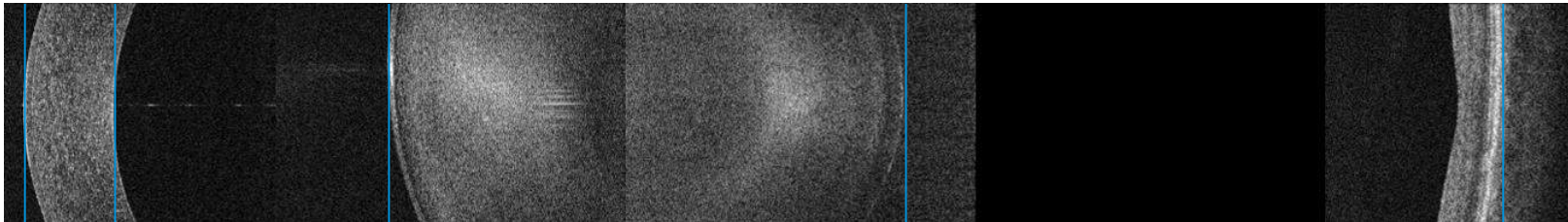
Biometry OCT

Biometry OCT

Innovative method of using the posterior OCT device to measure ocular structure along eye axis .

OCT-B based on measurements of the mutual position of individual eye elements.

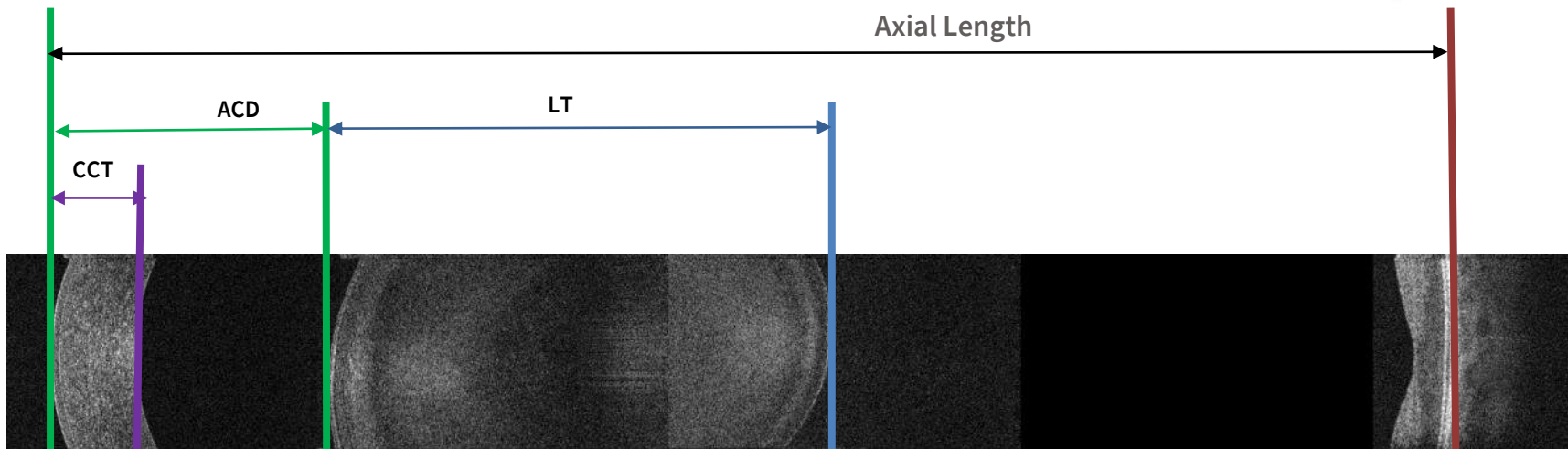
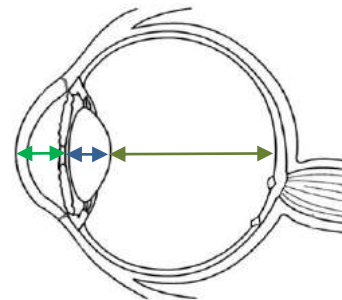
The Eye elements are measured individually. System captures separate exams and measures distances between structures of eye elements.



Biometry OCT

OCT Biometry provides:

- ▶ AL Axial Length SD +/- 0.032 mm
- ▶ ACD Anterior chamber depth SD +/- 0.037 mm
- ▶ LT Lens thickness SD +/- 0.038 mm
- ▶ CCT Cornea thickness SD +/- 6 μ m



2 Biometry programs:

- ▶ AL
 - AL., CCT, ACD, LT parameter
- ▶ ACD
 - CCT, ACD parameter

Acquisition method:

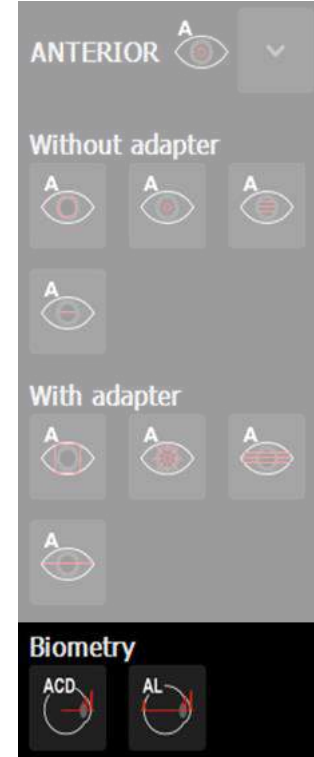
- ▶ Full Auto
- ▶ Auto

Number of repeats

- ▶ 5, 10, 15

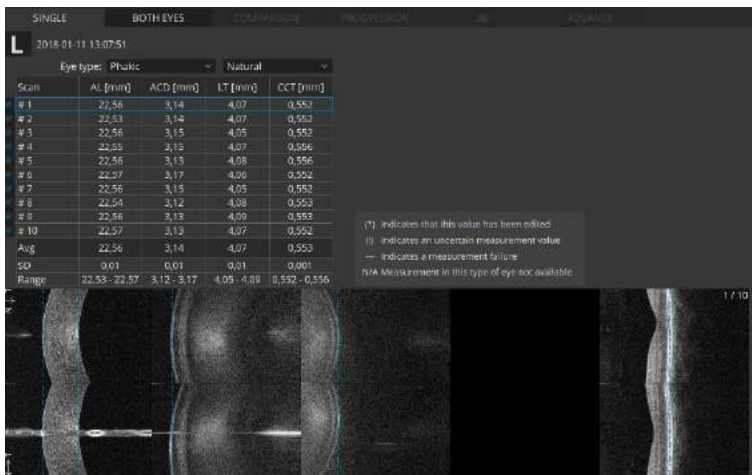
Acquisition time

- ▶ 5 AL. full measurements ~ 4 sec

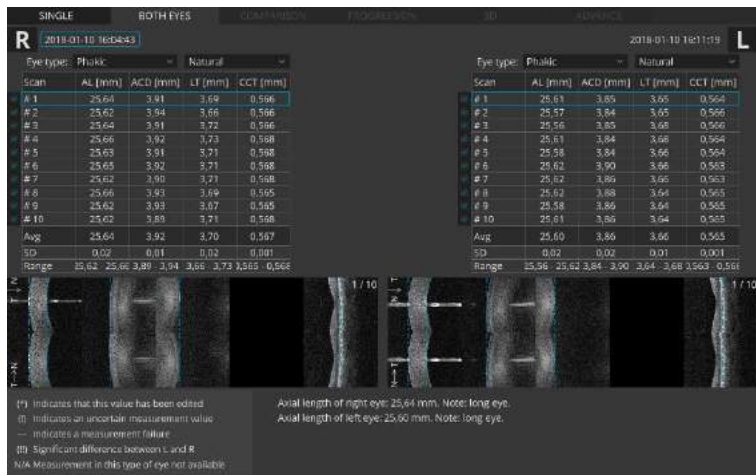


Analysis

Single view



Both eyes view



Result review window

► Single view and Both View

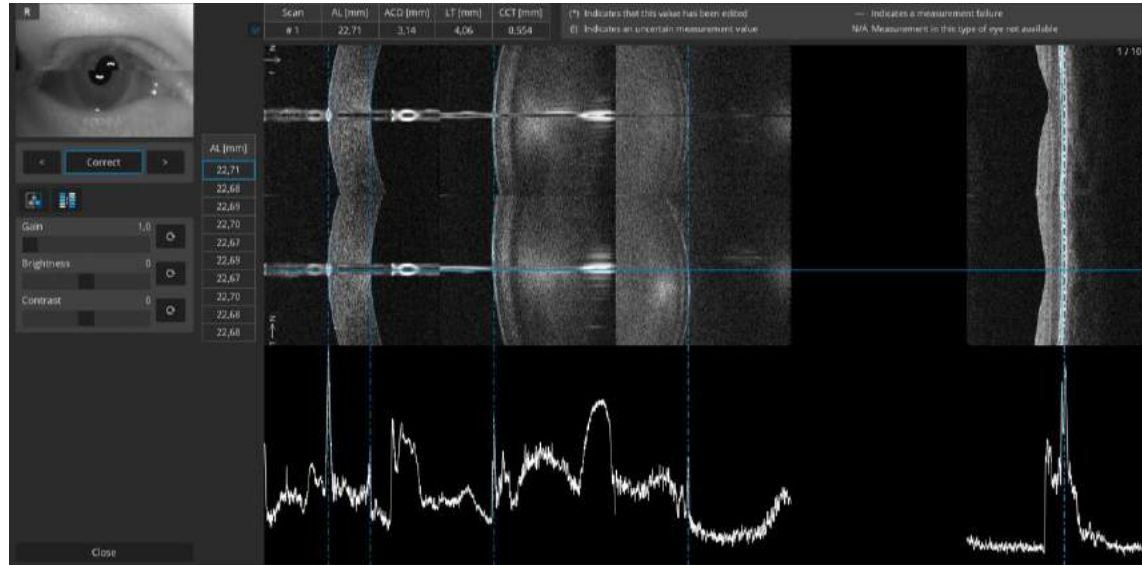
- Results table
- Result verification
- Excluding deviated results
- AVG and SD for measurements series

Biometry OCT

Analysis – Verification and correction

► Full screen view

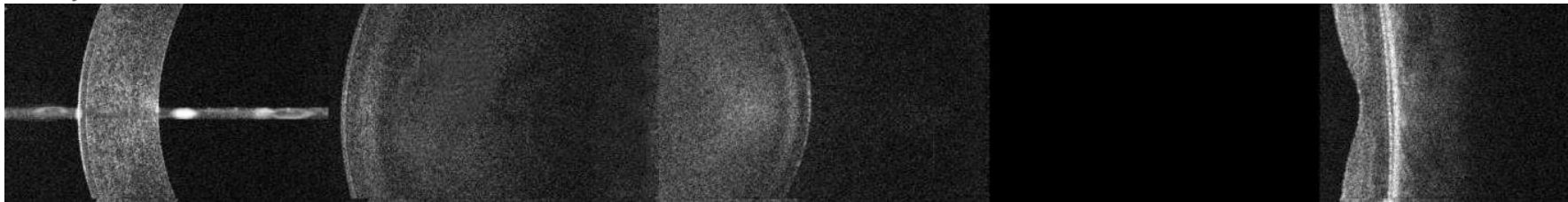
- Precise review of each measurement
- Manual correction of boundaries
- Echogram or precise manual alignment



Biometry OCT

Biometrical measurement sample cases

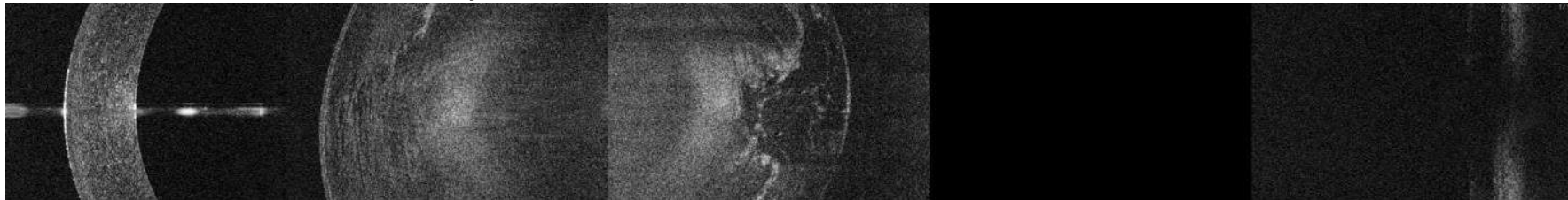
Healthy



Cataract



Dense cataract - still manual measurement is possible



Biometry OCT

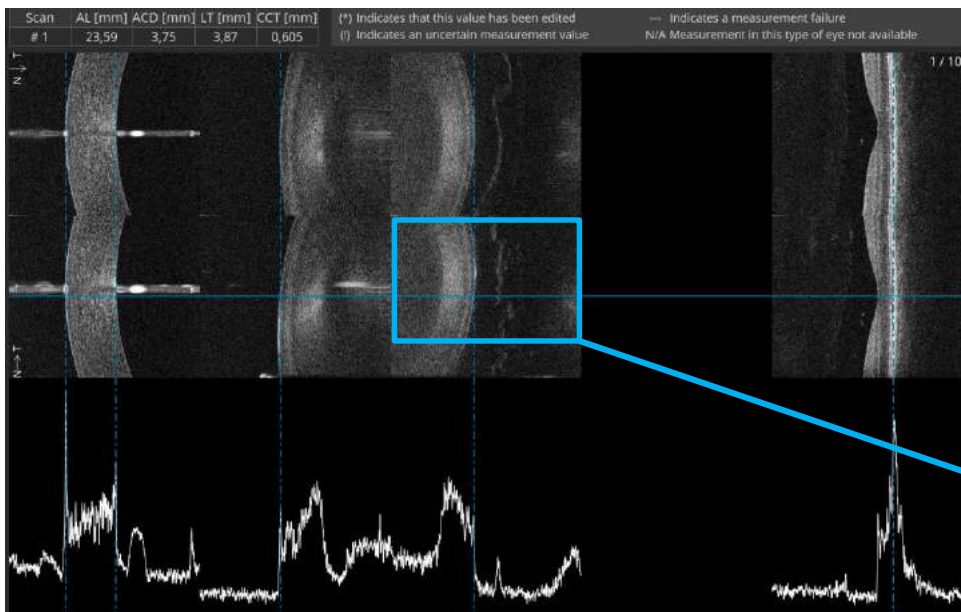
▶ Clinical use

- Axial distances measurement
- UBM verification
- AL in monitoring Hi myopic eyes
- ACD – management of glaucoma

▶ Benefits

- Extends the use of Standard OCT
 - OCT Biometry provides exact measured boundaries of ocular structures
 - Manual correction of boundaries which is not available in Gold standard
 - Verification and precise correction for non typical cases
 - Precise IOL detection for pseudo phakic eyes
-

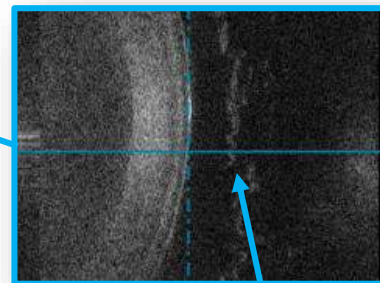
Biometry OCT



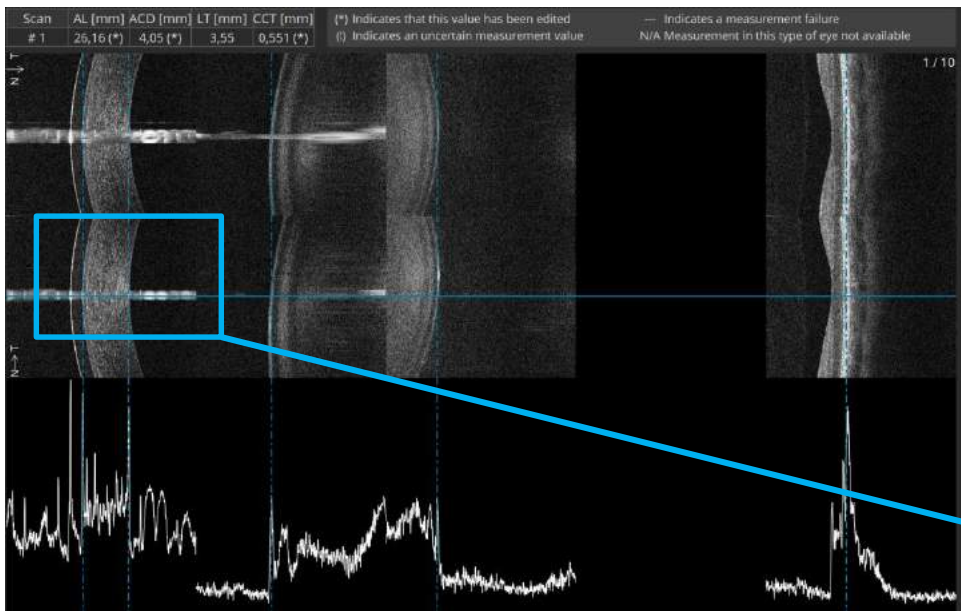
Male, 37 y/old

Healthy

Healthy subject with visible peak in the vitreous behind the crystalline lens Berger space and vitreous

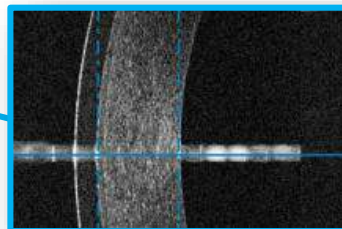


Biometry OCT

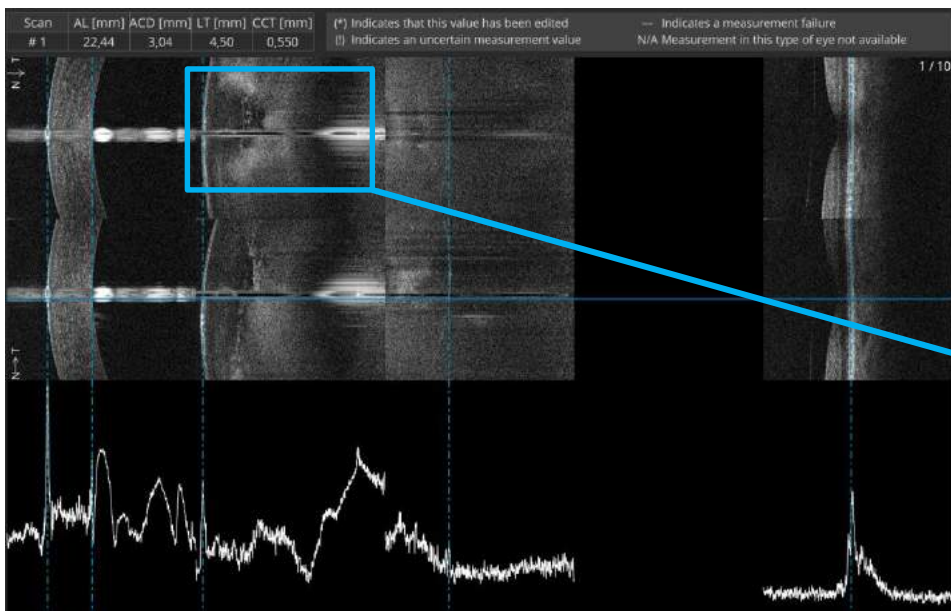


Male, 24 y/old
Healthy

**Patient with contact lens on the cornea – Only REVO is able provide correct measurement.
All other devices cannot detect the lens.**

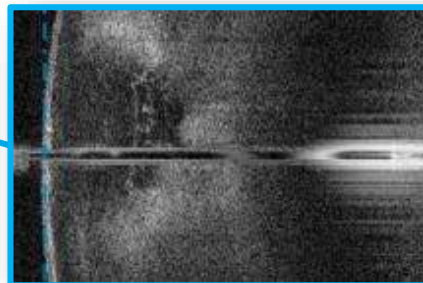


Biometry OCT

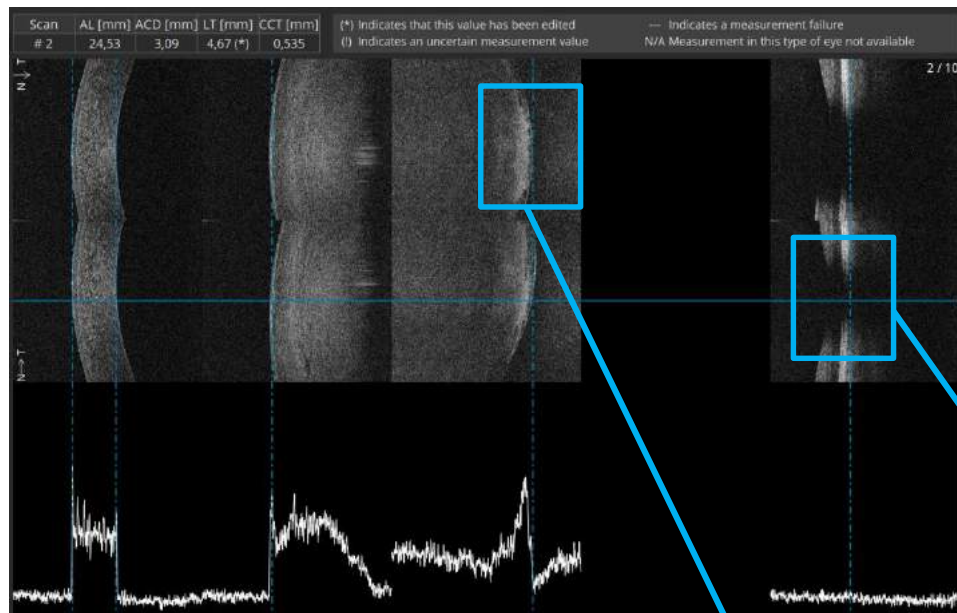


Female, 67 y.

Cataract

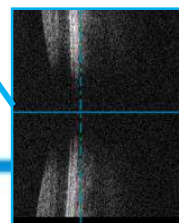
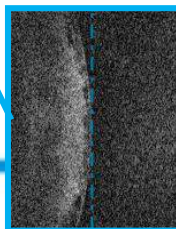


Biometry OCT



Female, 40 y/old

Cataract over posterior lens capsule



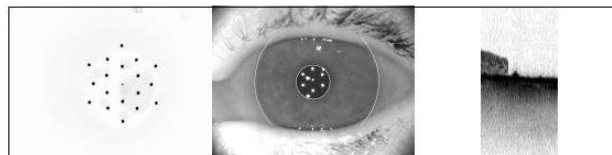
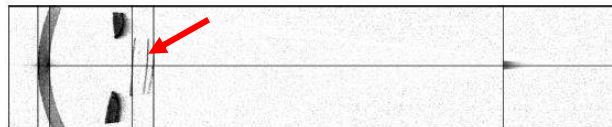
B-OCT™ Verification

Scan	AL [mm]	ACD [mm]	LT [mm]	CCT [mm]
# 1	22.49	5.57	-0.21	0.525
# 2	22.49	5.56	-0.21	0.523
# 3	22.52	5.60	-0.27	0.523
# 4	22.54	5.62	-0.28	0.517
# 5	22.54	5.60	-0.24	0.517
# 6	22.56	5.64	-0.30	0.525
# 7	22.53	5.66	-0.28	0.525
# 8	22.44	5.60	-0.31	0.523
# 9	22.43 (*)	4.55 (*)	0.67 (*)	0.538 (*)
# 10	22.54	5.64	-0.29	0.519
Avg	22.51	5.59	-0.17	0.524
SD	0.05	0.36	0.32	0.006
Range	22.43 - 22.56	4.55 - 5.66	-0.31 - 0.67	0.517 - 0.538

(*) Indicates that this value has been edited
 (†) Indicates an uncertain measurement value
 — Indicates a measurement failure
 N/A Measurement in this type of eye not available



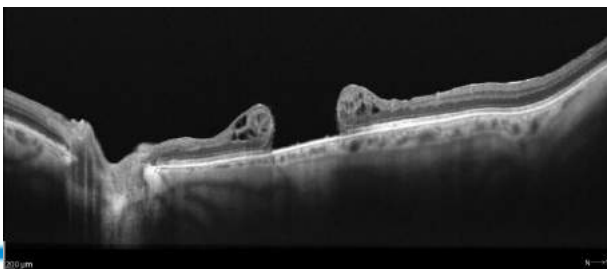
Analysis		OS left	
Measurement values		Keratometry values	
AL: 22.47 mm	(SD = 8 µm)	n: 1.3375	
ACD: 4.50 mm	(SD = 13 µm)	SE: 45.85 D	(SD = 1 µm)
LT: 0.95 mm	(SD = 25 µm)	K1: 44.90 D @ 158°	(SD = 4 µm)
		K2: 46.85 D @ 68°	(SD = 3 µm)
		Δ D: -1.95 D @ 158°	
Central corneal thickness		WTW and pupil values (CW-Chord)	
CCT: 524 µm	(SD = 4 µm)	WTW: 12.0 mm	Ix: -0.4 mm Iy: +0.2 mm
		P: 3.3 mm	Px: +0.0 mm Py: +0.2 mm



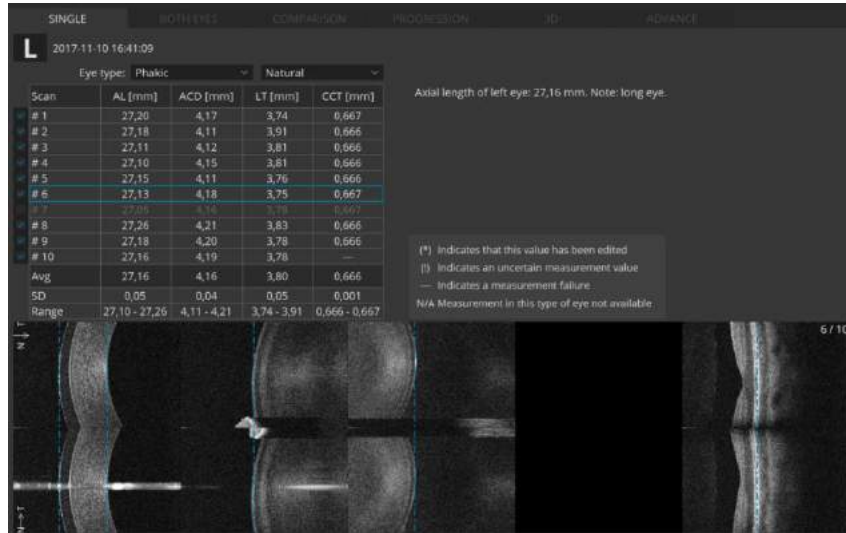
Female, 68 y.

Patient with Macular hole after PPV treatment

IOL 700 LT measurement error

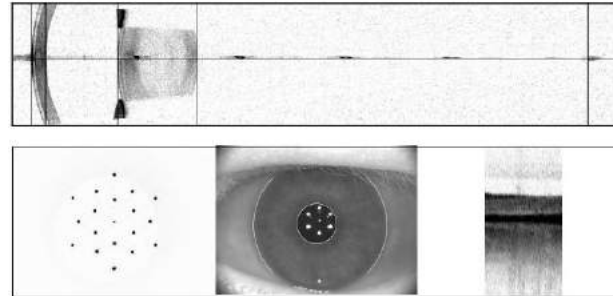


B-OCT™ Verification



	IOL 700	REVO NX
AL [mm]	27,16	27,16
ACD [mm]	4,13	4,16
LT [mm]	3,83	3,80
CCT [mm]	0,674	0,666

Analysis		OS left
Measurement values		Keratometry values
AL: 27.16 mm (SD = 6 µm)	ACD: 4.13 mm (SD = 6 µm)	LT: 3.83 mm (SD = 11 µm)
Central corneal thickness		WTW and pupil values (CW-Chord)
CCT: 674 µm (SD = 2 µm)		SE: 36.93 D (SD = 2 µm)
		K1: 36.43 D @ 170° (SD = 3 µm)
		K2: 37.45 D @ 80° (SD = 4 µm)
		ΔD: -1.02 D @ 170°
		WTW: 12.9 mm Ix: -0.1 mm Iy: +0.5 mm
		P: 3.8 mm Px: +0.3 mm Py: +0.3 mm



Patient:

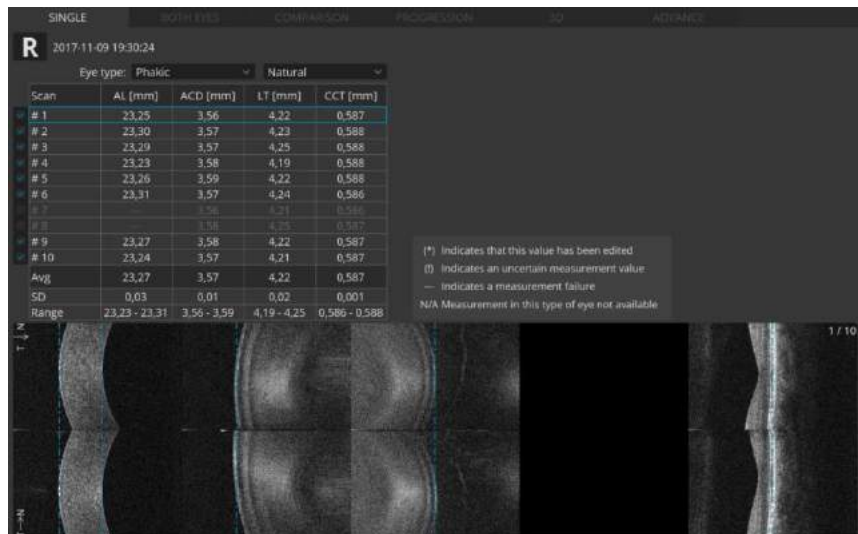
Male, 40 y.

Contact lens on the cornea, myopic patient.

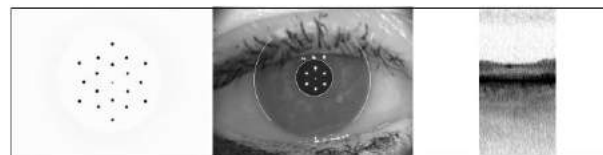
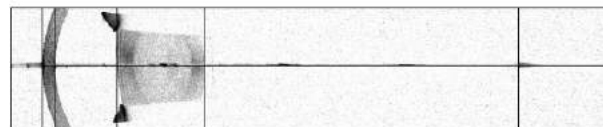
In REVO NX it is possible to modified detected boundary position

In IOL it is not possible to modify detected boundaries.

B-OCT™ Verification



OD right	Analysis	
	Measured values AL: 23.27 mm (SD = 5 µm) ACD: 3.58 mm (SD = 4 µm) LT: 4.22 mm (SD = 6 µm)	
Central corneal thickness CCT: 583 µm (SD = 4 µm)		WTW and pupil values (CW-Chord) WTW: 11.3 mm lx: +0.3 mm ly: +0.2 mm P: 3.6 mm Px: +0.1 mm Py: -0.1 mm



	IOL 700	REVO NX
AL [mm]	23,27	23,27
ACD [mm]	3,58	3,57
LT [mm]	4,22	4,22
CCT [mm]	0,583	0,587

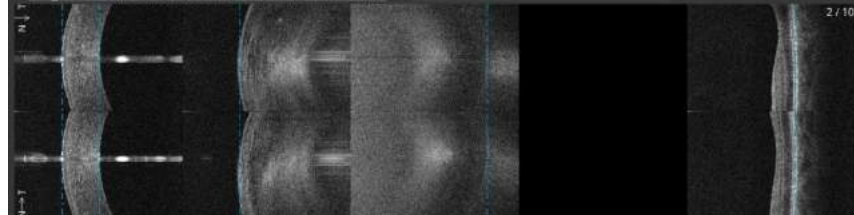
Female, 50 y.

Healthy

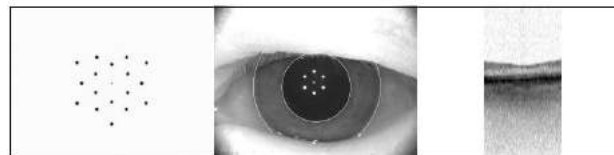
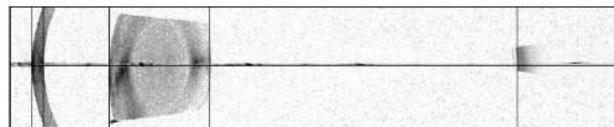
B-OCT™ Verification

Scan	AL [mm]	ACD [mm]	LT [mm]	CCT [mm]
# 1	23,52	3,66	4,96 (*)	0,516
# 2	23,50	3,65	4,88	0,516
# 3	23,51	3,66	4,92 (*)	0,516
# 4	23,46	3,72	4,96 (*)	0,513
# 5	23,50	3,61	4,91 (*)	0,513
# 6	23,52	3,64	4,92	0,517
# 7	23,50	3,66	4,95 (*)	0,517
# 8	23,49	3,65	4,93	0,516
# 9	23,50	3,65	4,93 (*)	0,516
# 10	23,47	3,64	4,88	0,507
Avg	23,50	3,66	4,93	0,515
SD	0,02	0,03	0,03	0,001
Range	23,46 - 23,52	3,61 - 3,72	4,88 - 4,96	0,513 - 0,517

(*) Indicates that this value has been edited
 [] Indicates an uncertain measurement value
 — Indicates a measurement failure
 N/A Measurement in this type of eye not available



Analysis		OS left	
Measurement values		Keratometry values	
AL: 23.50 mm	(SD = 6 µm)	n: 1.3375	
ACD: 3.67 mm	(SD = 3 µm)	SE: 43.62 D (I)	(SD = 2 µm)
LT: 4.86 mm	(SD = 22 µm)	K1: 43.30 D @ 93°	(SD = 4 µm)
		K2: 43.74 D @ 3°	(SD = 2 µm)
		Δ D: -0.44 D @ 93°	
Central corneal thickness		WTW and pupil values (CW-Chord)	
CCT: 519 µm	(SD = 3 µm)	WTW: 12.3 mm	Ix: -0.3 mm Iy: +0.4 mm
		P: 6.7 mm	Px: -0.2 mm Py: +0.5 mm

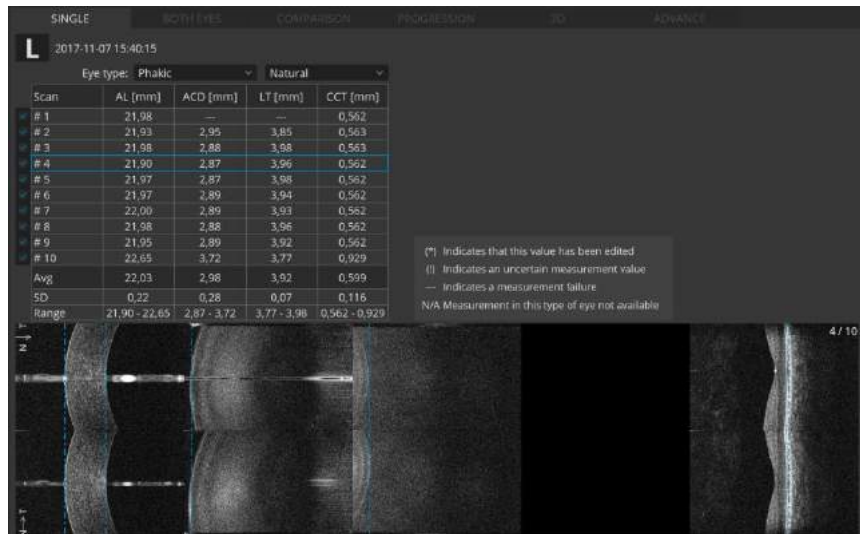


	IOL 700	REVO NX
AL [mm]	23,50	23,50
ACD [mm]	3,67	3,66
LT [mm]	4,86	4,93
CCT [mm]	0,519	0,515

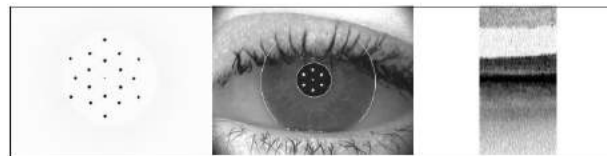
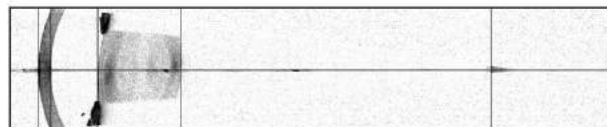
Patient:
Male, 72 y.

Cataract

B-OCT™ Verification



Analysis		OS left	
Measurement values		Keratometry values	
AL: 21.94 mm (SD = 4 µm)	ACD: 2.81 mm (SD = 12 µm)	n: 1.3375	
LT: 3.99 mm (SD = 16 µm)		SE: 45.05 D (!) (SD = 4 µm)	K1: 44.45 D @ 167° (SD = 4 µm)
		K2: 45.67 D @ 77° (SD = 7 µm)	ΔD: -1.22 D @ 167°
Central corneal thickness		WTW and pupil values (CW-Chord)	
CCT: 559 µm (SD = 4 µm)		WTW: 11.1 mm	Ix: -0.5 mm Iy: +0.2 mm
		P: 3.4 mm	Px: -0.1 mm Py: +0.0 mm

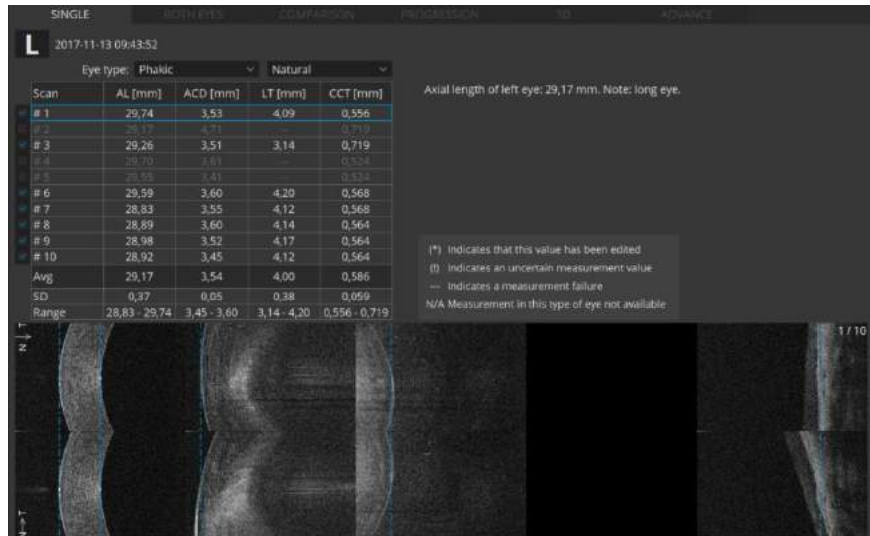


	IOL 700	REVO NX
AL [mm]	21,94	22,03
ACD [mm]	2,81	2,98
LT [mm]	3,99	3,92
CCT [mm]	0,559	0,599

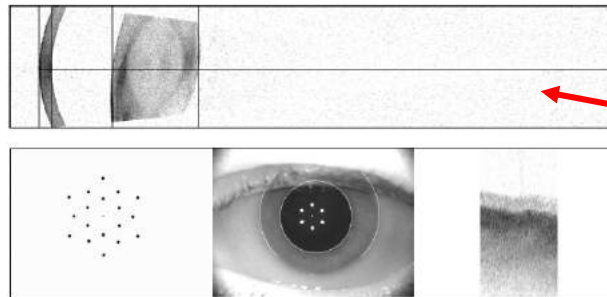
Female, 31 y.

Healthy

B-OCT™ Verification



Analysis		OS left	
Measurement values		Keratometry values	
AL: 28.94 mm (l)	(SD = 22 μm)	SE: 44.50 D	(SD = 4 μm)
ACD: 3.49 mm	(SD = 10 μm)	K1: 43.82 D @ 162°	(SD = 4 μm)
LT: 4.15 mm	(SD = 18 μm)	K2: 45.21 D @ 72°	(SD = 8 μm)
		Δ D: -1.39 D @ 162°	
Central corneal thickness		WTW and pupil values (CW-Chord)	
CCT: 567 μm	(SD = 5 μm)	WTW: 11.8 mm	Ix: -0.7 mm Iy: -0.1 mm
		P: 7.0 mm	Px: -0.4 mm Py: +0.1 mm



	IOL 700	REVO NX
AL [mm]	28,94	29,17
ACD [mm]	3,49	3,54
LT [mm]	4,15	4,00
CCT [mm]	0,567	0,586

Patient:
 Female, 55 y.
 Cataract

The biggest difference in comparison study
 IOL does not show detected boundaries
 Long eye ball AL~29mm

