SIEMENS Healthineers

ACUSON Sequoia Ultrasound System

Major Modes
Release 3.5 (VB30)

Objectives

- **Review B-mode and M-mode controls**
- Describe B-mode and M-mode optimization features
- Explain display modes
- Review Doppler controls
- Describe Doppler optimization features

Mode imaging parameters

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Selection Screen

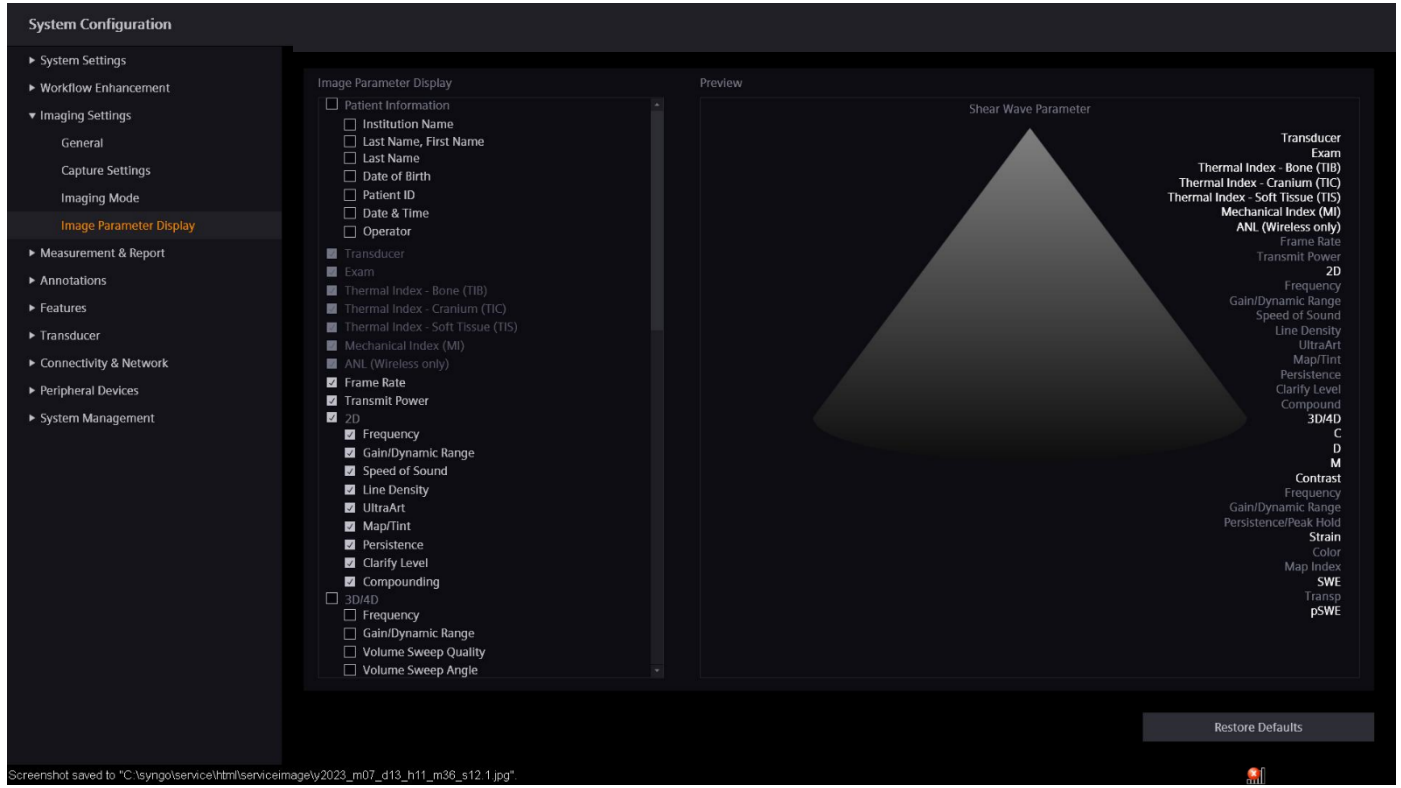
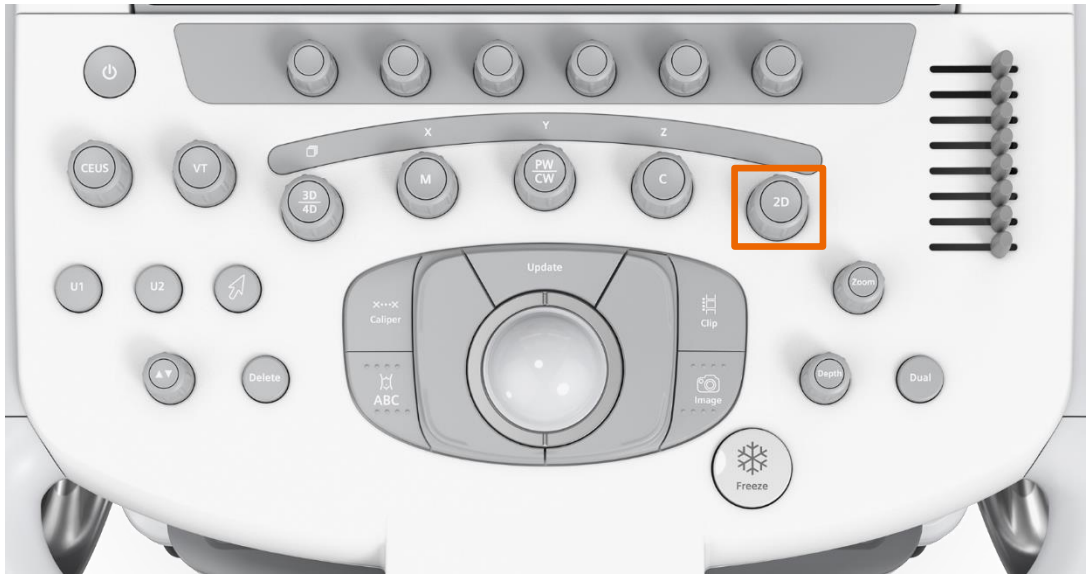


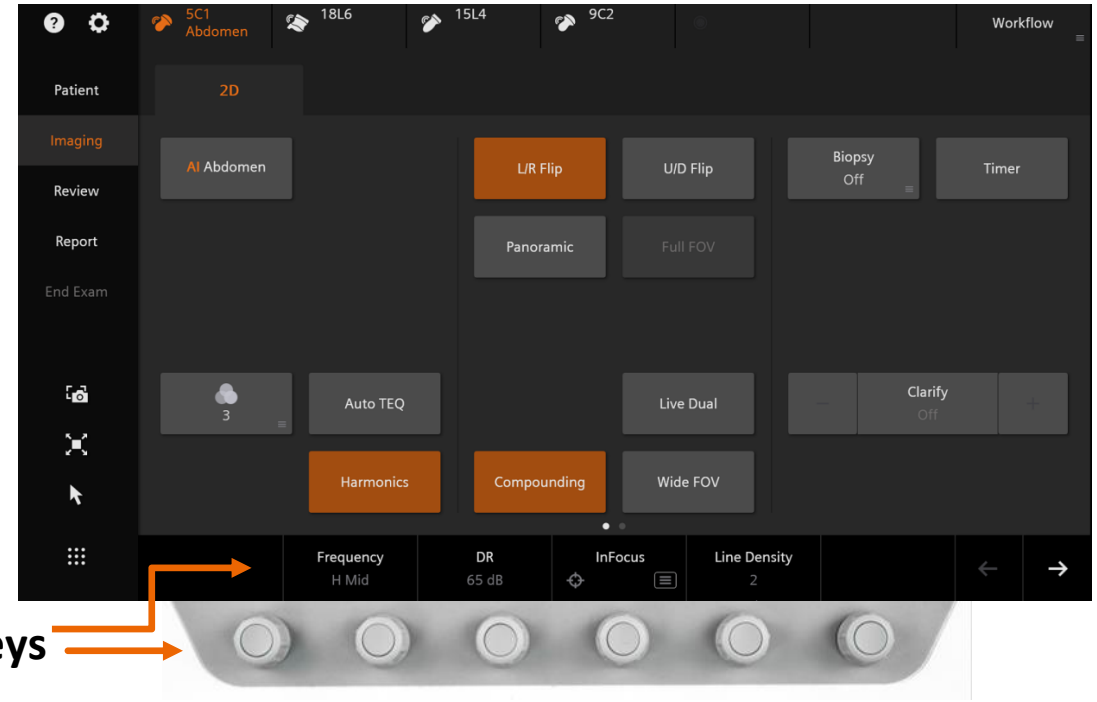
Image Screen Display

B-mode controls

Control Panel



Touch Screen



Soft Keys

Control panel

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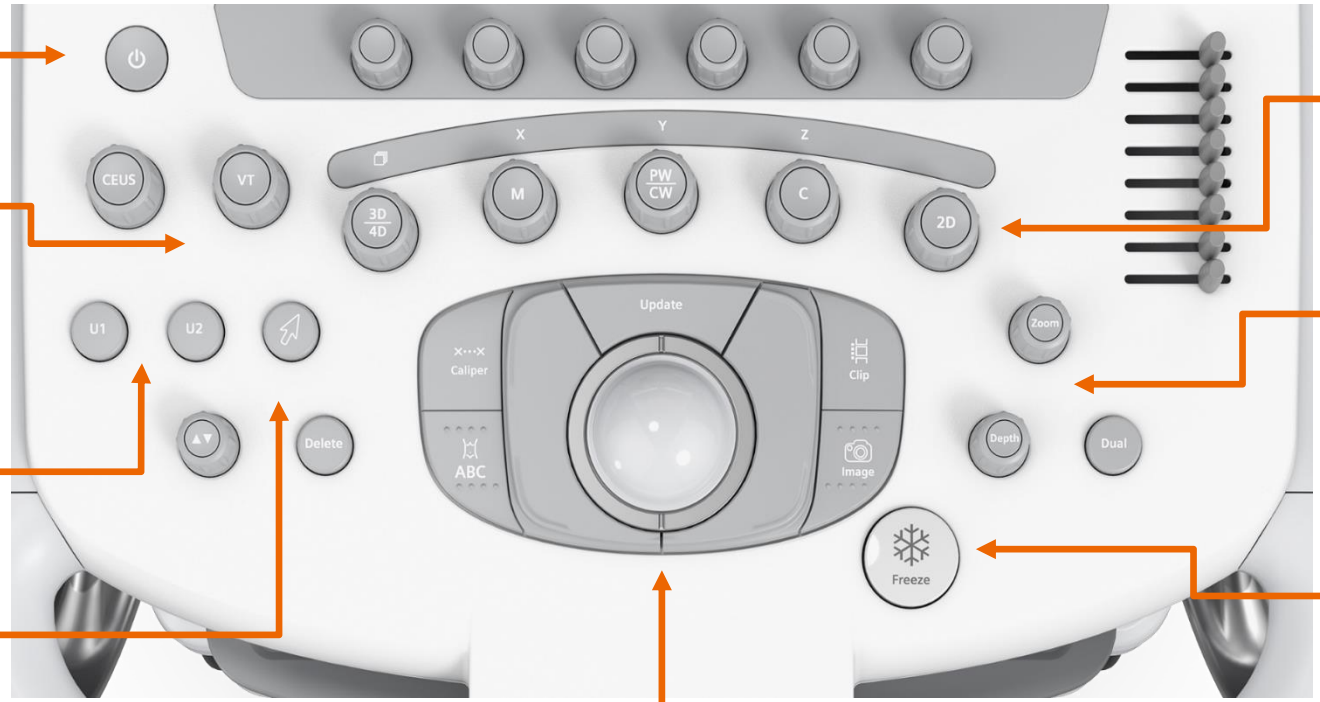
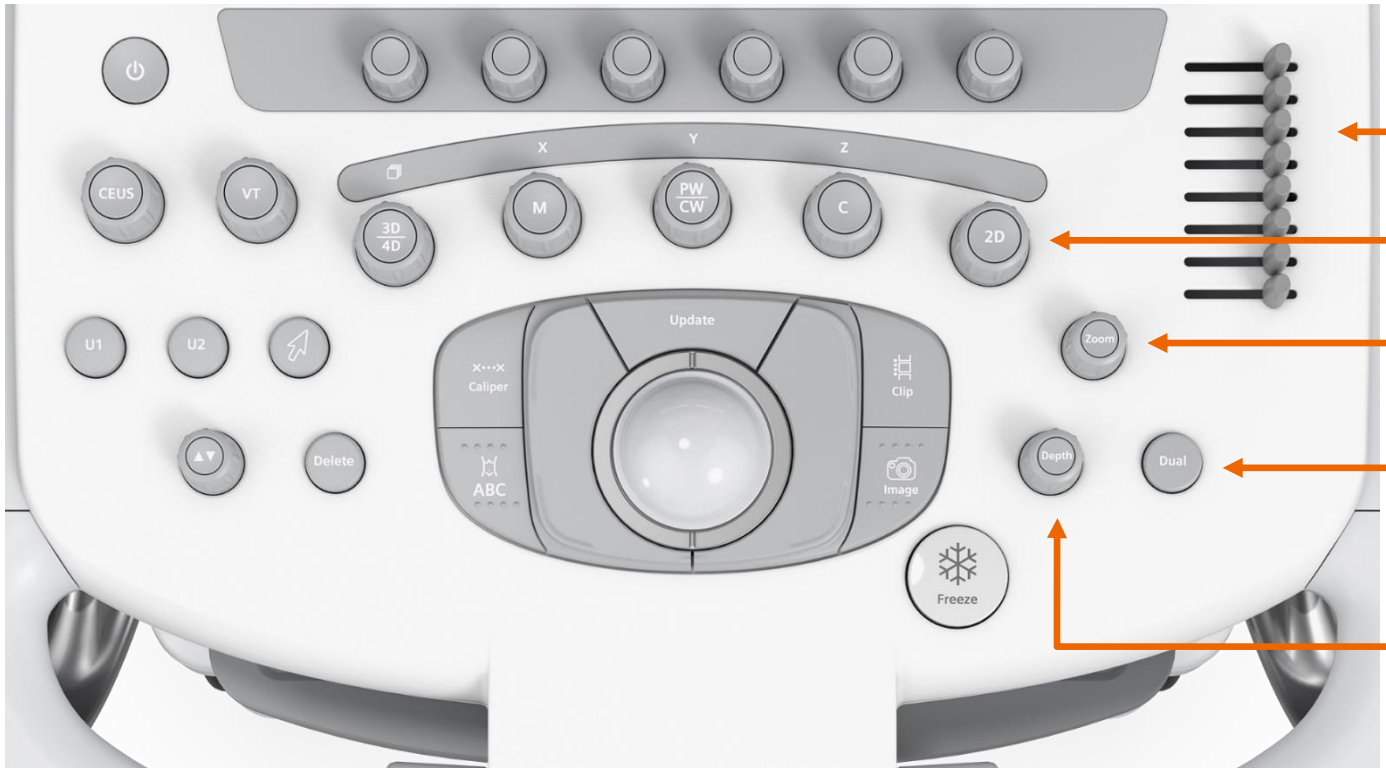
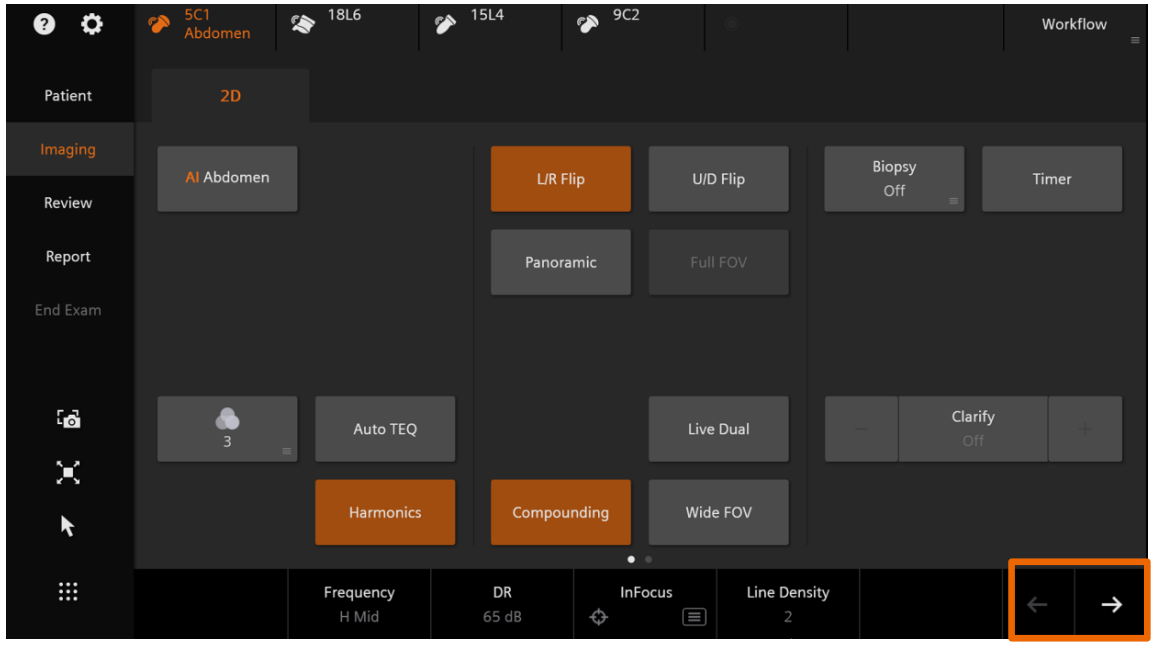
Soft key rotary controls



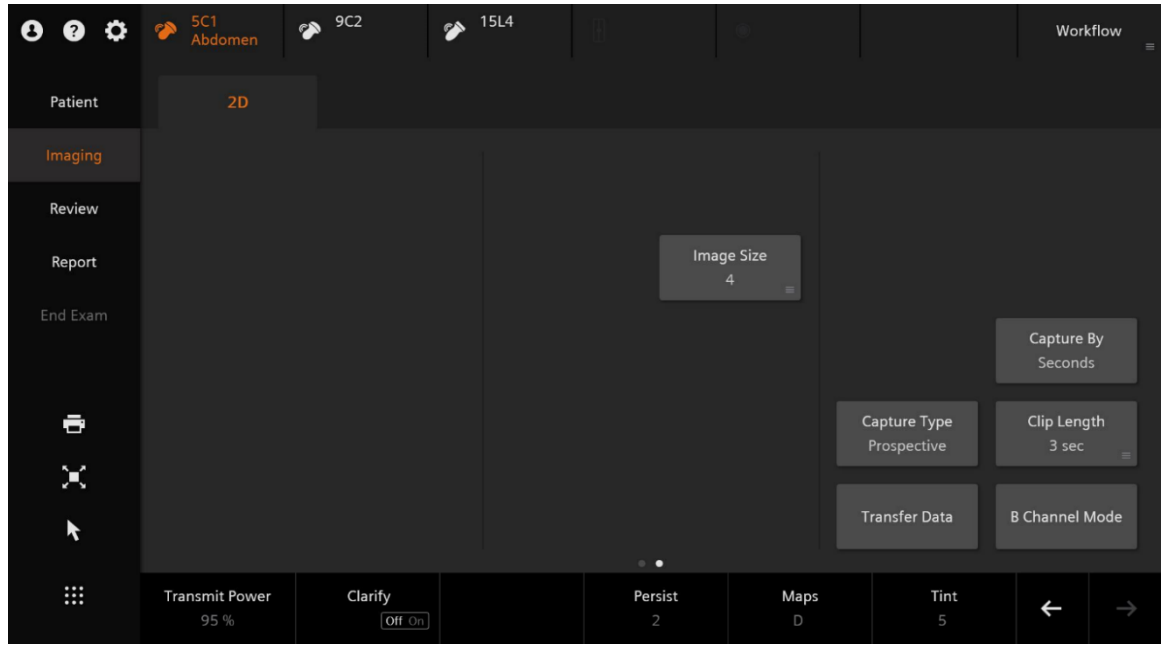
B-mode controls on the Control Panel



B-mode controls on the Touch Screen

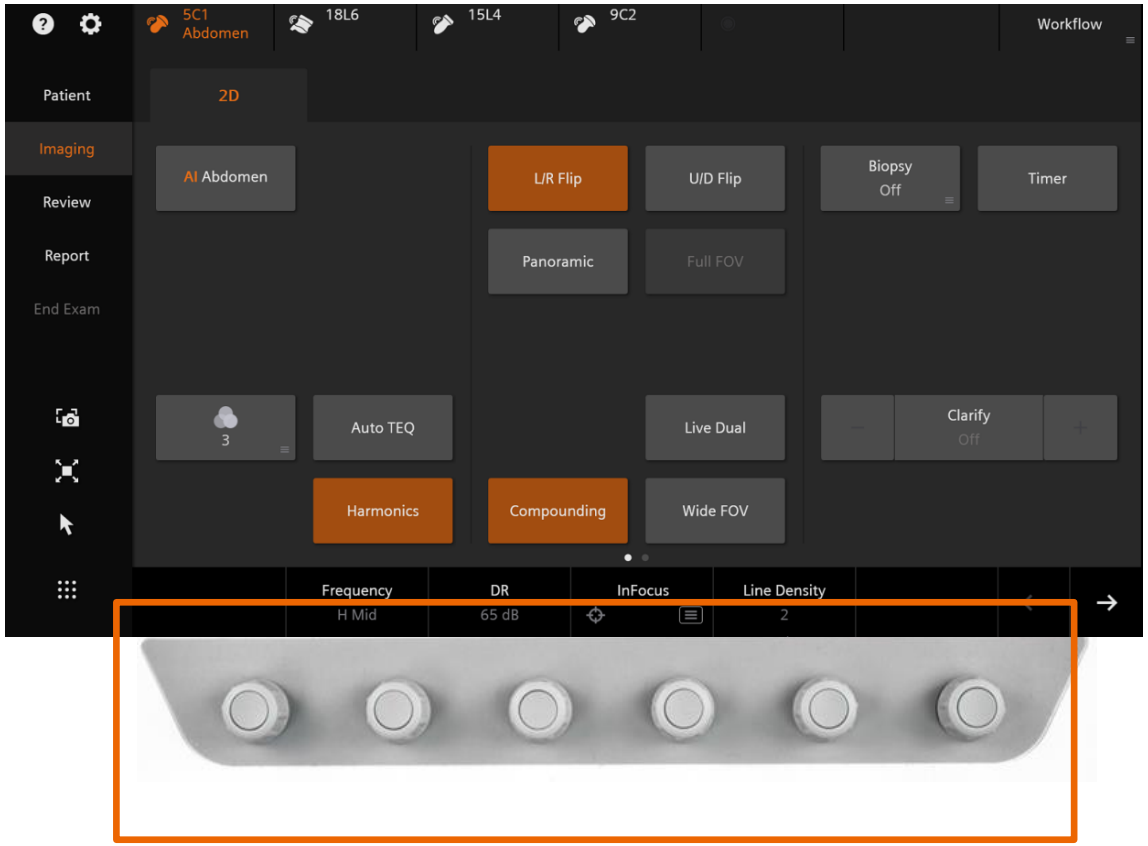


Page One

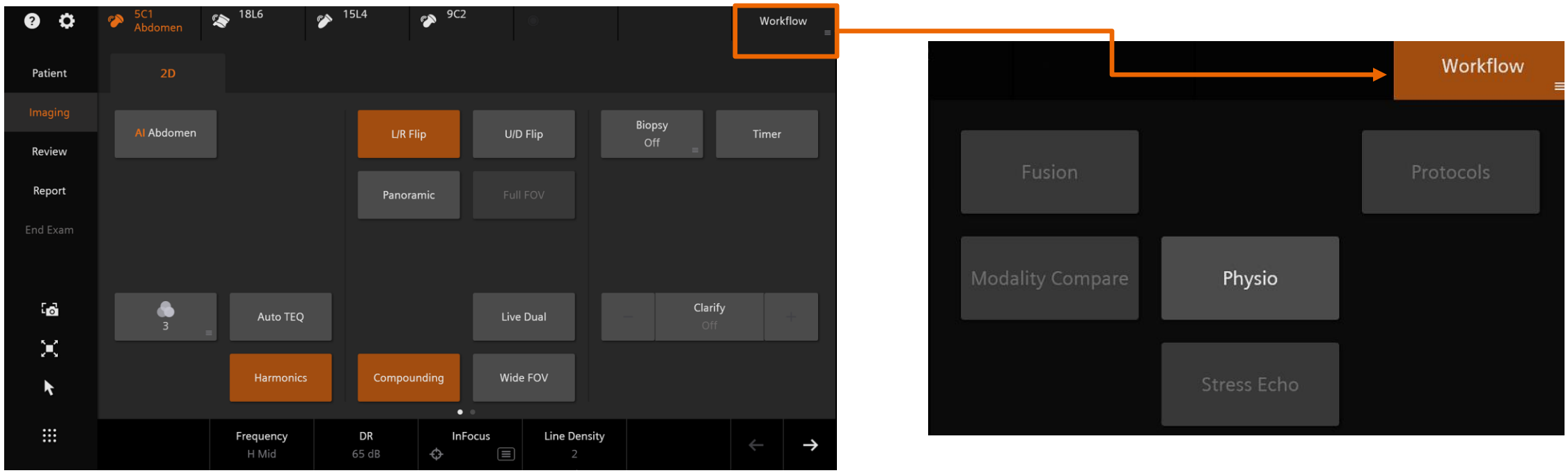


Page Two

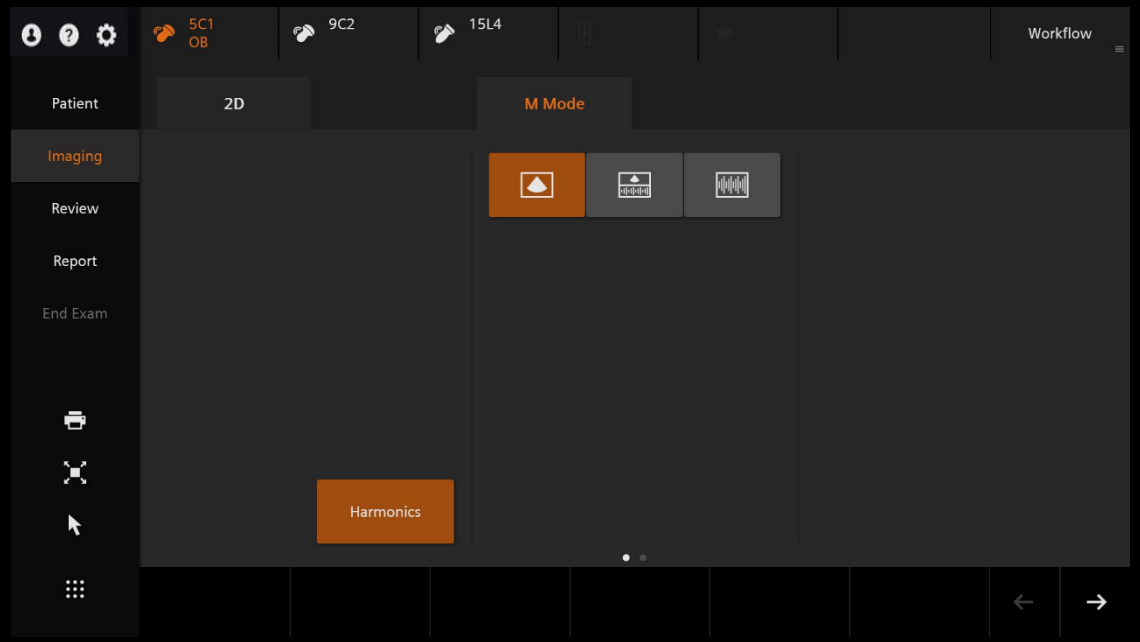
B-mode controls on the soft keys

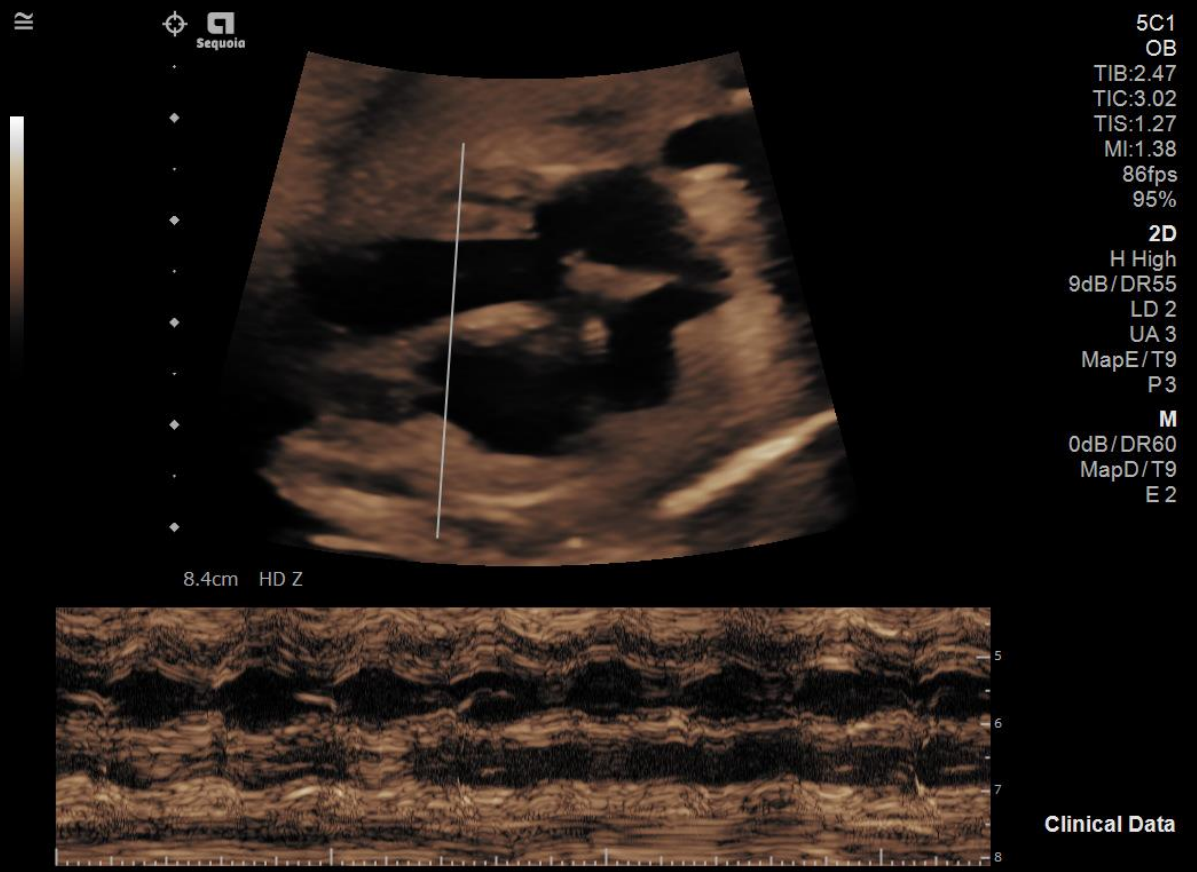


Workflow control

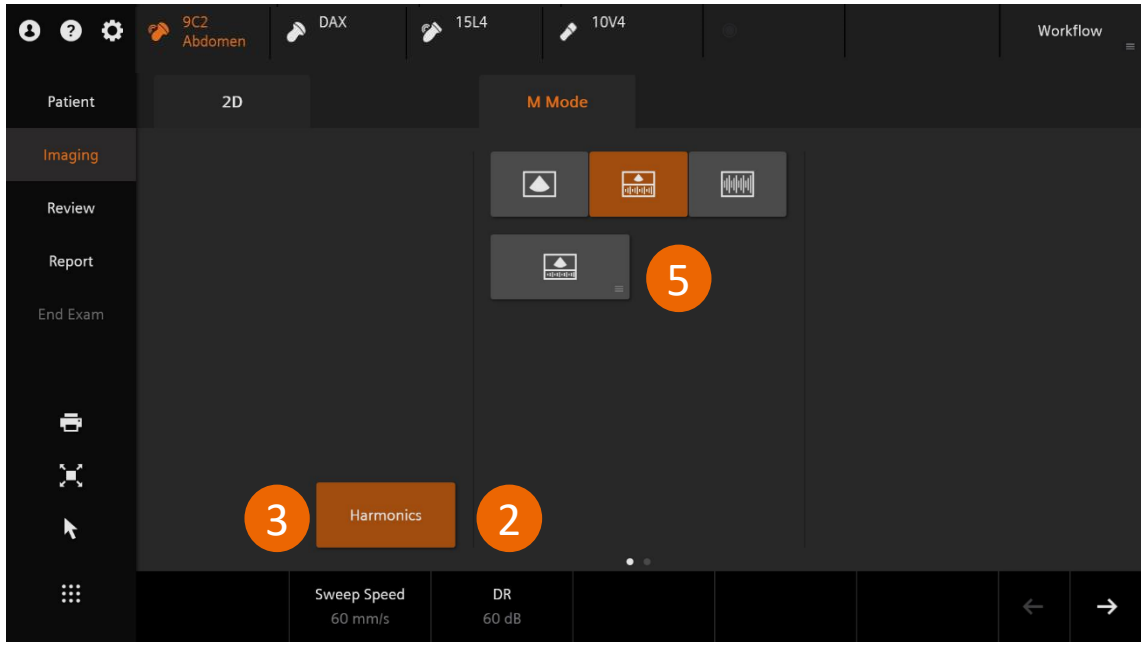


M-mode controls

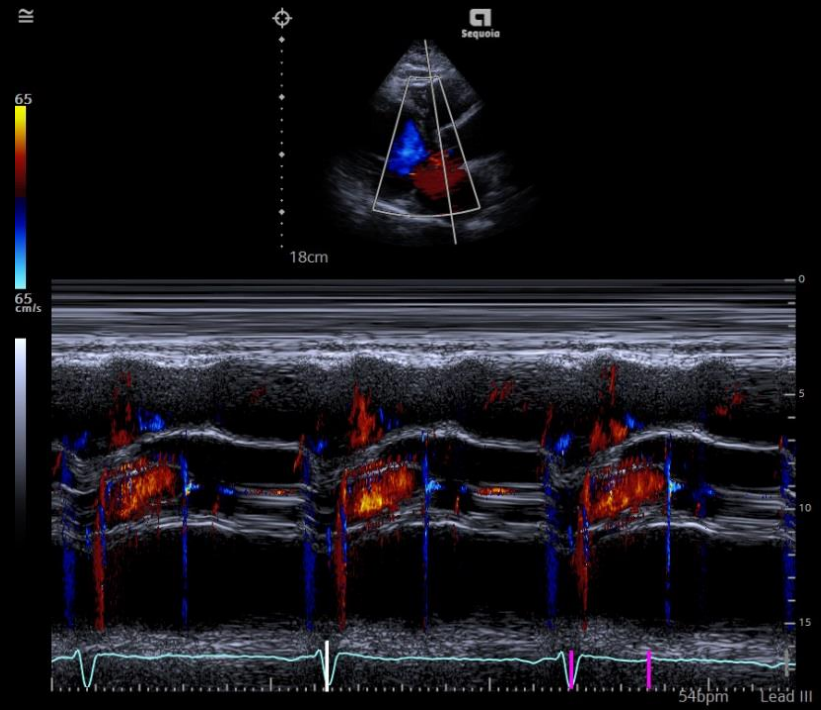


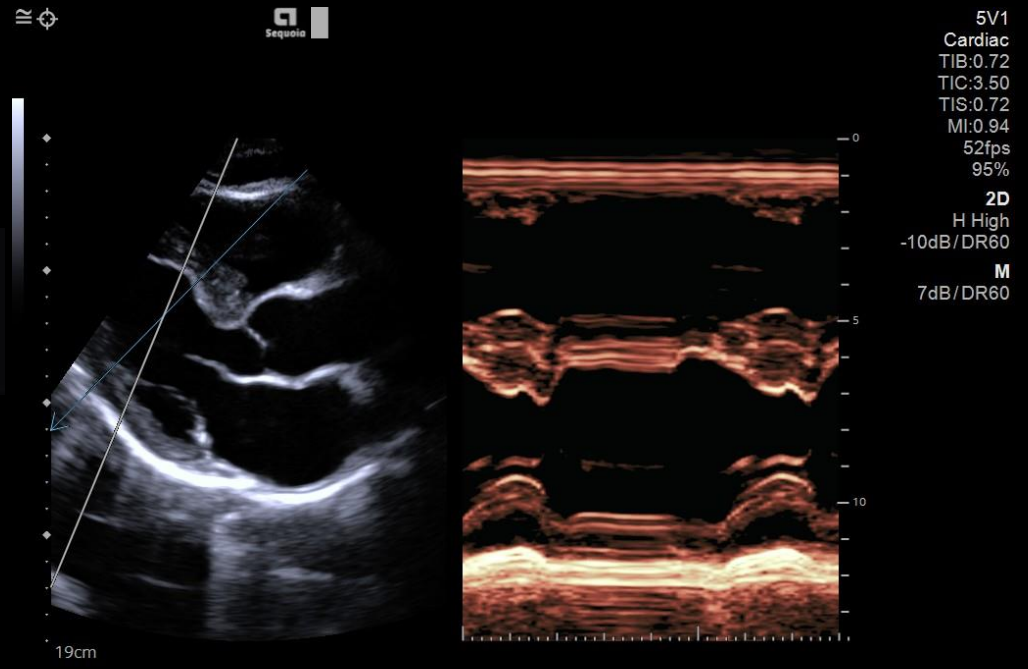


M-mode Touch Screen controls



Anatomic and color M-mode





Objectives

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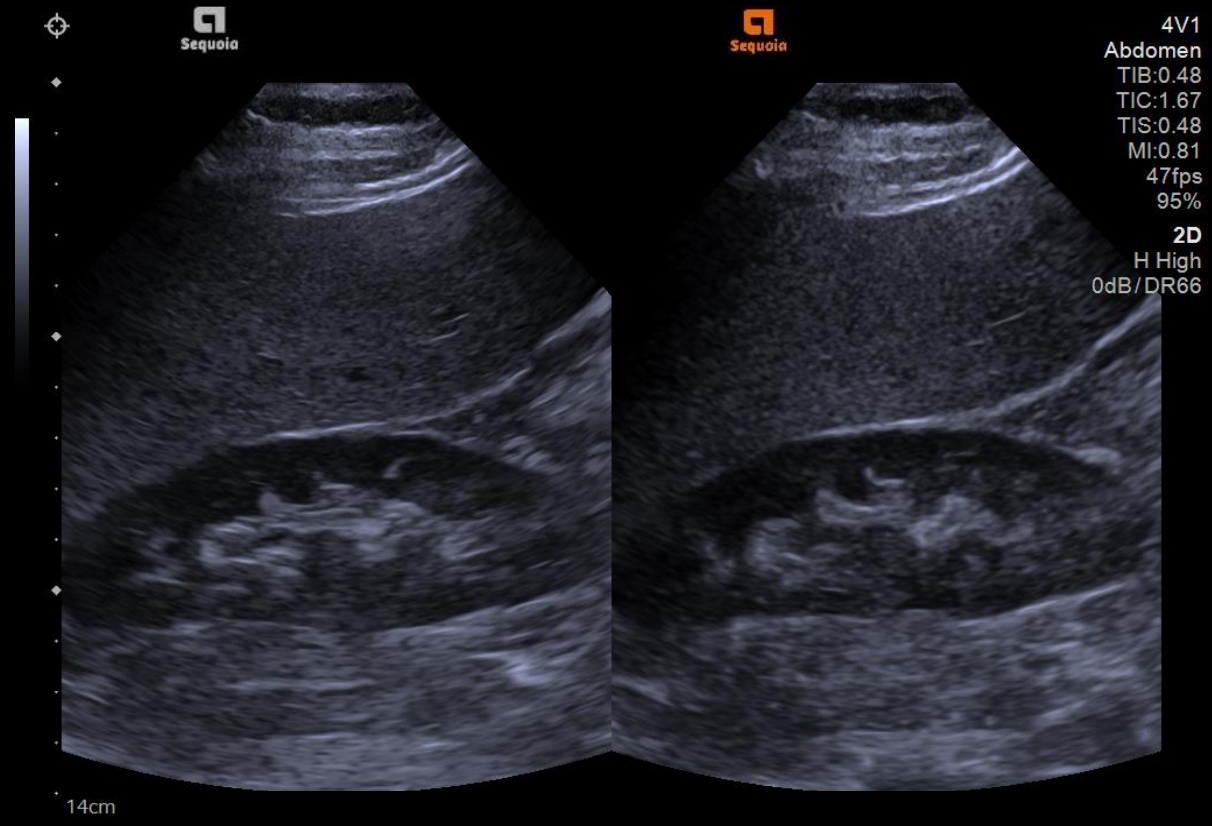
- Describe Doppler optimization features

Auto TEQ image optimization

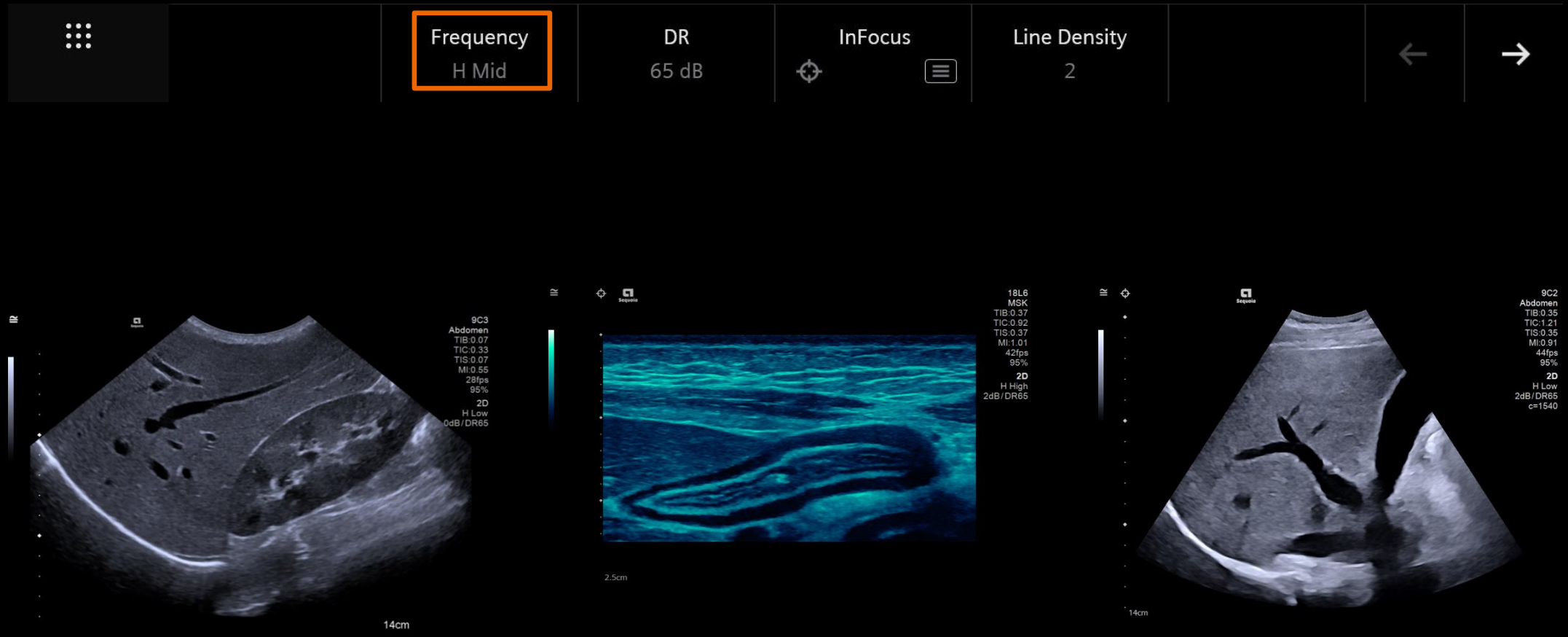
Harmonic imaging

Harmonics

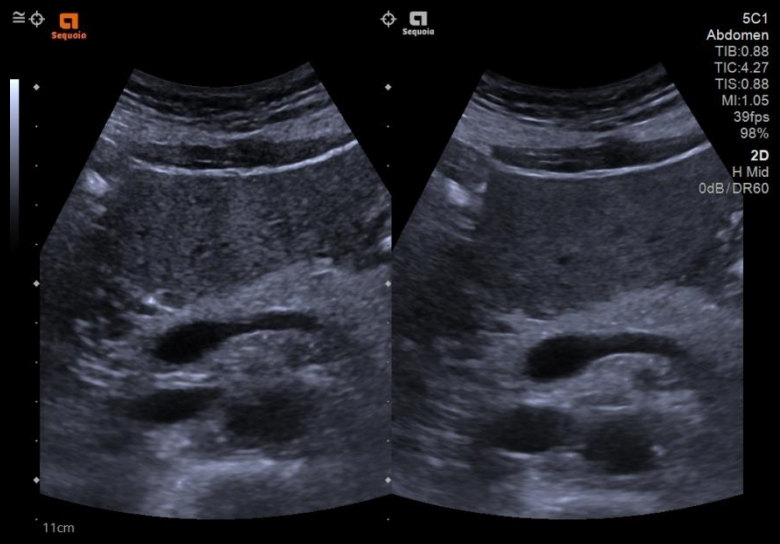


Fundamental Harmonics

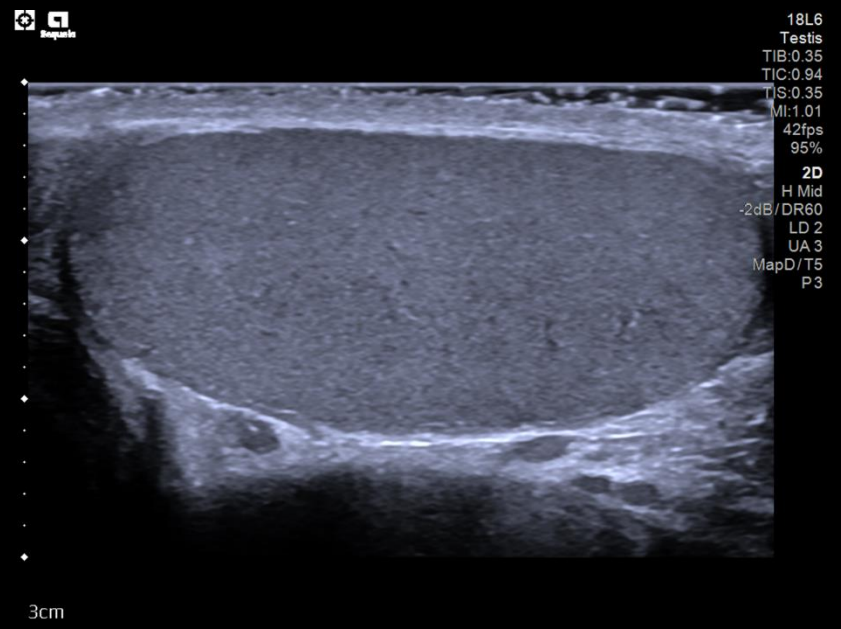
Frequency imaging



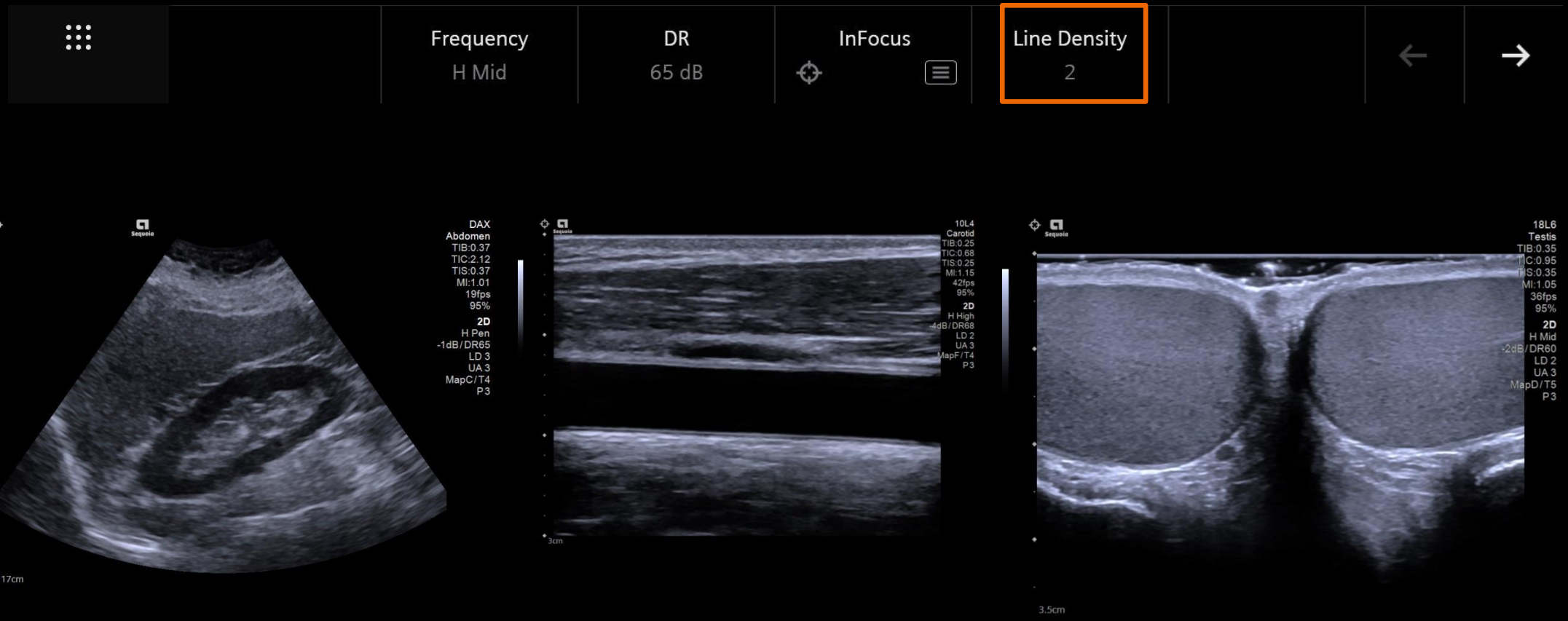
Compounding



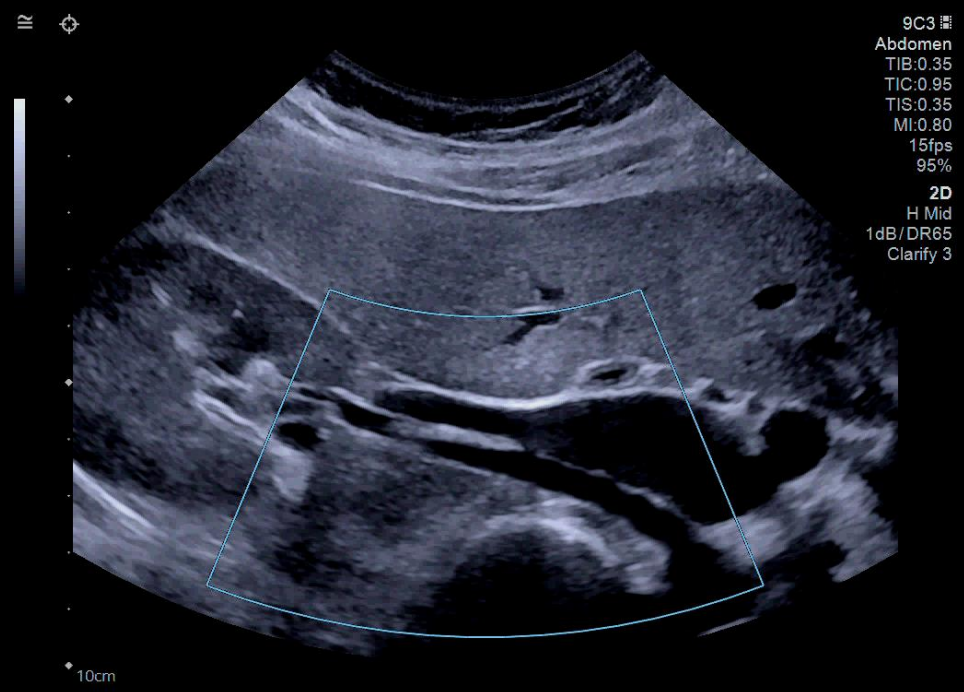
Off On

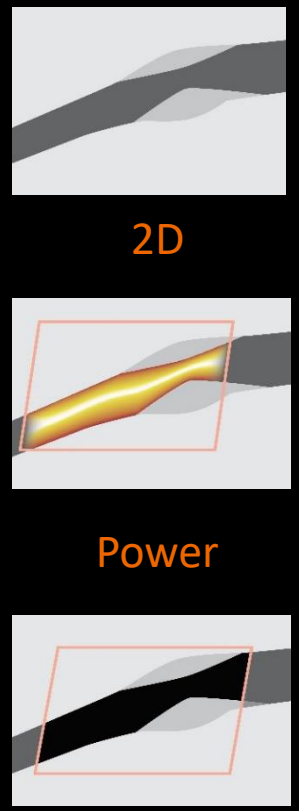


Line Density



Clarify vascular enhancement (VE) technology



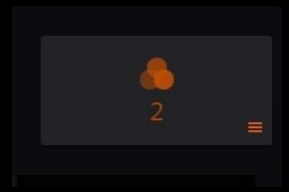


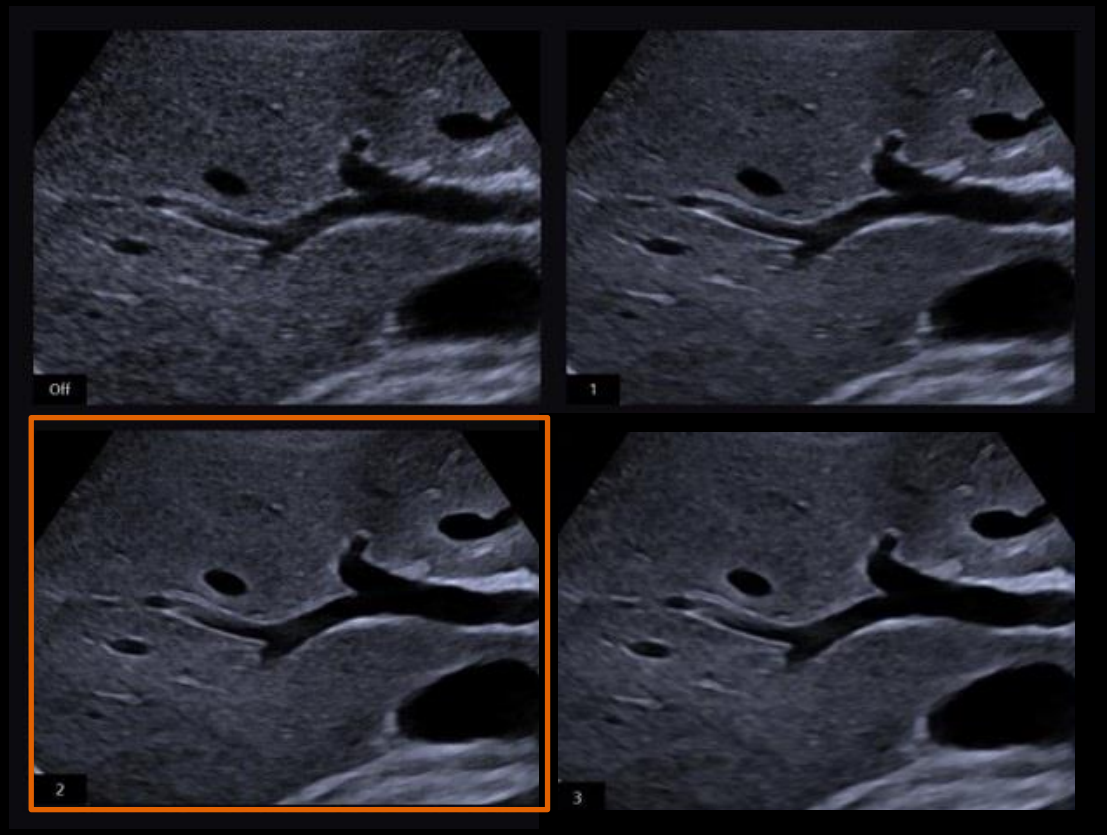
- Uses Power Doppler amplitude information to enhance B-mode imaging
- Reduces artifacts in vessels and improves vessel wall definition

Clarify VE technology

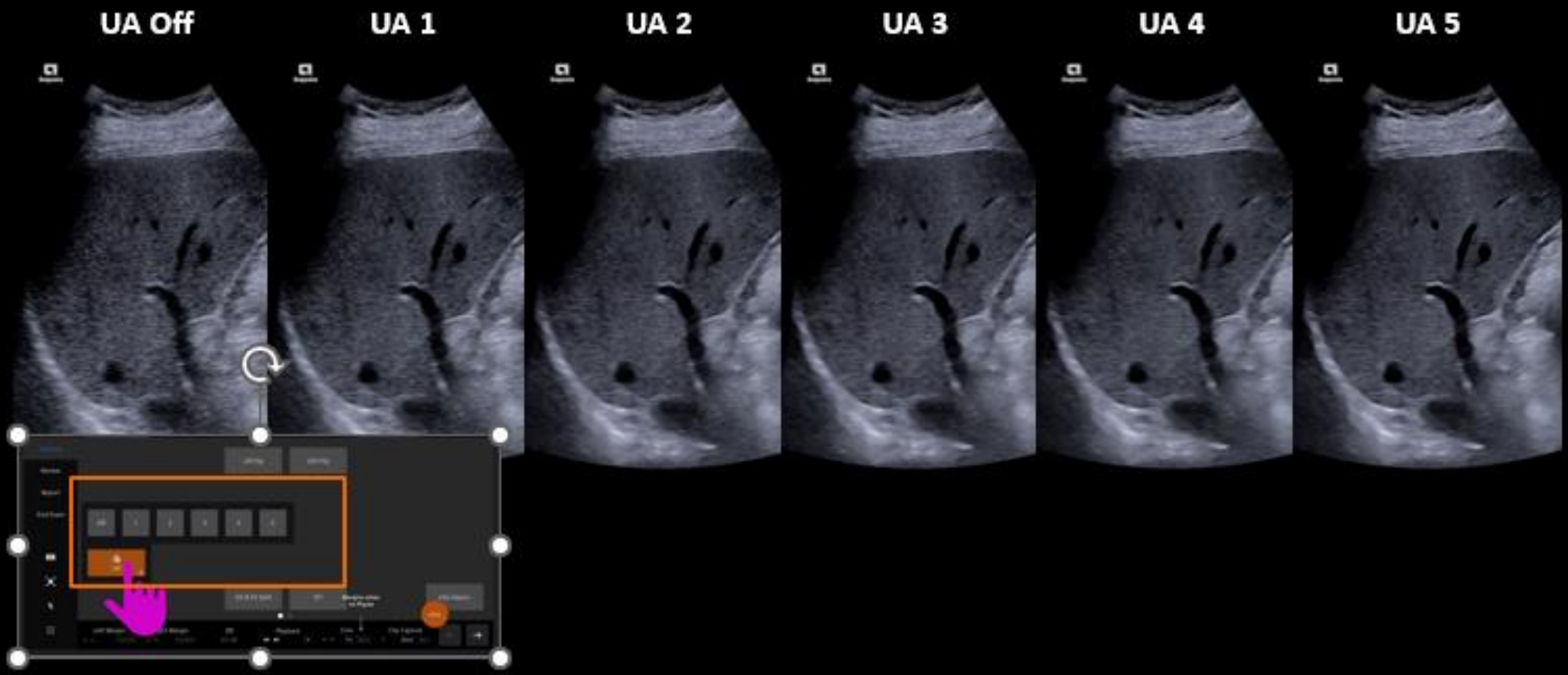
UltraArt universal image processing

- Speckle Optimization
- Edge and Ridge Enhancement
- Contrast Enhancement
- Gain and Dynamic Range

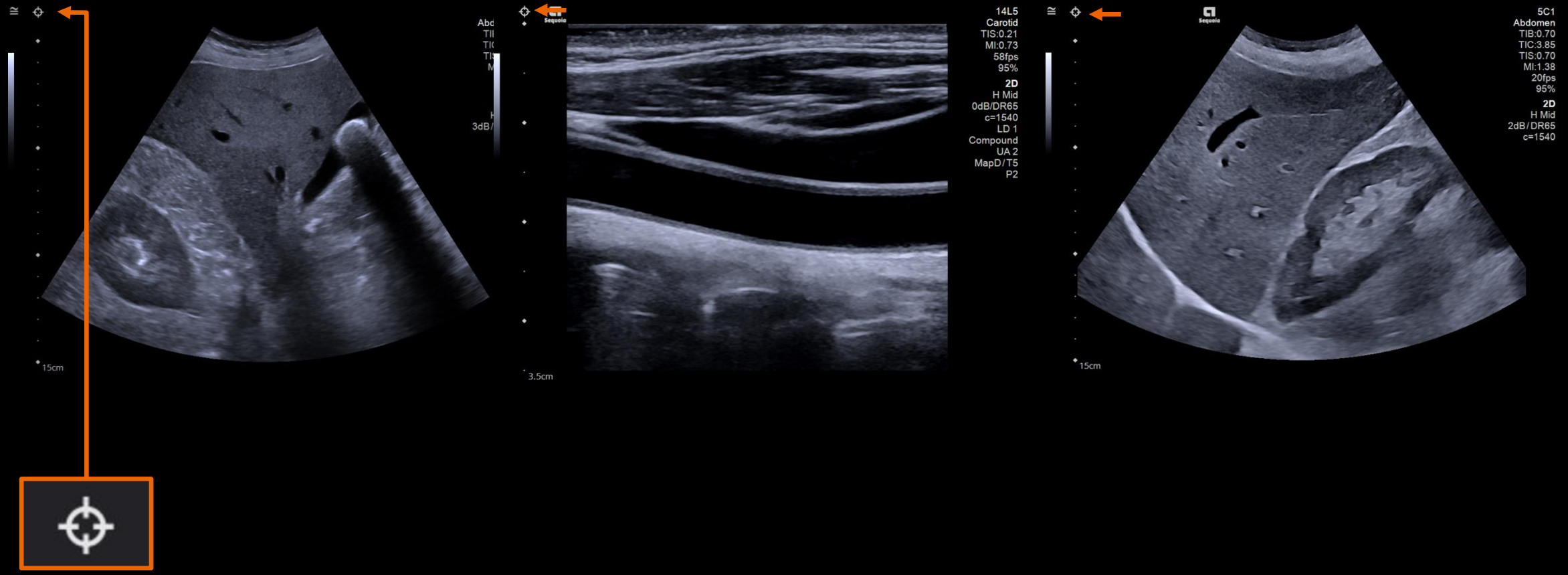




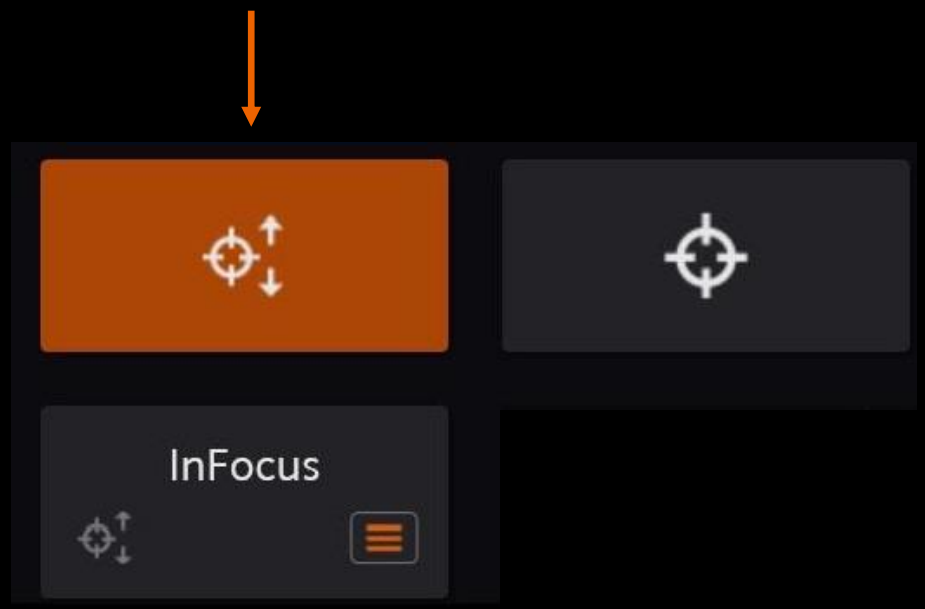
UltraArt universal image processing

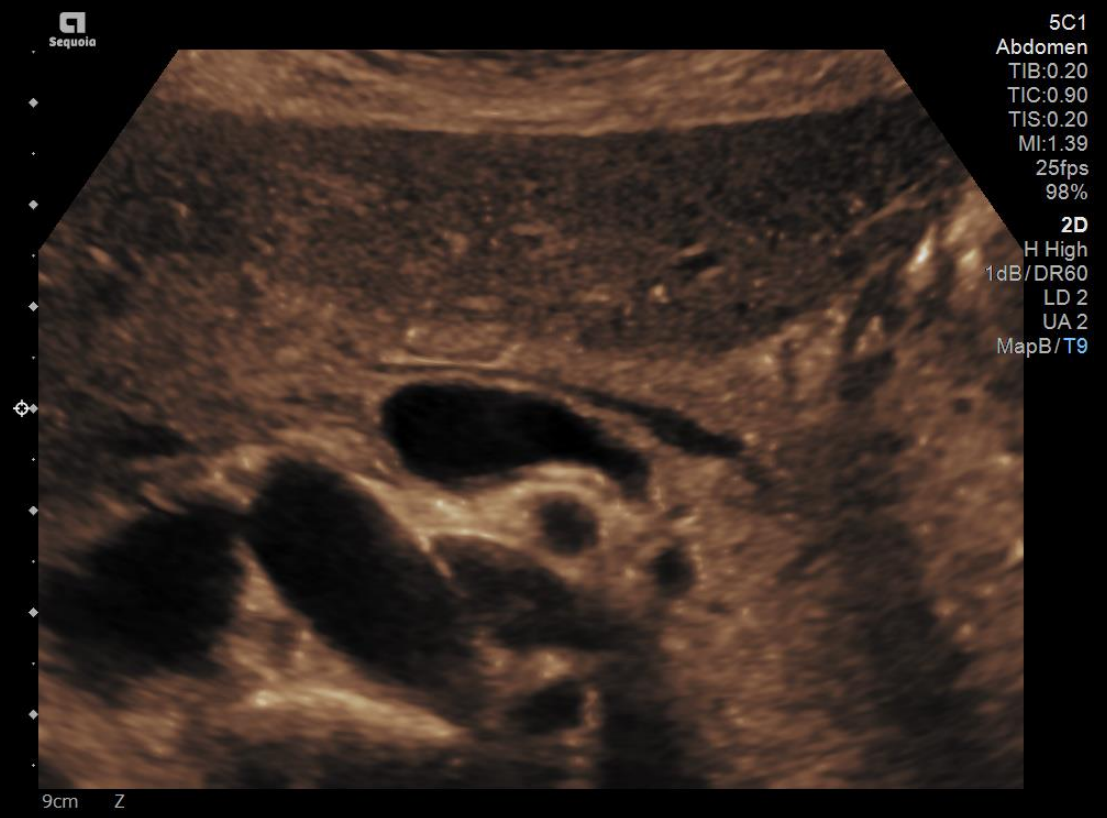


InFocus coherent image formation

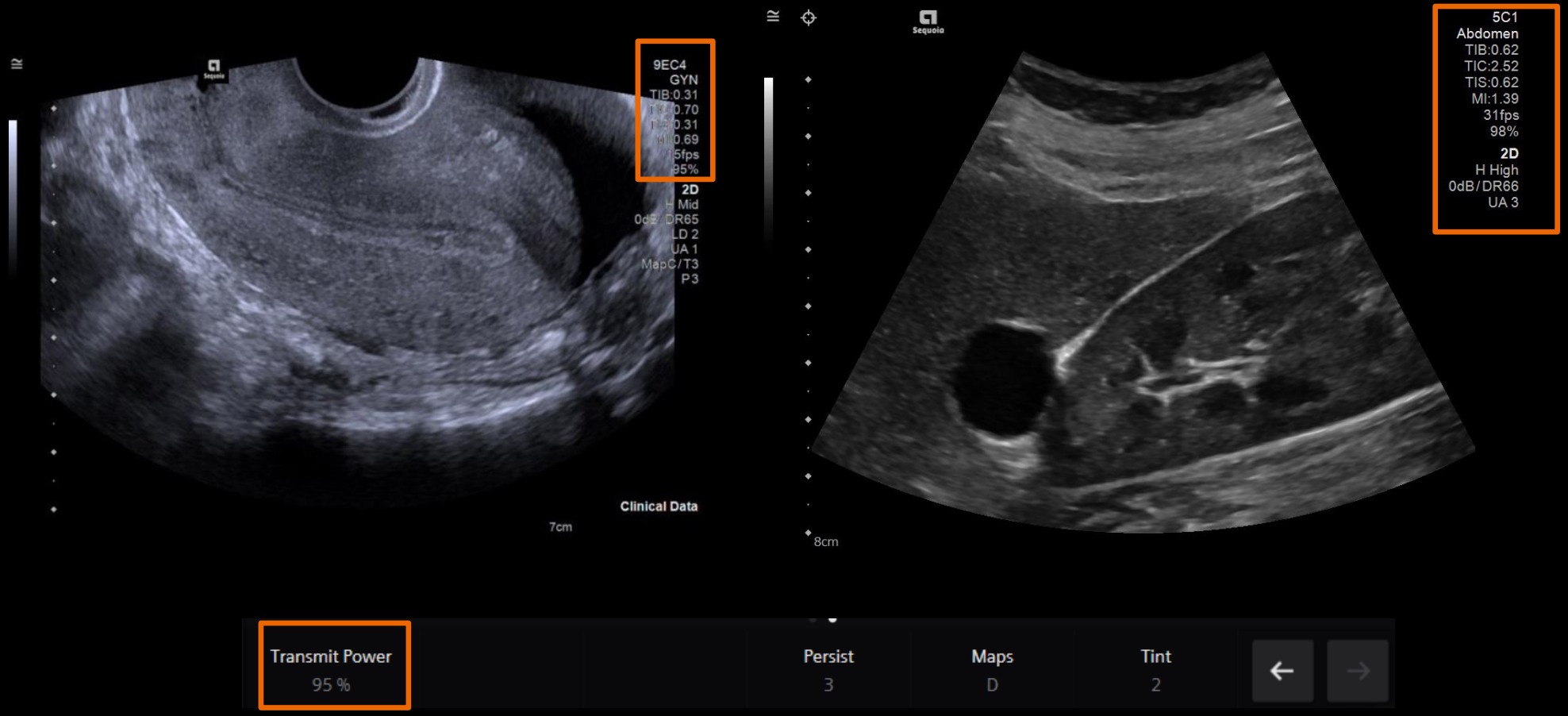


InFocus coherent image formation – Selectable focus

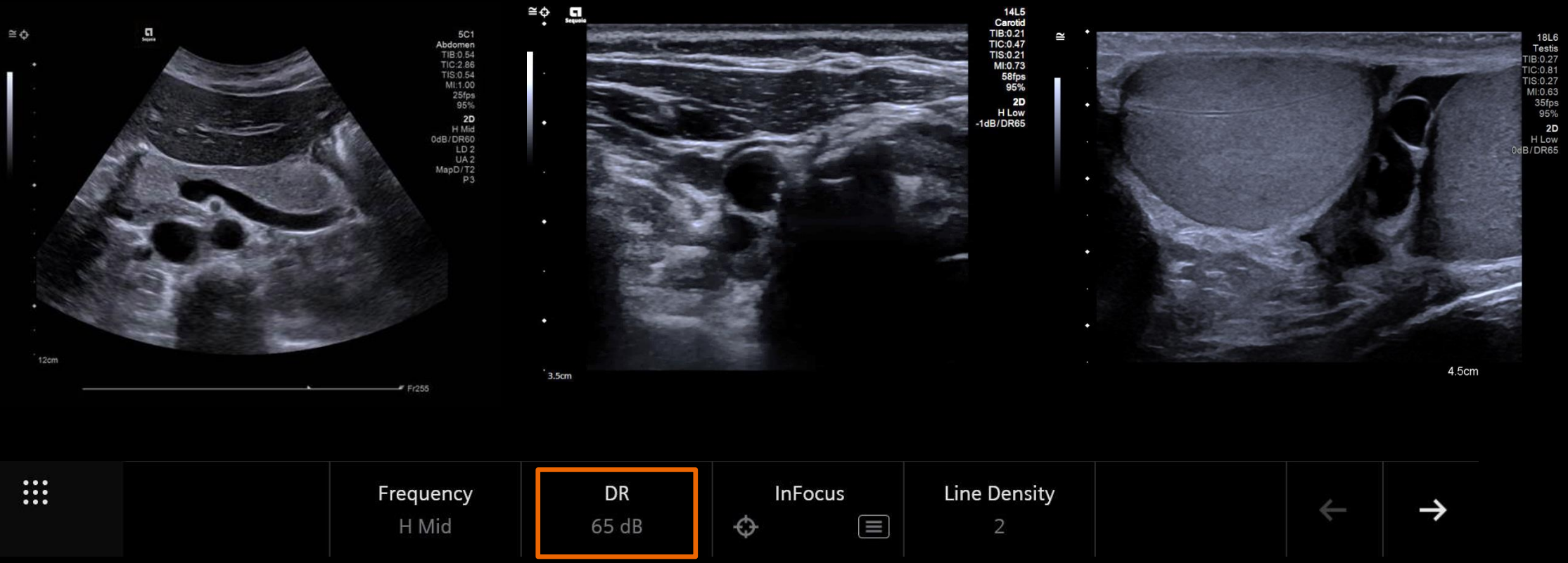




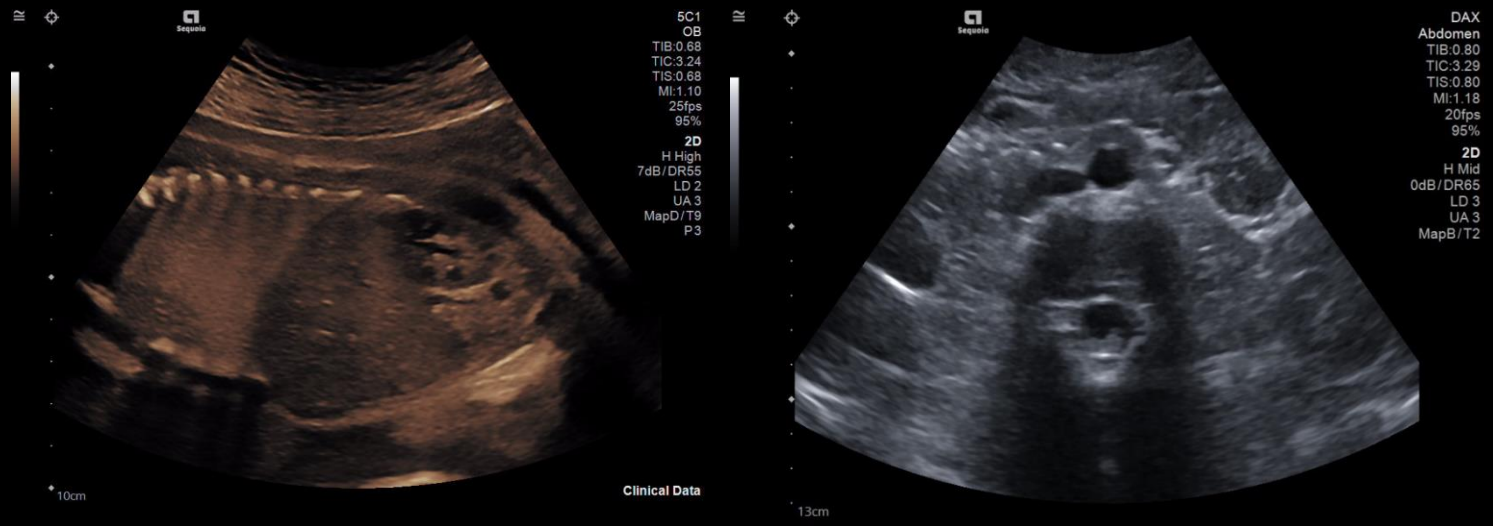
Transmit Power

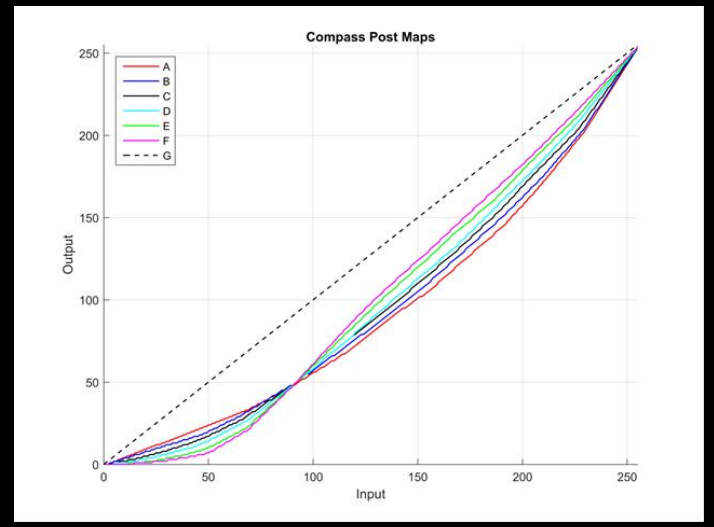


Dynamic Range

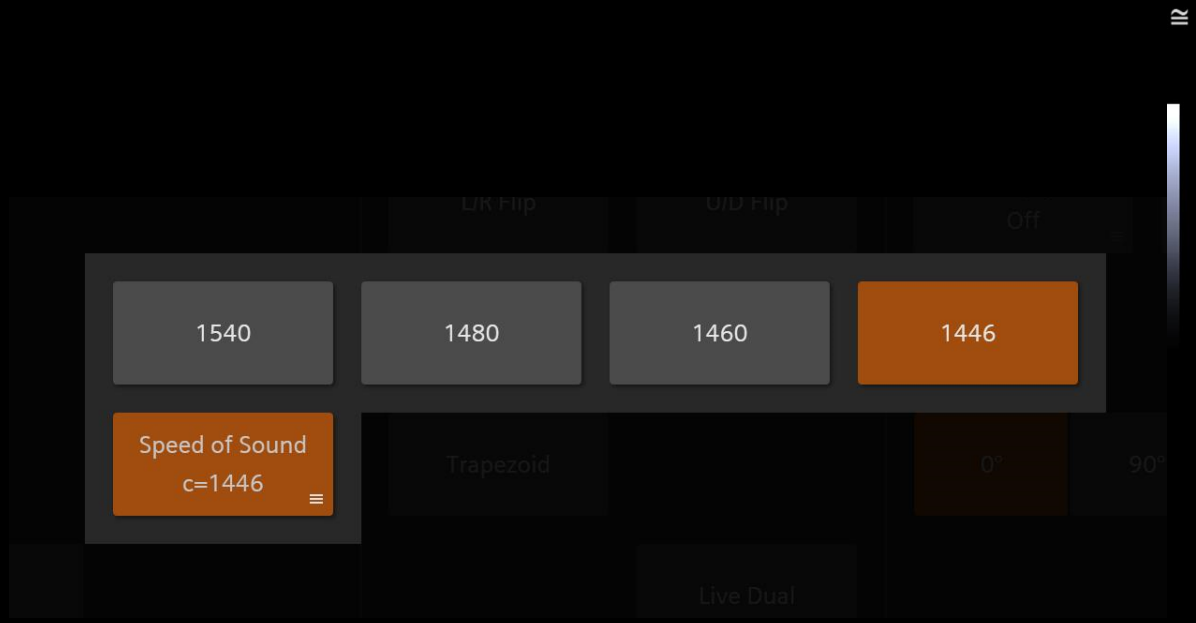


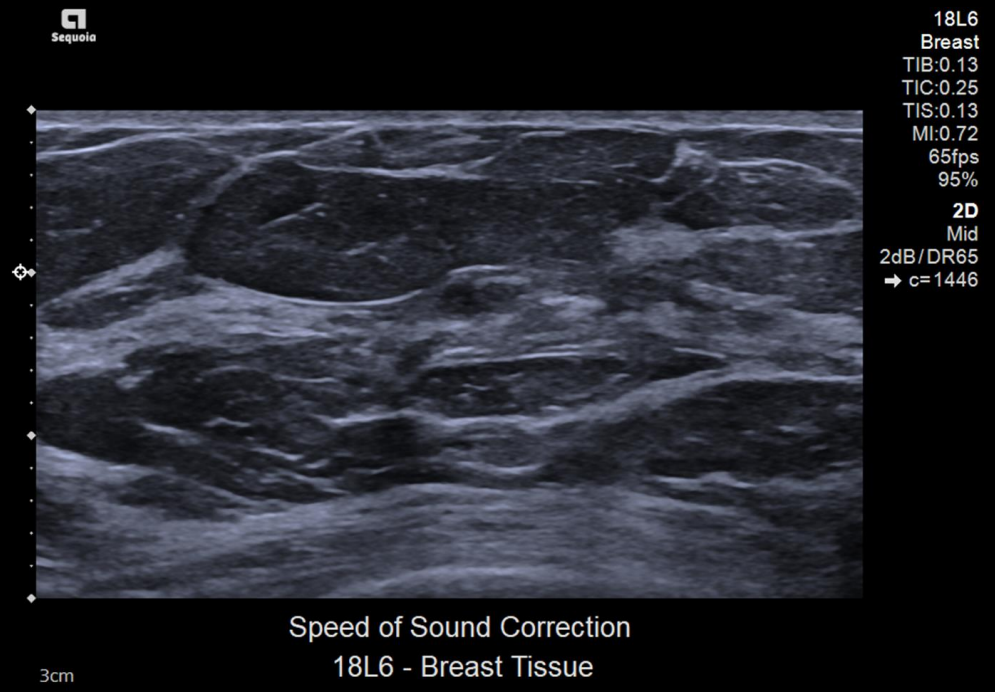
Maps





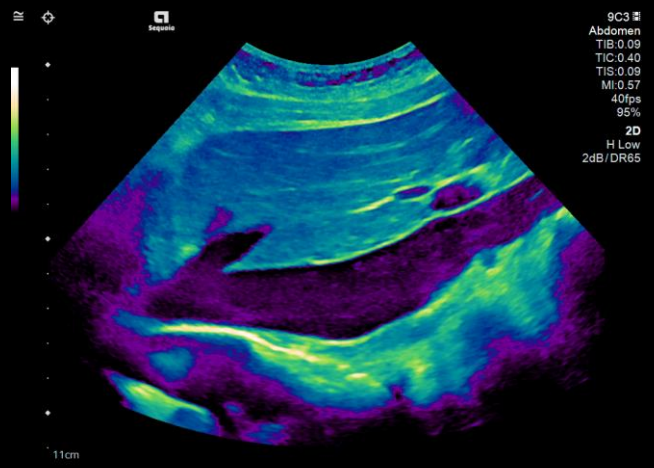
Speed of Sound





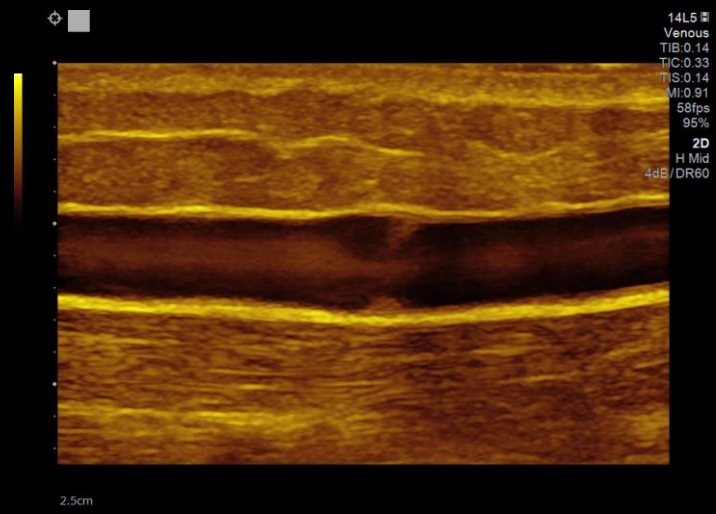
Speed of Sound Correction
18L6 - Breast Tissue

Tints



Inverted Rainbow

Sepia



Gold

Objectives

- Review B-mode and M-mode controls
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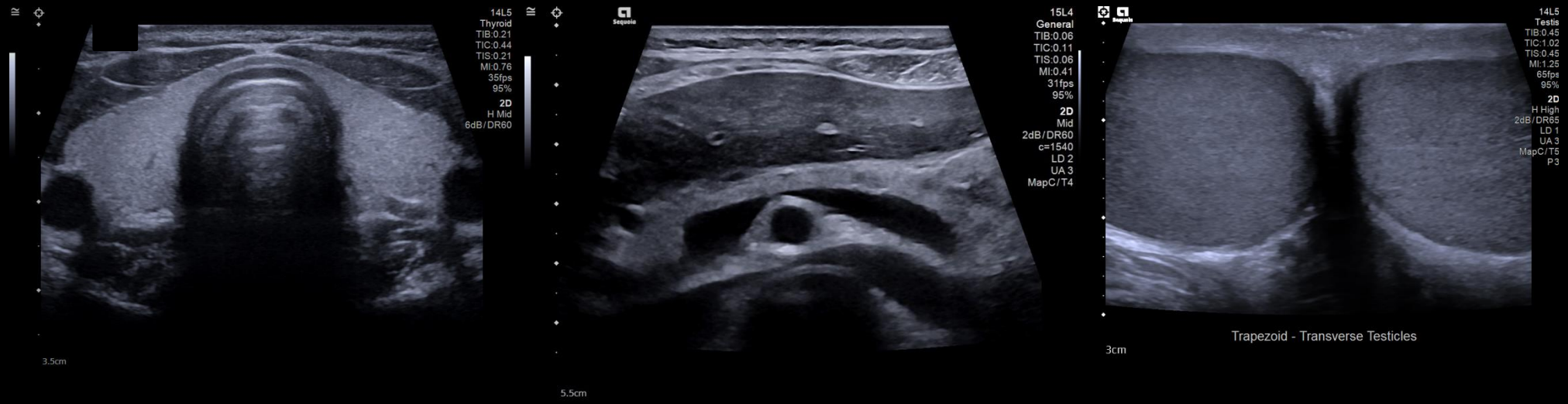
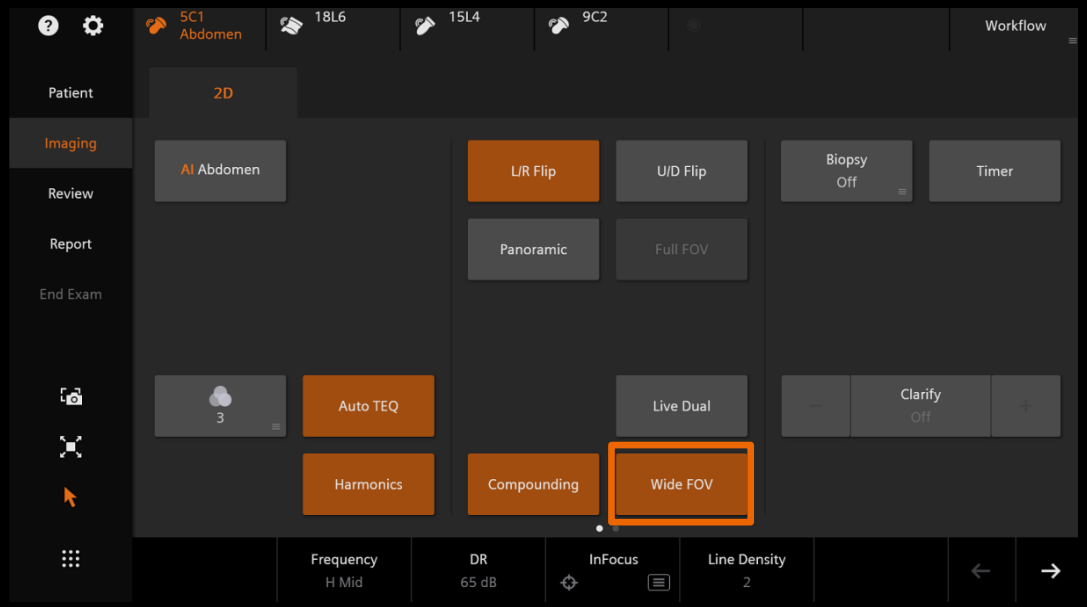
- **Explain display modes**
- Review Doppler controls
- Describe Doppler optimization features

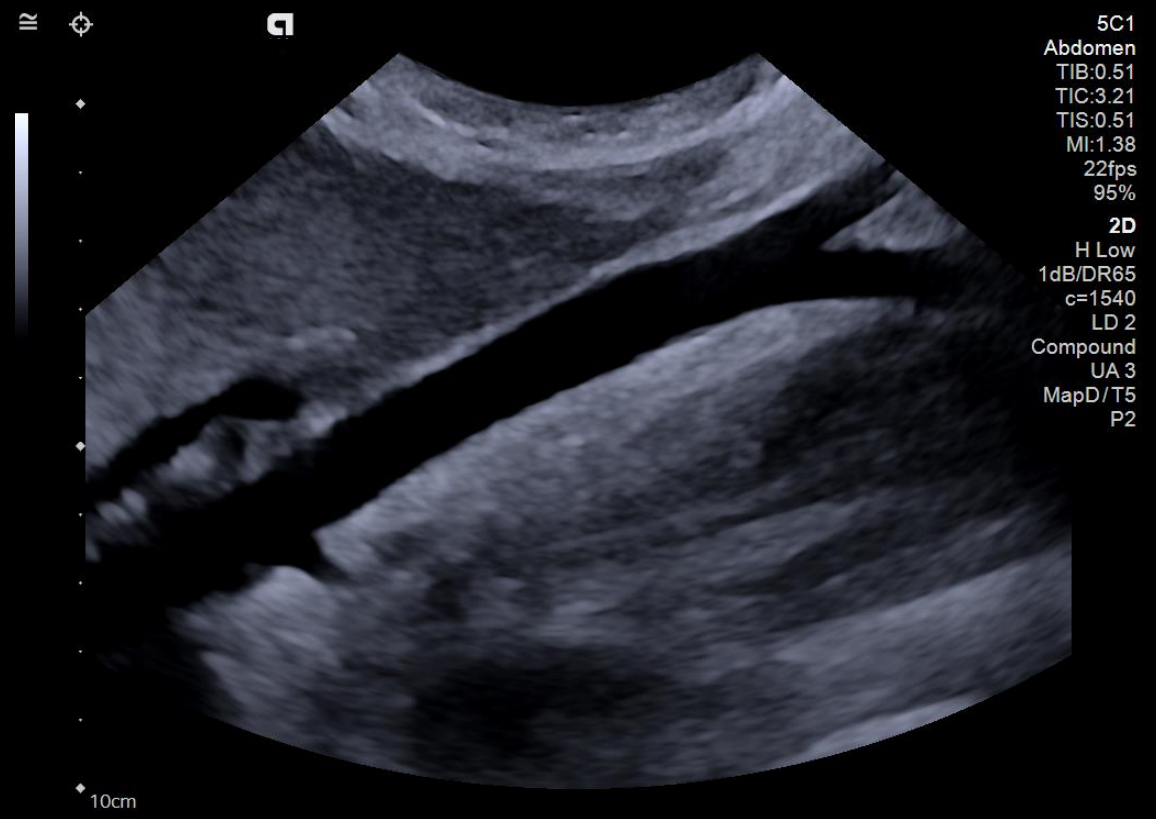
Trapezoid



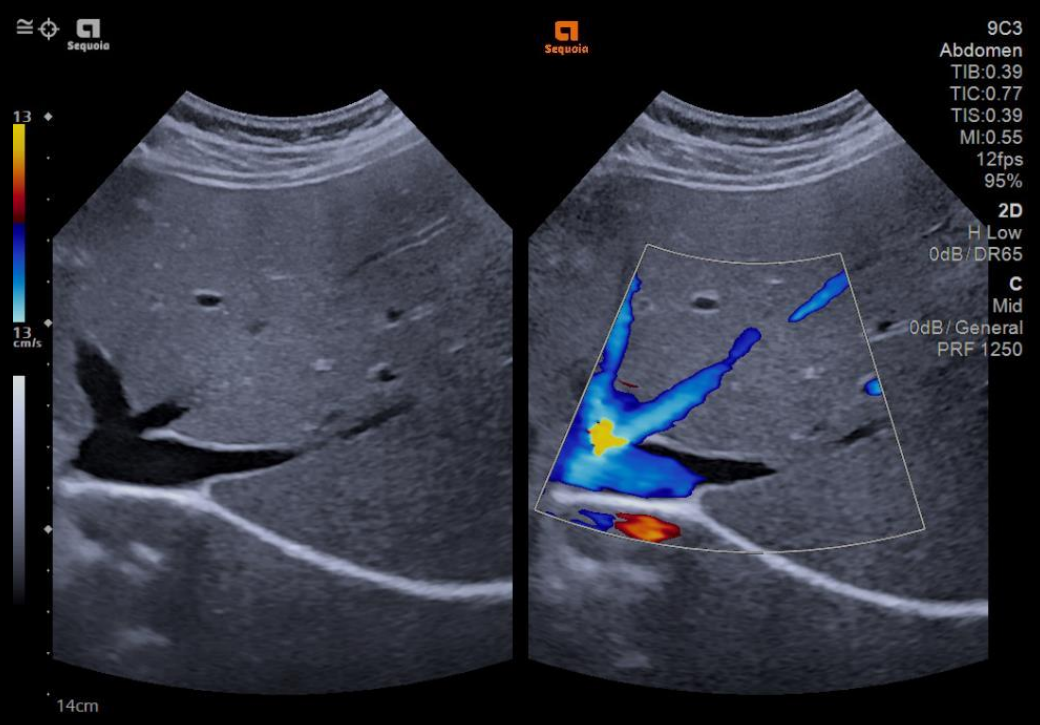
Trapezoid

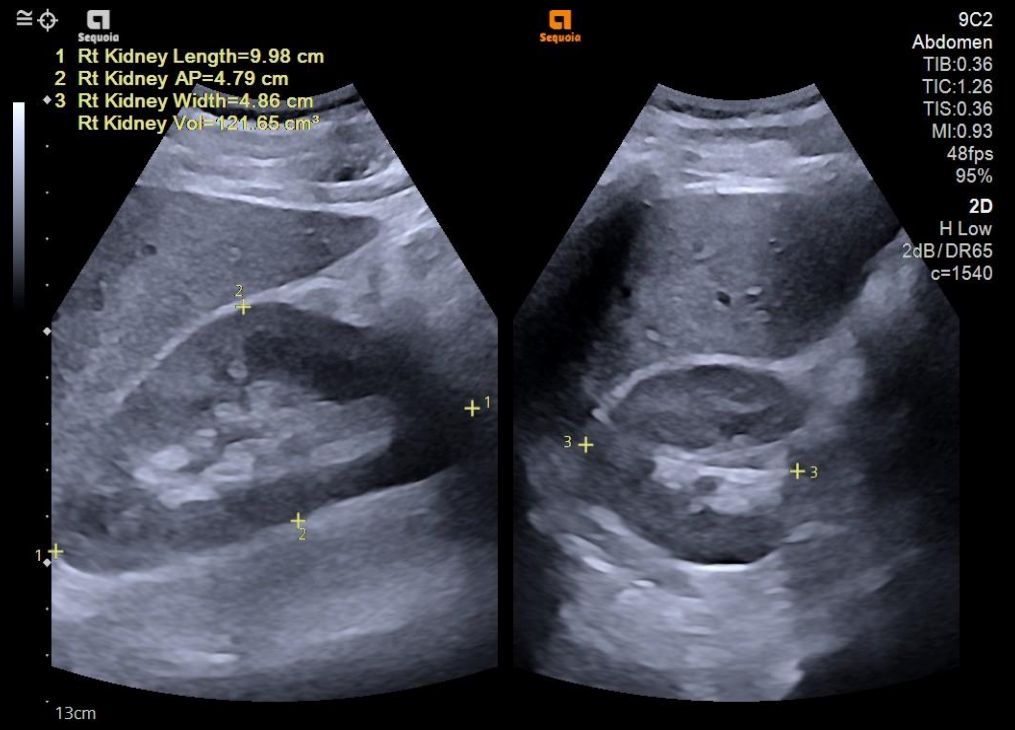
Wide Field of View



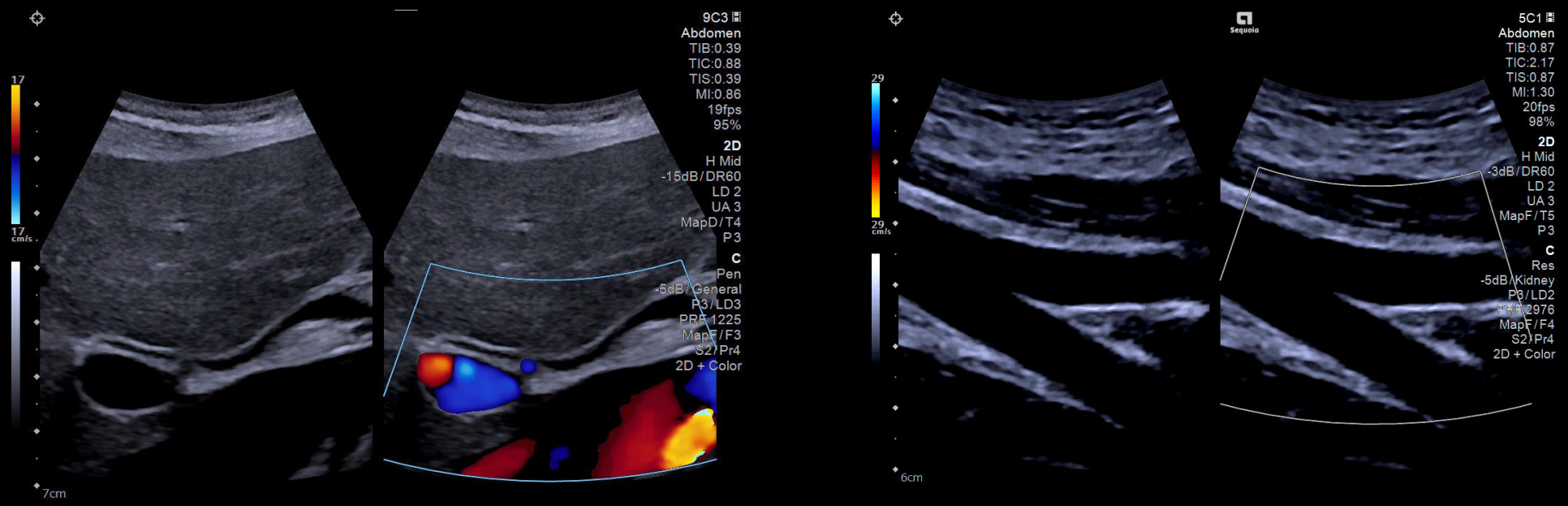


Dual





Live Dual

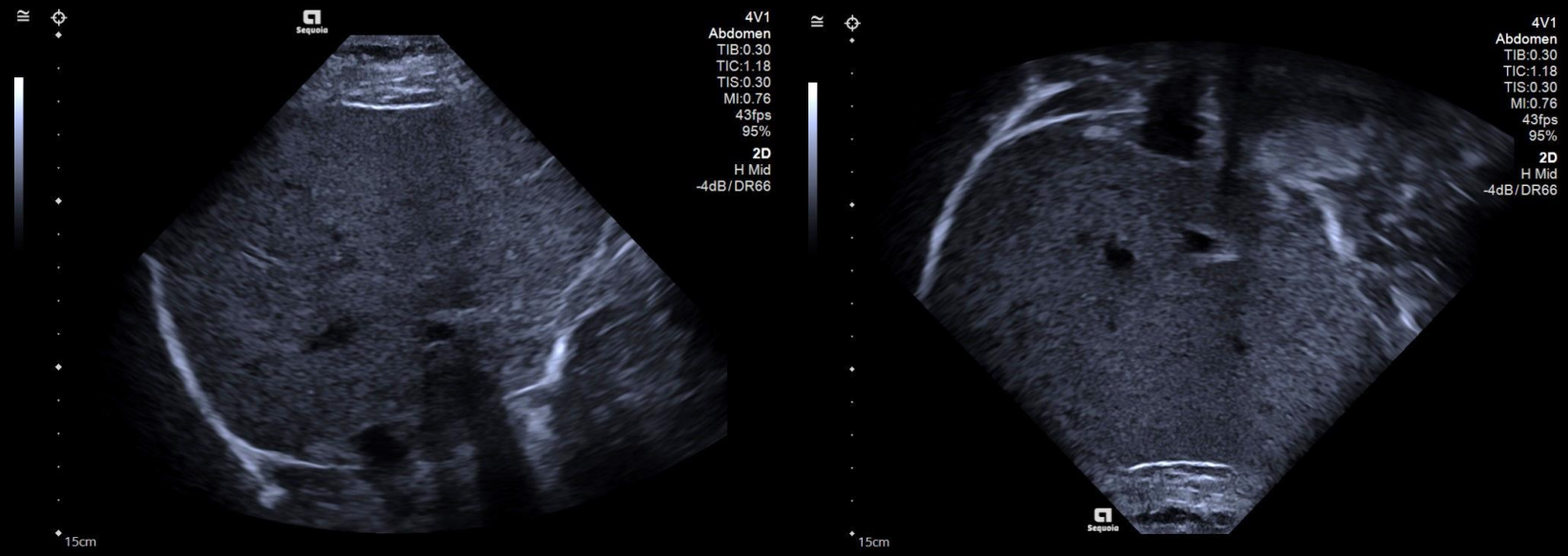


Live Dual

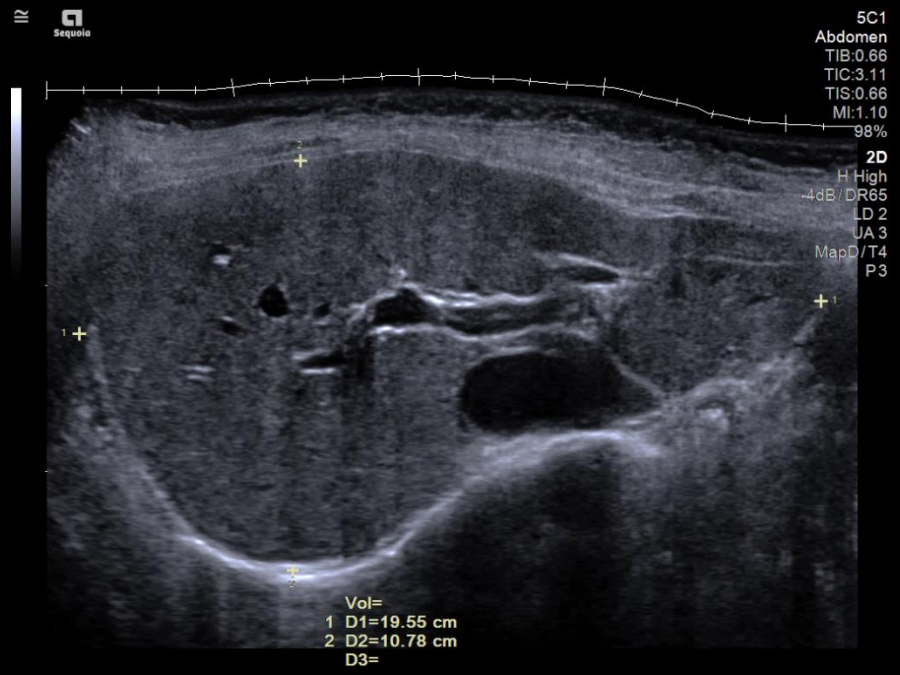
Left/Right and Up/Down Flip

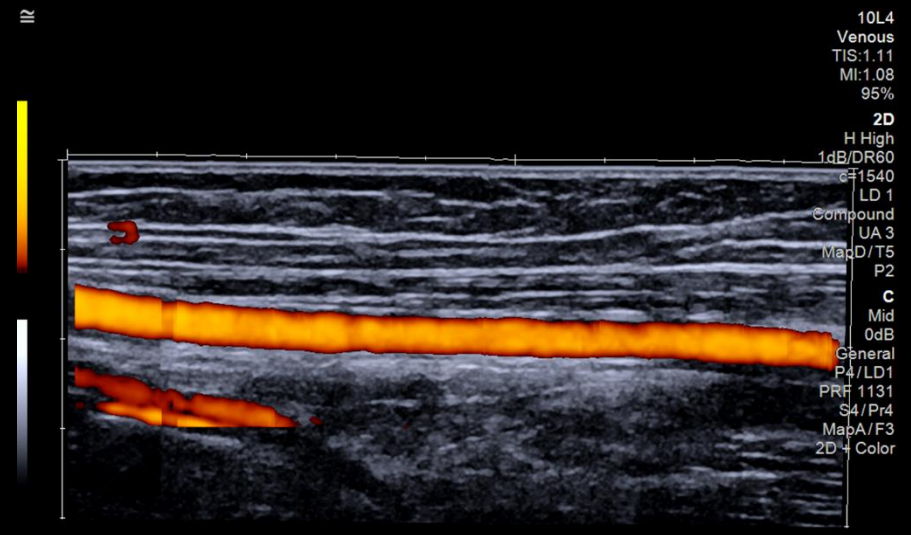
L/R Flip

U/D Flip



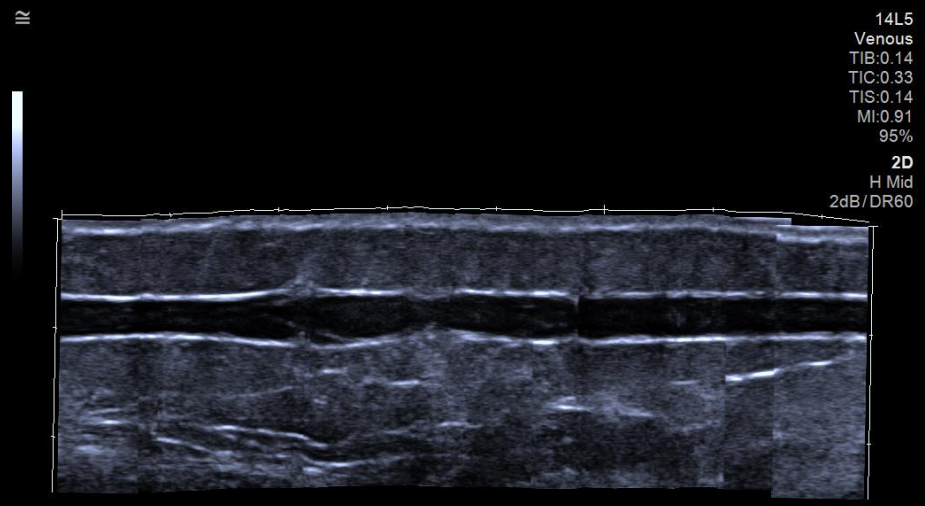
Panoramic imaging

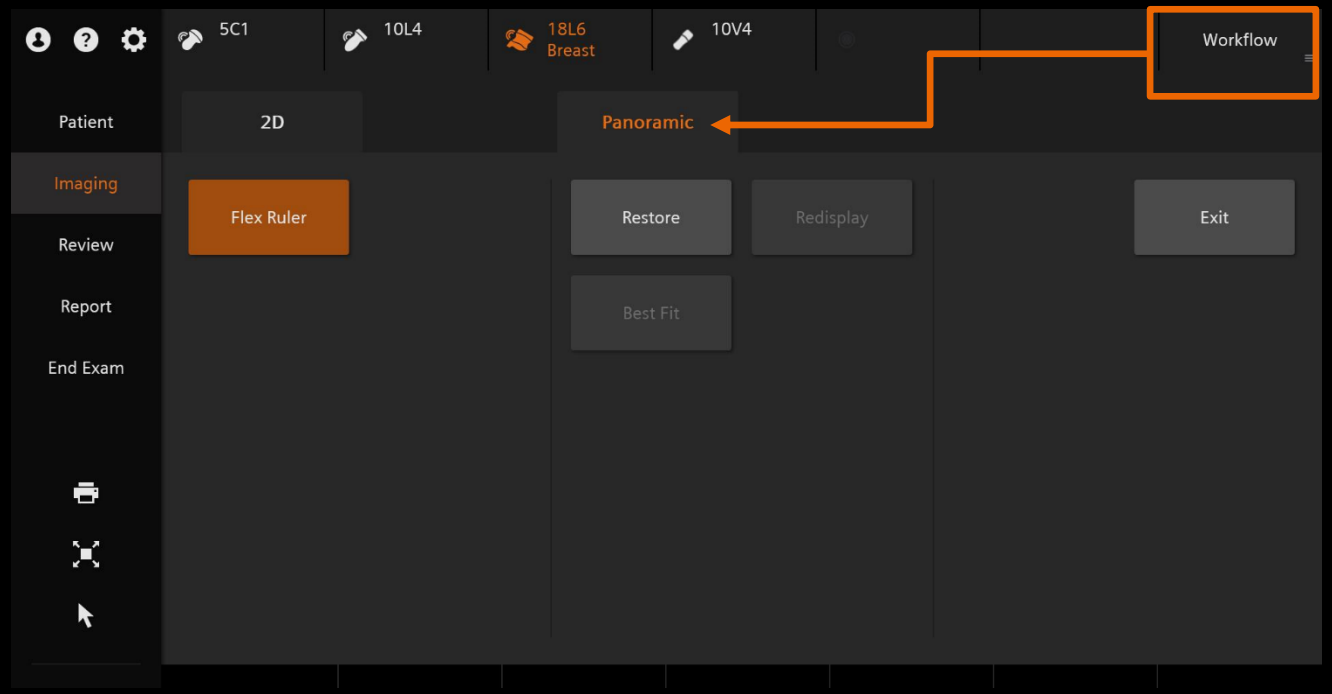




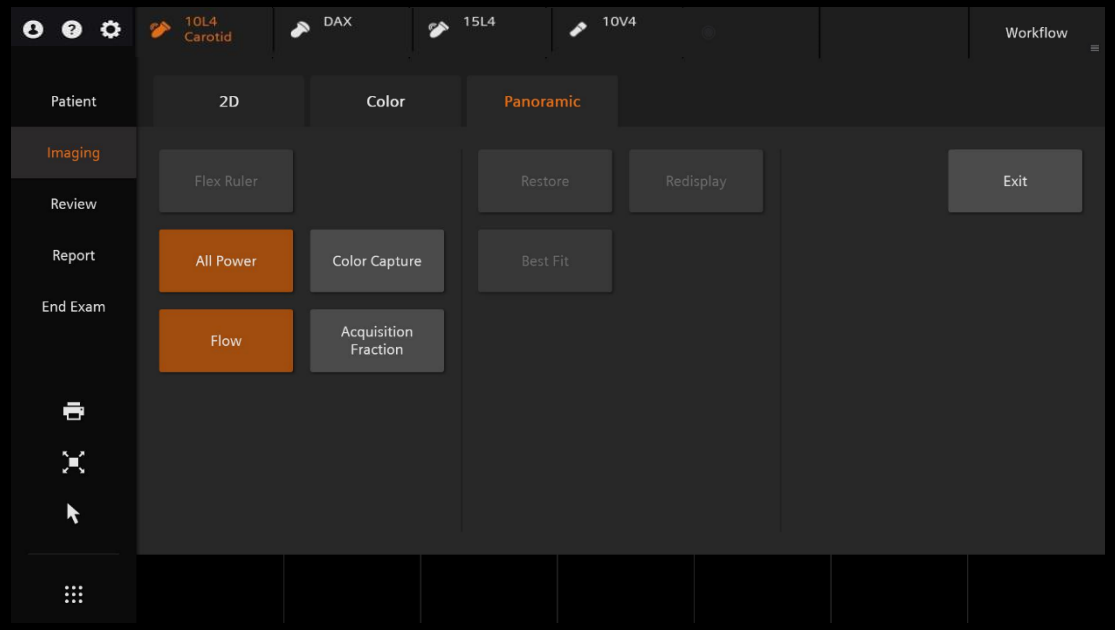
Power Doppler - Panoramic Mode

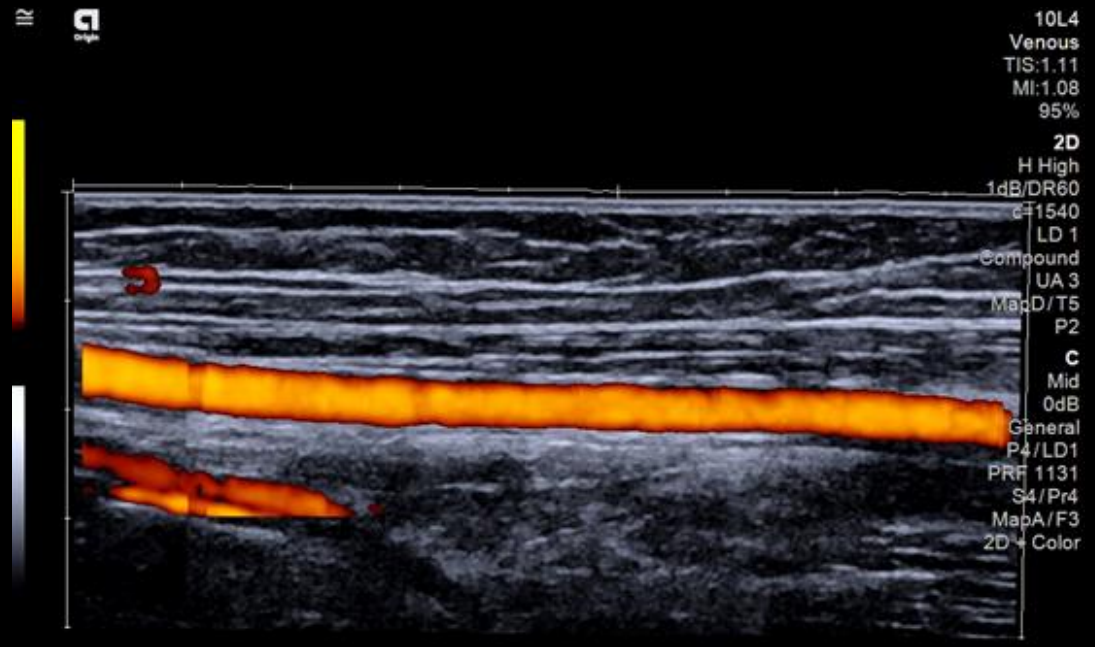
Panoramic imaging – B-mode



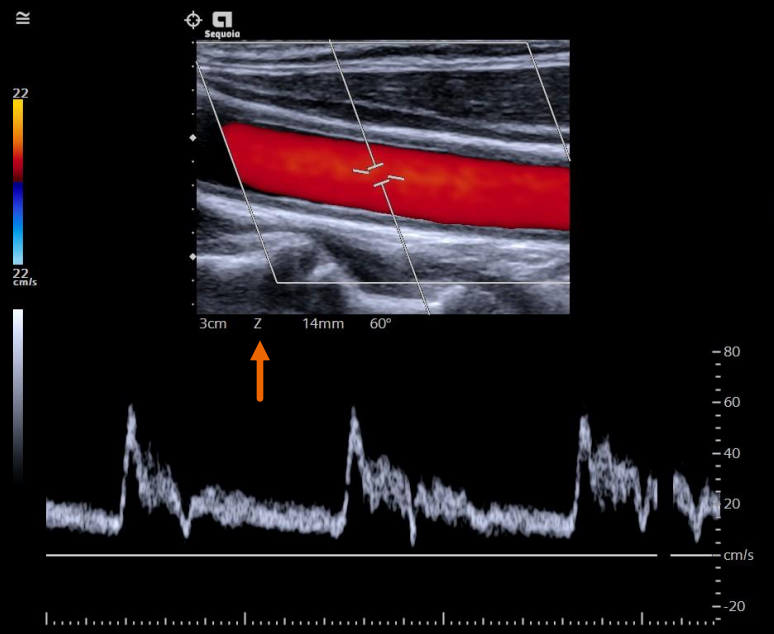


Panoramic imaging – Power Doppler

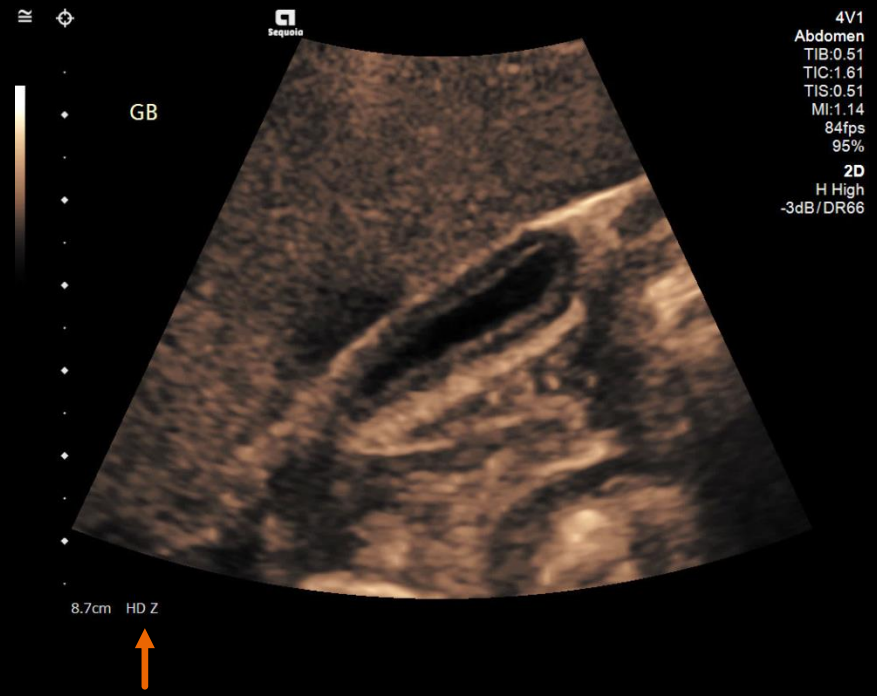




Zoom and HD Z



Zoom



HD Z

Image Size

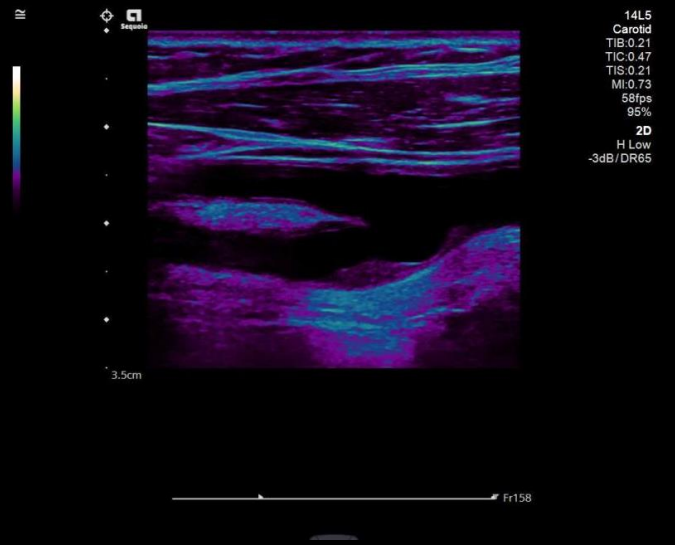


Image Size
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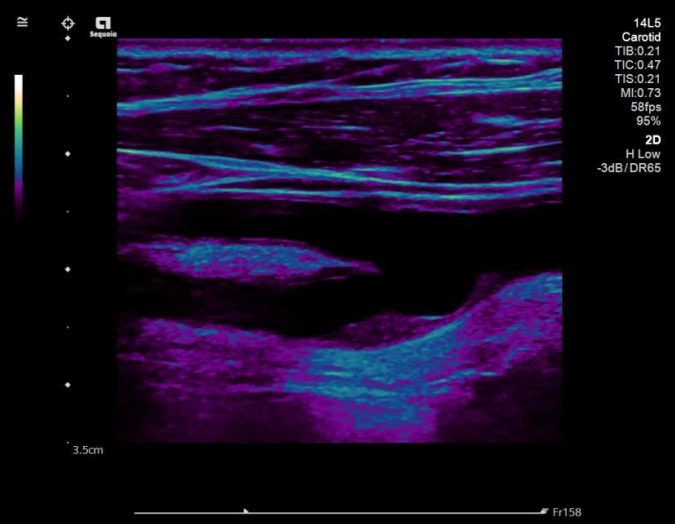

Image Size
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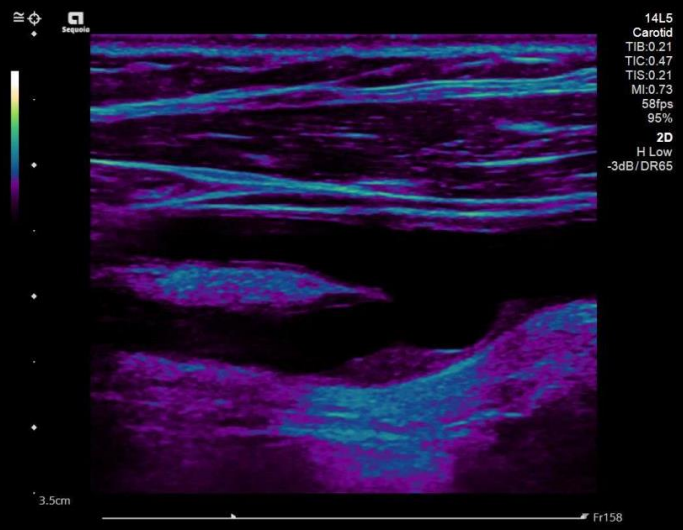
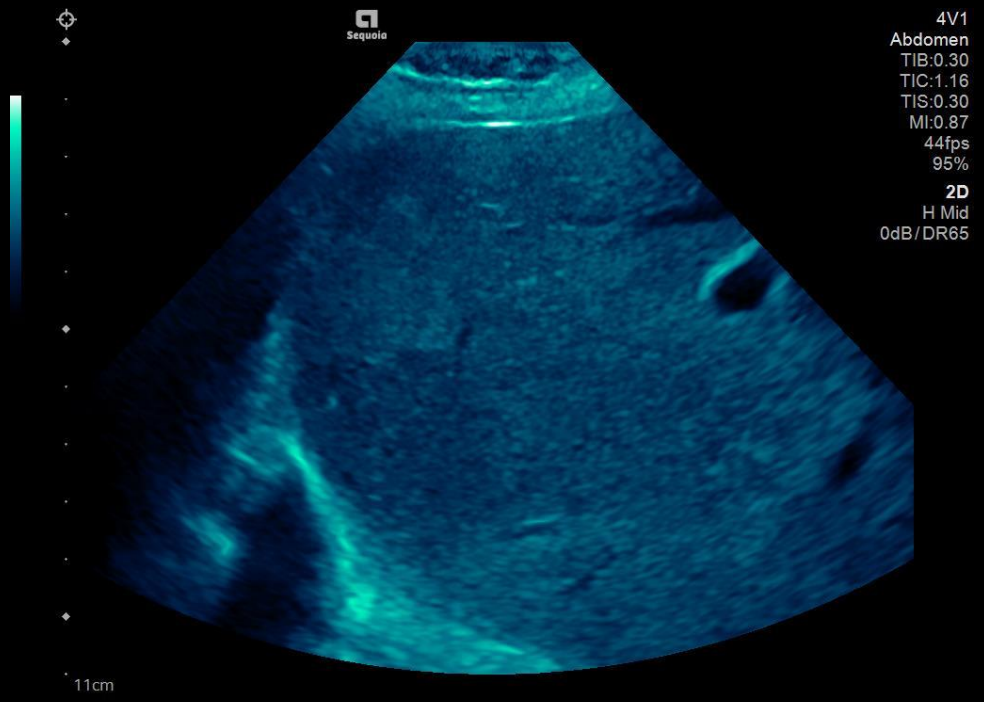
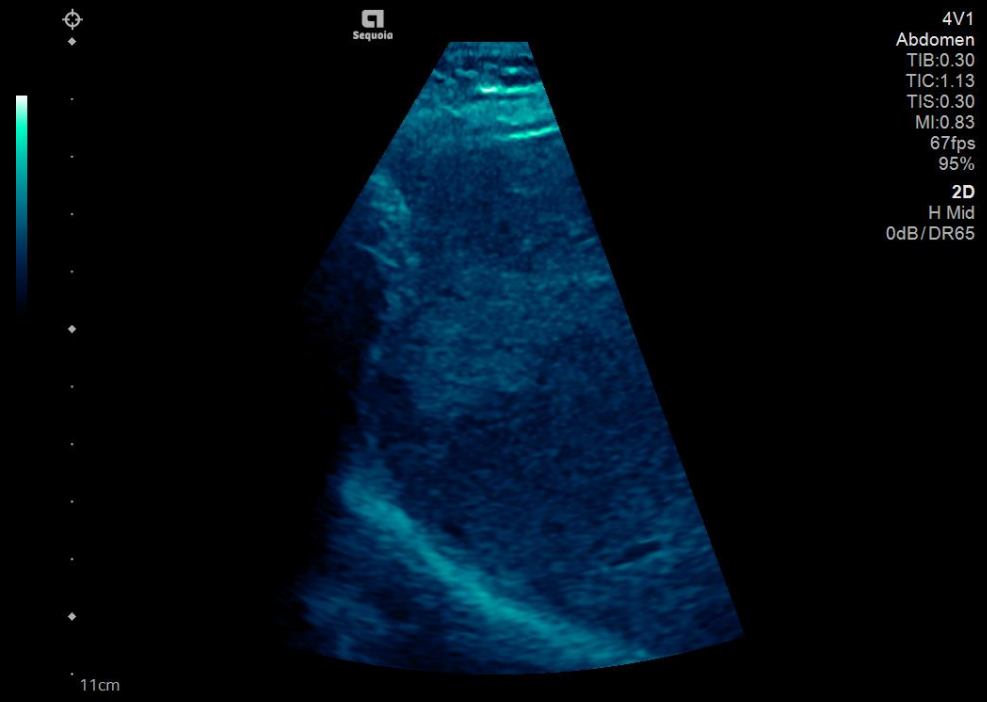


Image Size
5

Sector Size





B-mode post-processing features

Transverse Pancreas

- DR
- Map
- Tint
- Image Size
- DGC
- Gain
- M-mode Gain
- UltraArt
- L/R Flip
- U/D Flip

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- **Review Doppler controls**
- Describe Doppler optimization features

Doppler controls

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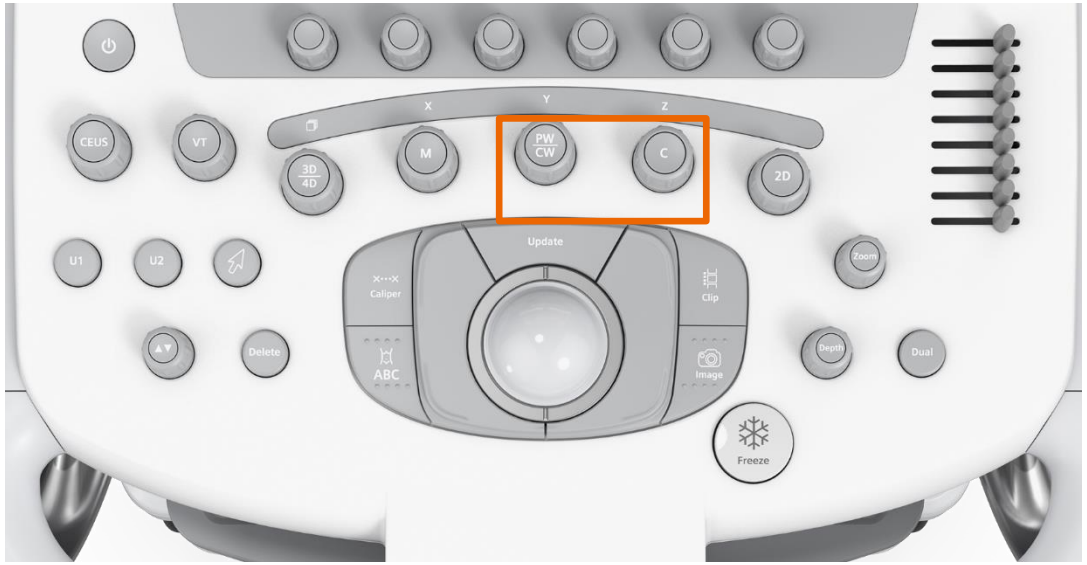
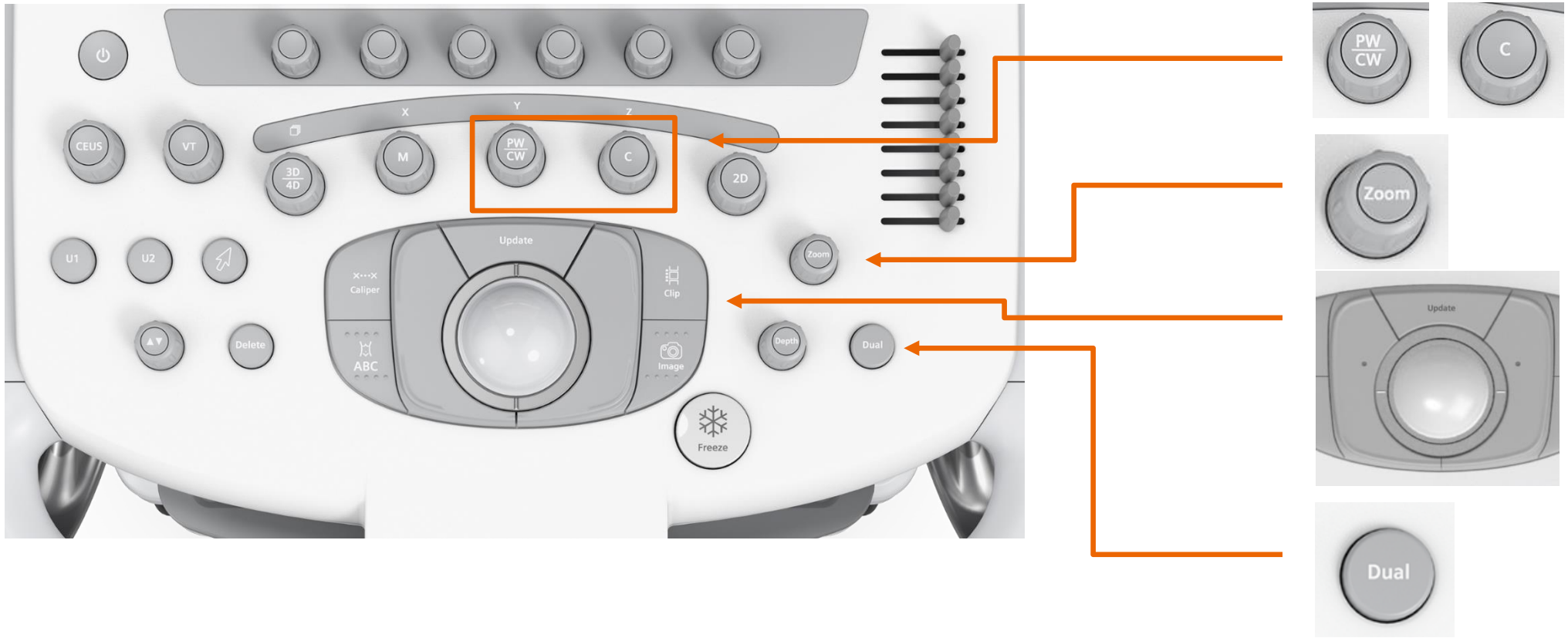
Control Panel



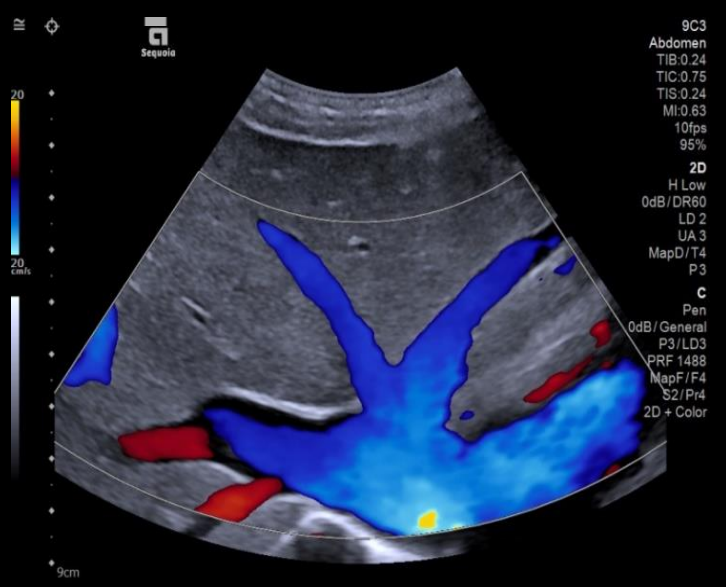
Touch Screen

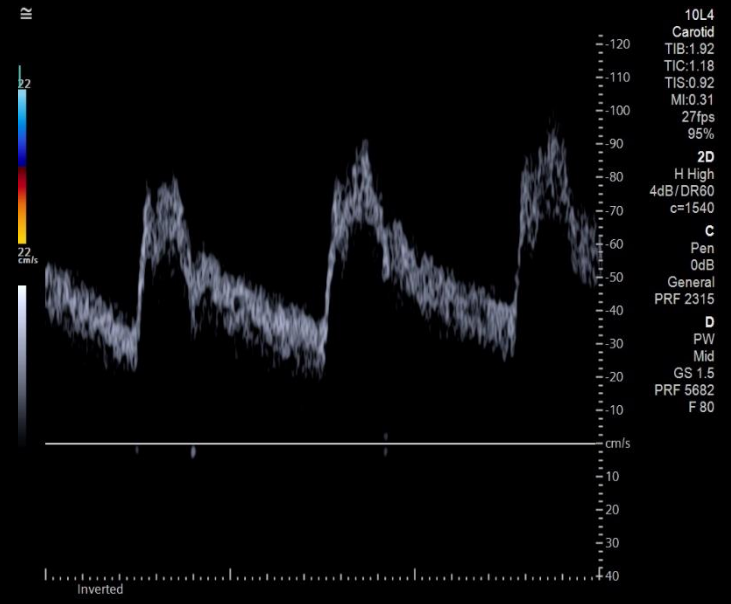
Soft keys

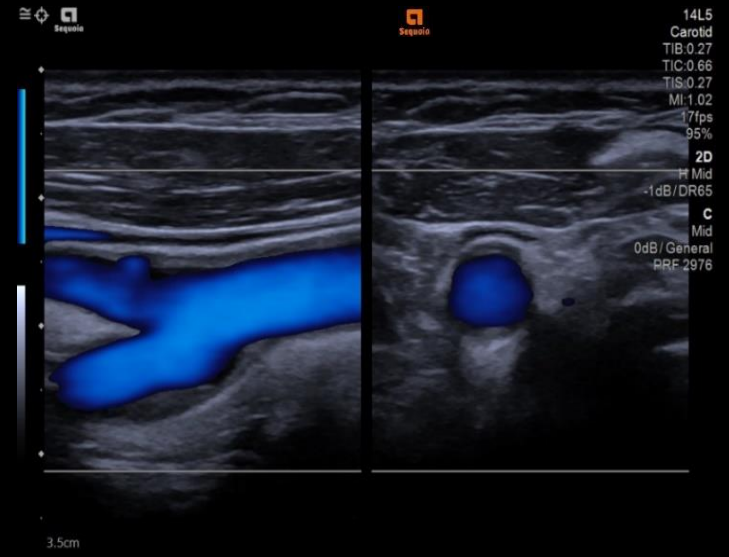
Doppler controls on the Control Panel



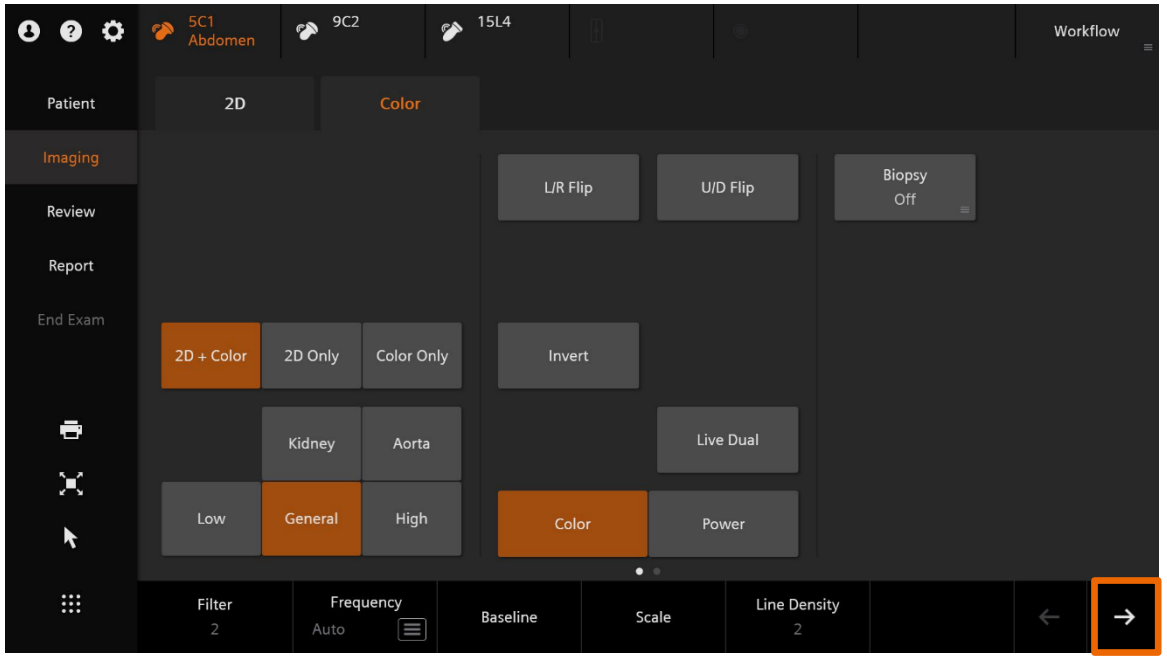
Doppler modes



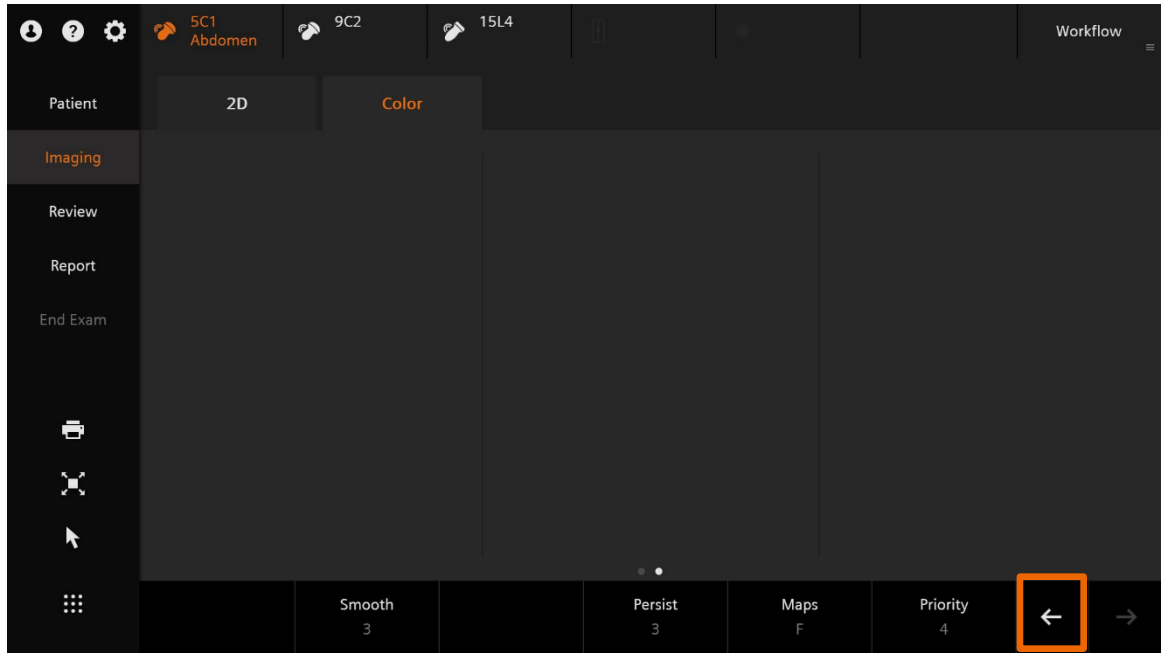




Color controls on the Touch Screen

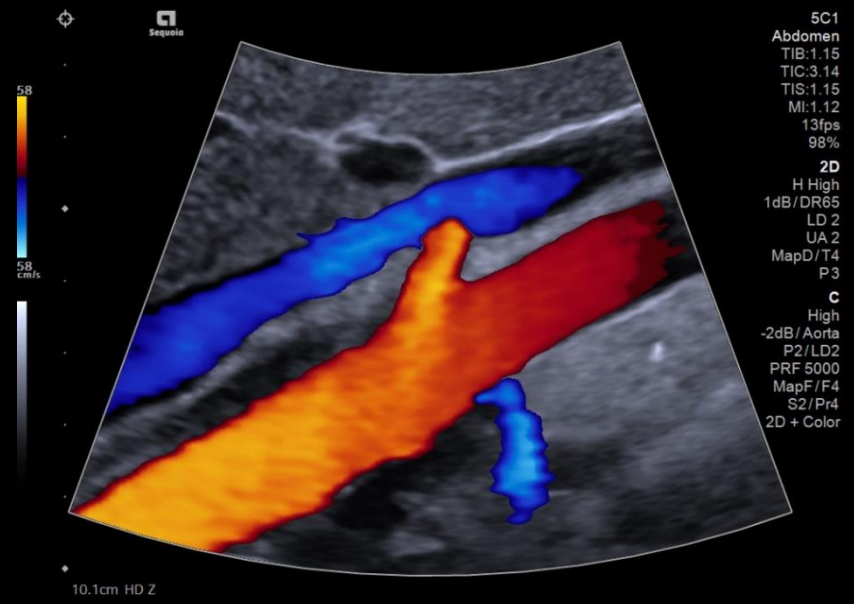


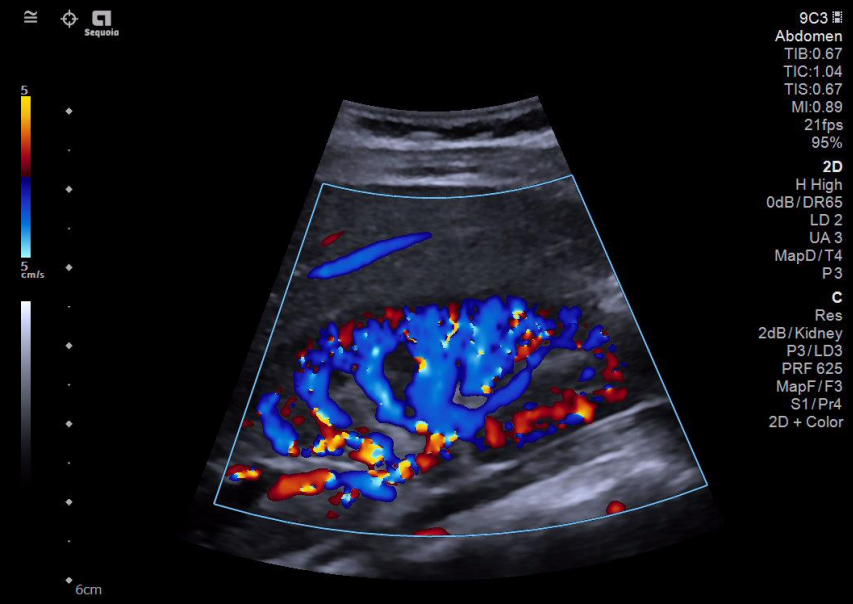
Page One



Page Two

Color Doppler controls on the soft keys

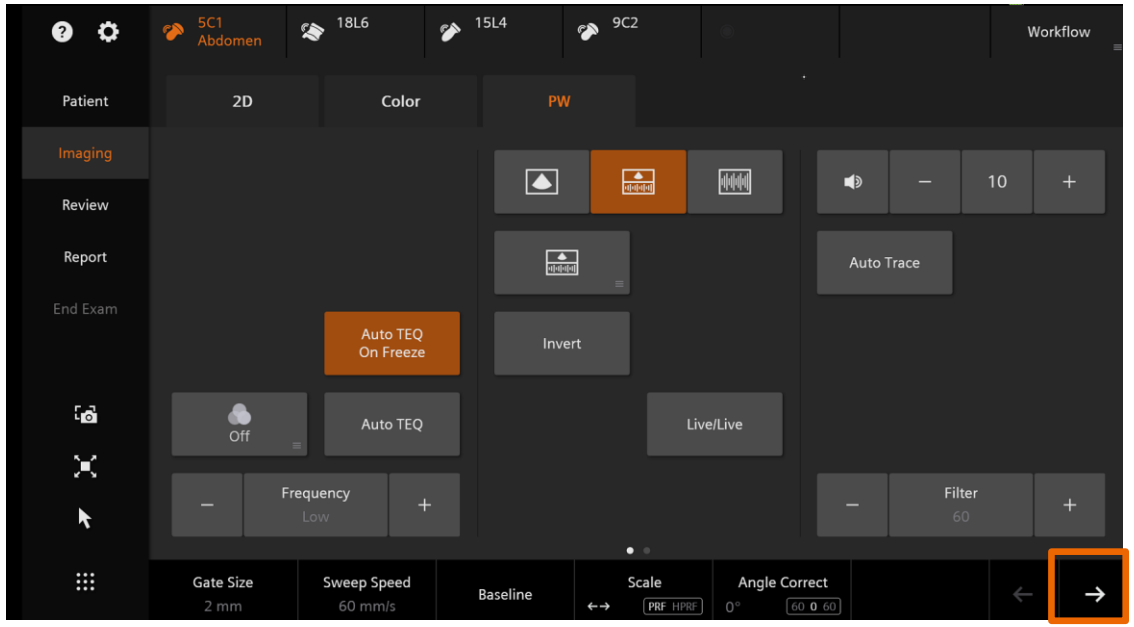




	Filter	Frequency	Baseline	Scale	Line Density
	2	Auto			2

		Smooth		Persist	Maps	Priority
		3		3	F	4

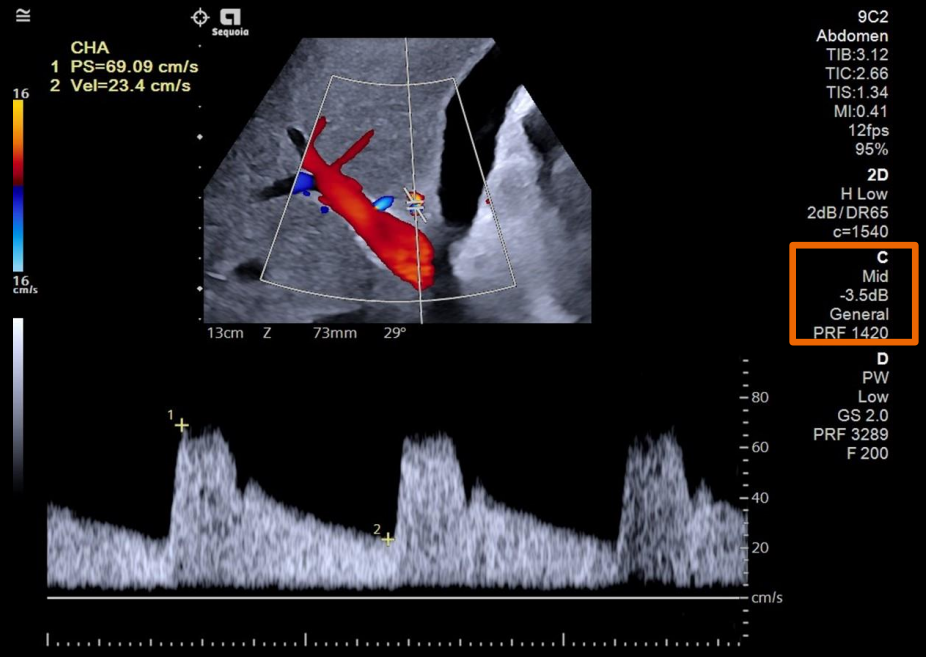
PW controls on the Touch Screen

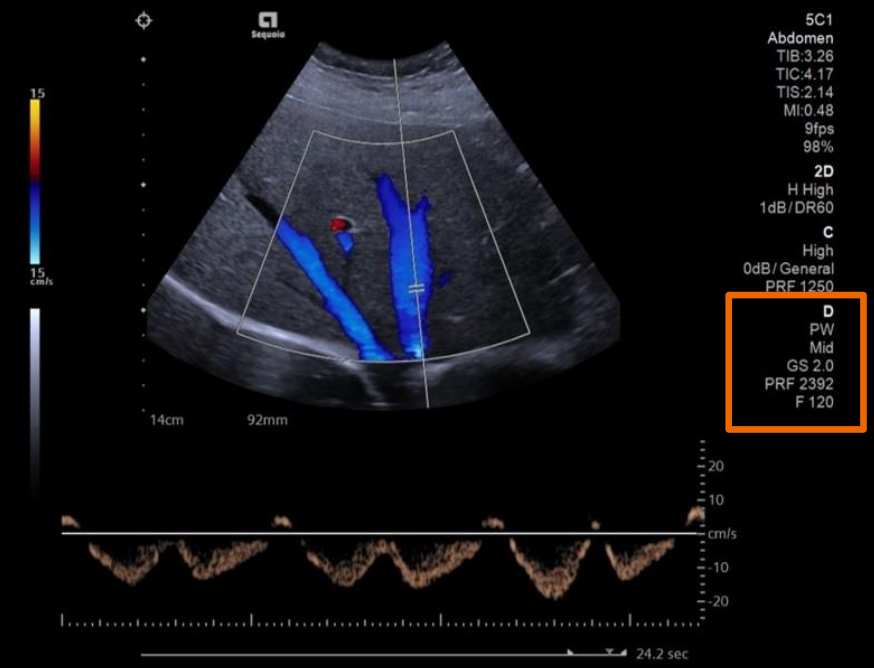


Page One

Page Two

PW Doppler controls on the soft keys

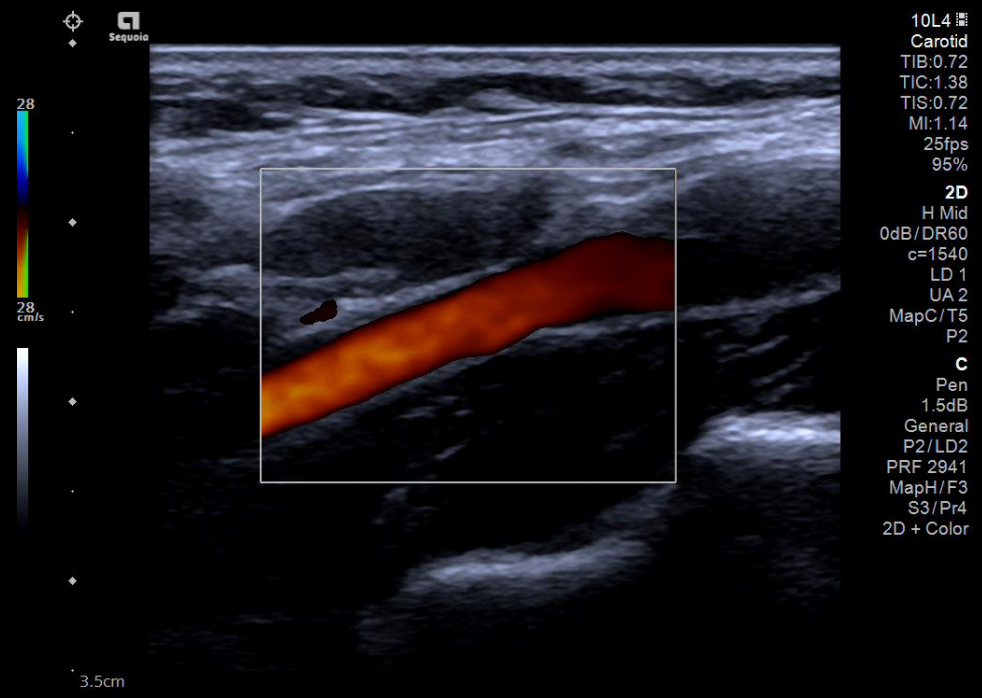




Velocity variance map

Velocity variance map provides a variance in color flow display for differentiating complex flow patterns

- Available in Color Doppler velocity mode
  - Map H – General & Vascular
  - Map J – Cardiology
- Available on all transducers and presets

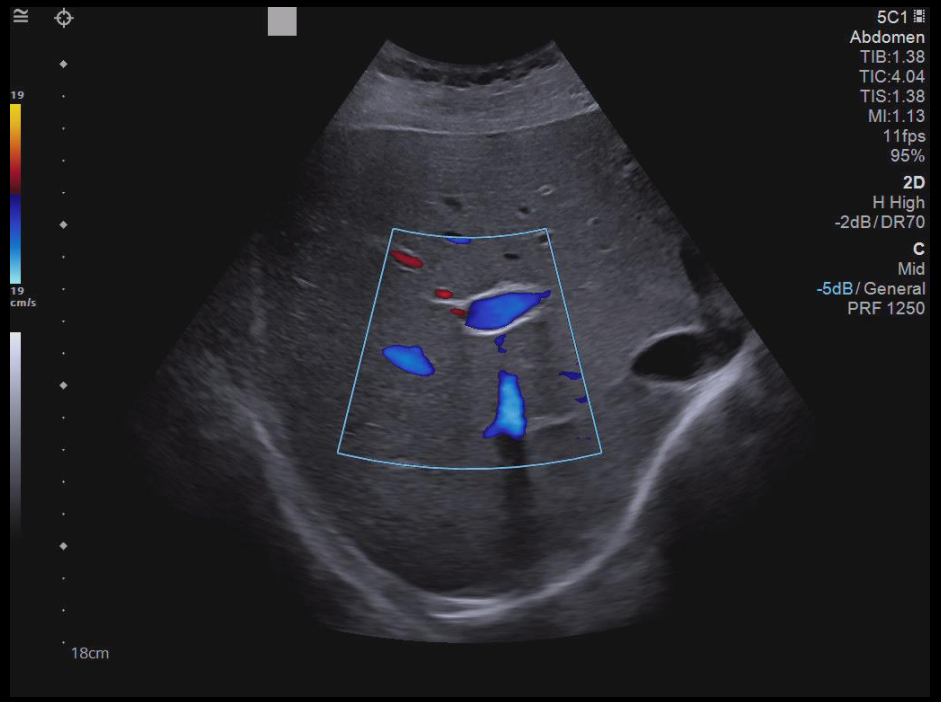


Objectives

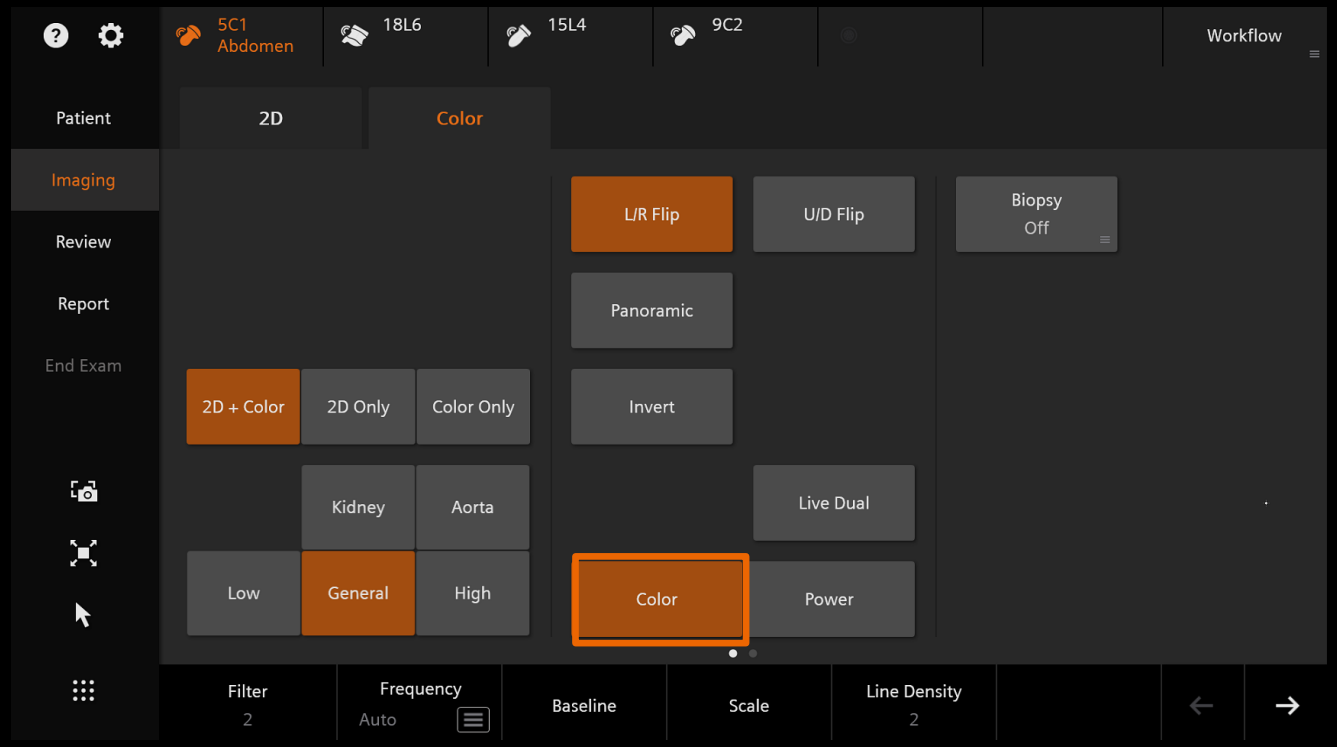
- Review B-mode and M-mode controls
- Describe B-mode and M-mode optimization features
- Explain display modes
- Review Doppler controls
- **Describe Doppler optimization features**

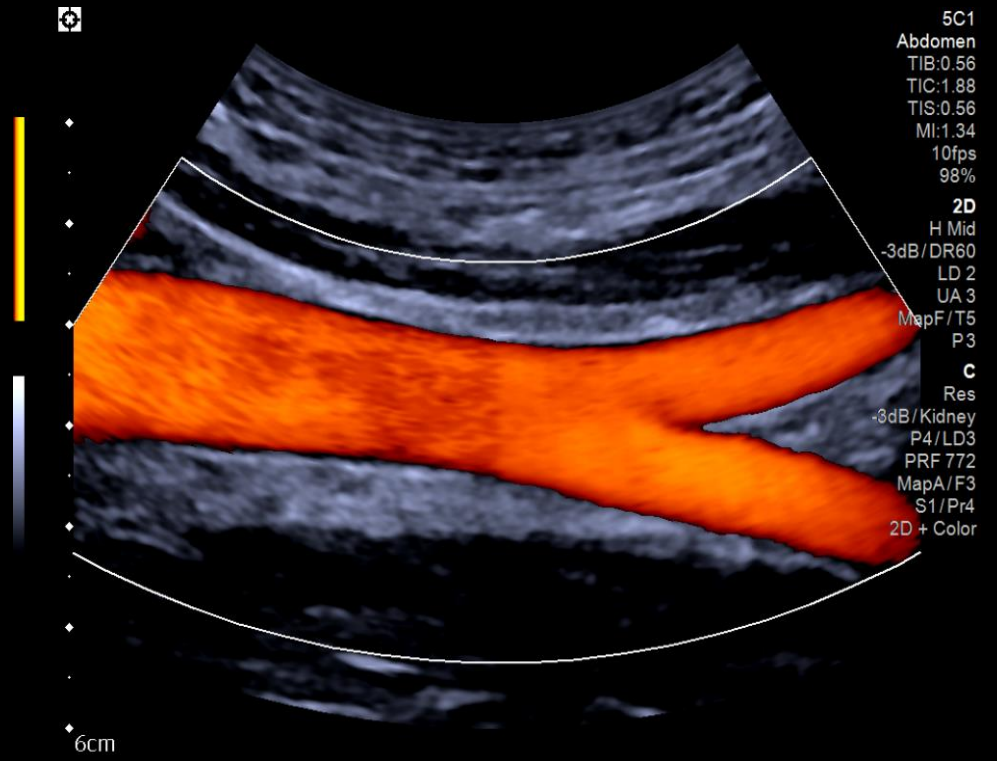
Auto flash artifact suppression

Auto flash artifact suppression applies flash suppression relative to user motion



Color Doppler



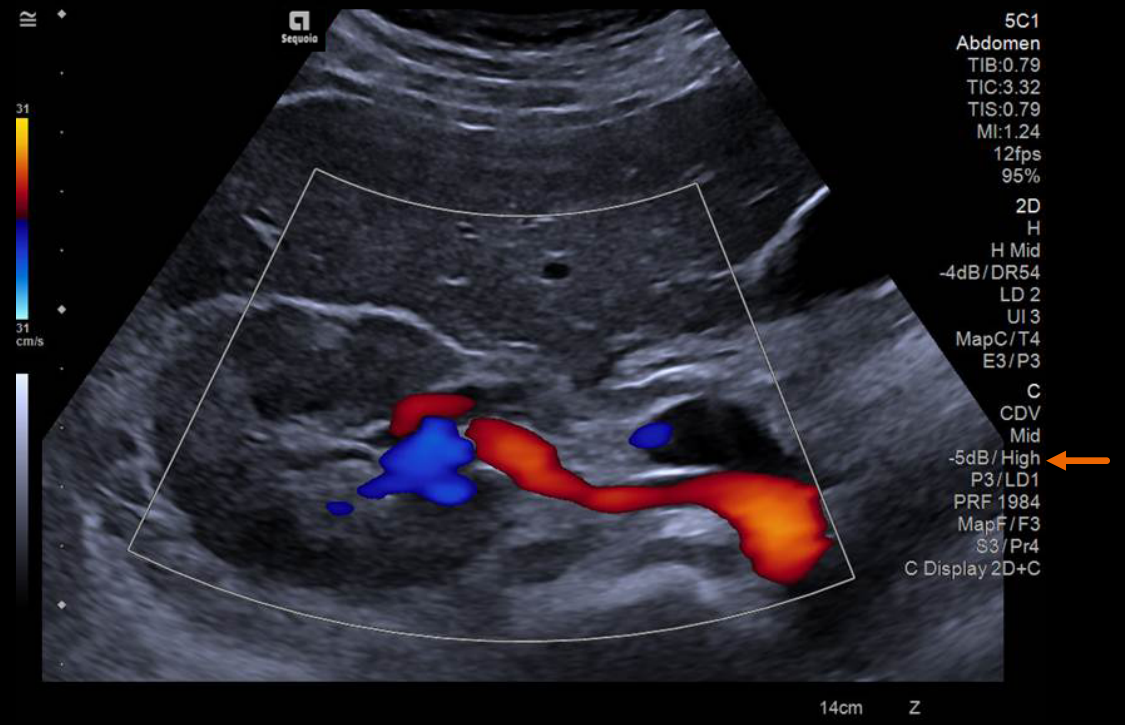


Display modes

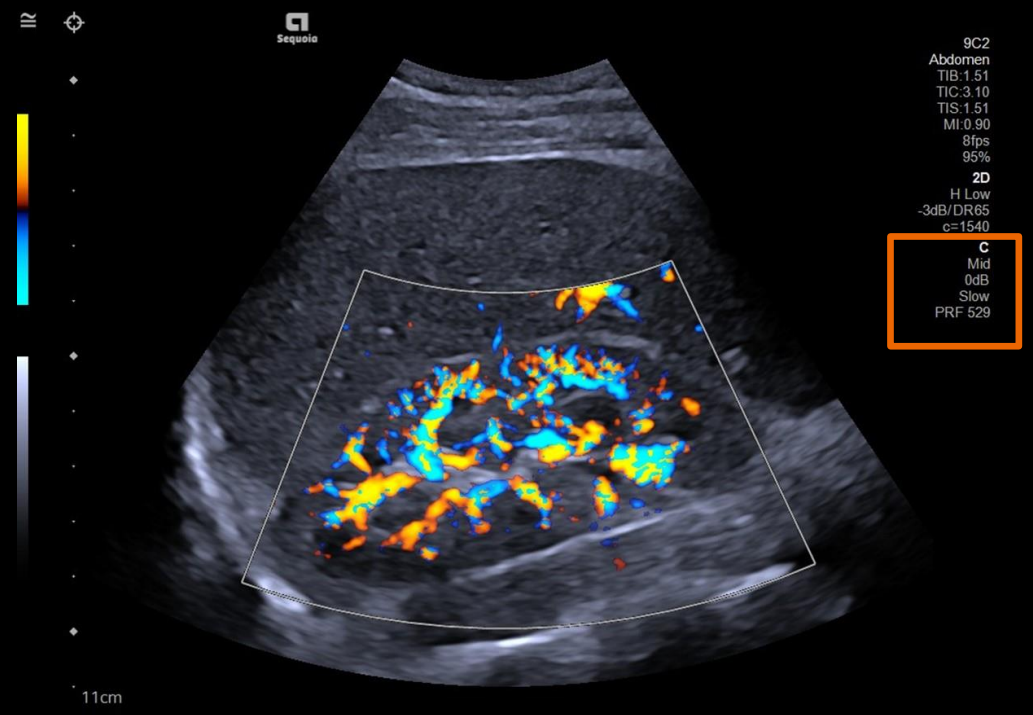
2D + Color	2D Only	Color Only
Slow	Kidney	Aorta
Low	General	High

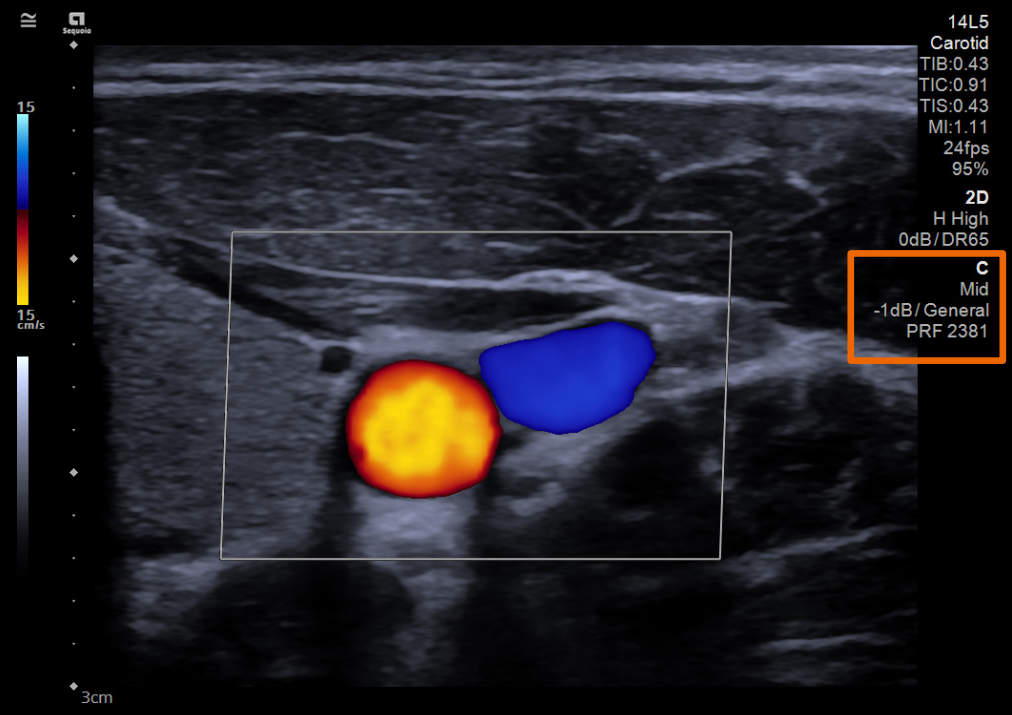
Flow states

2D + Color	2D Only	Color Only
Slow	Kidney	Aorta
Low	General	High

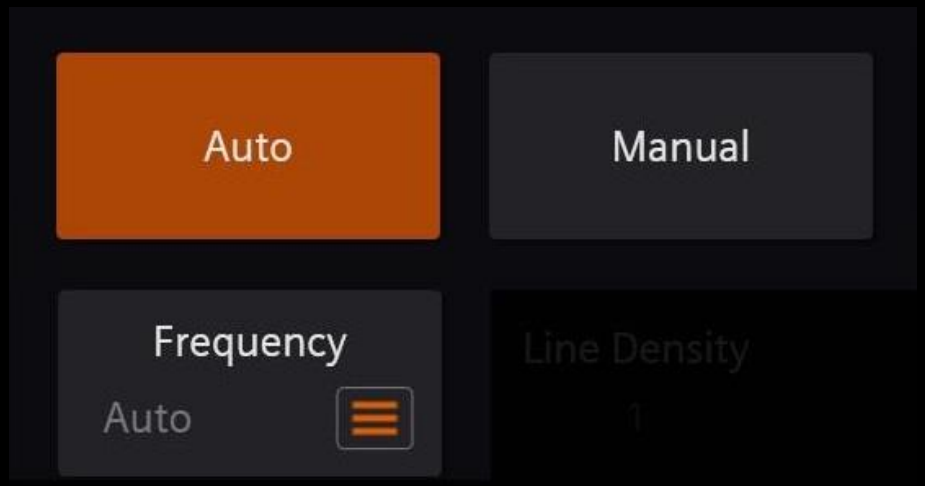


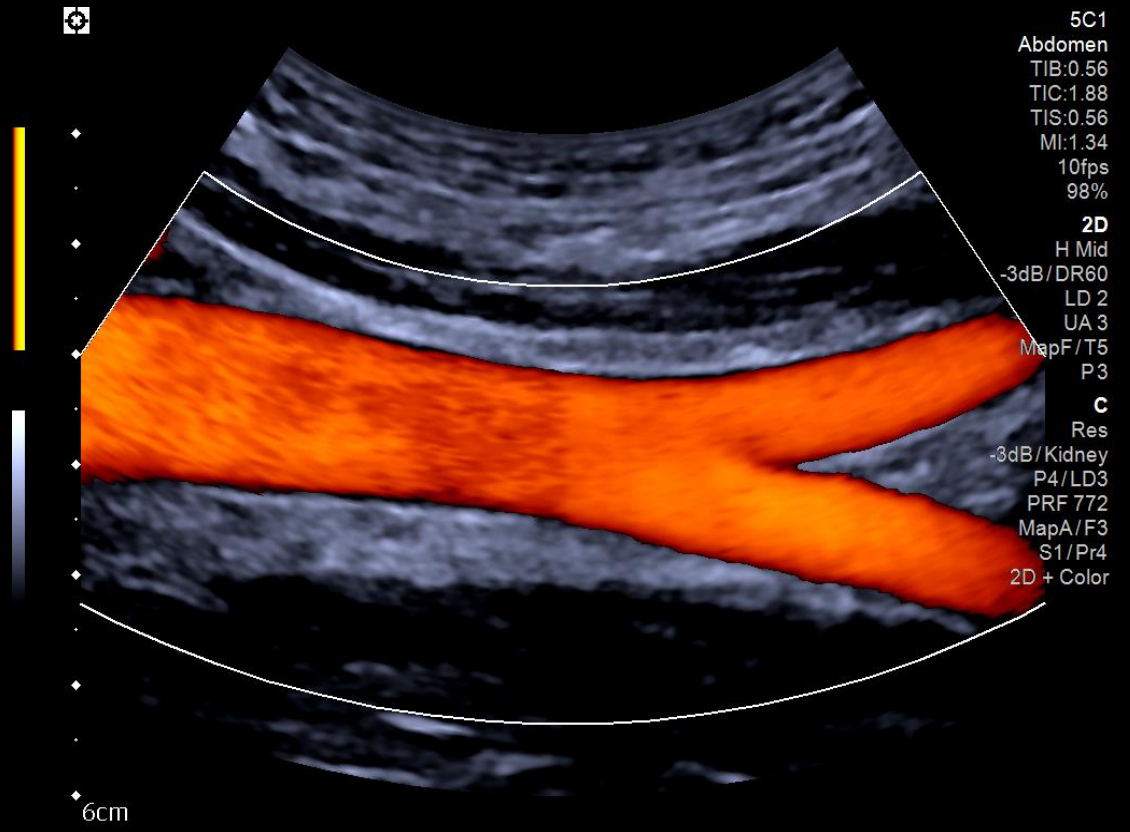
Flow state examples





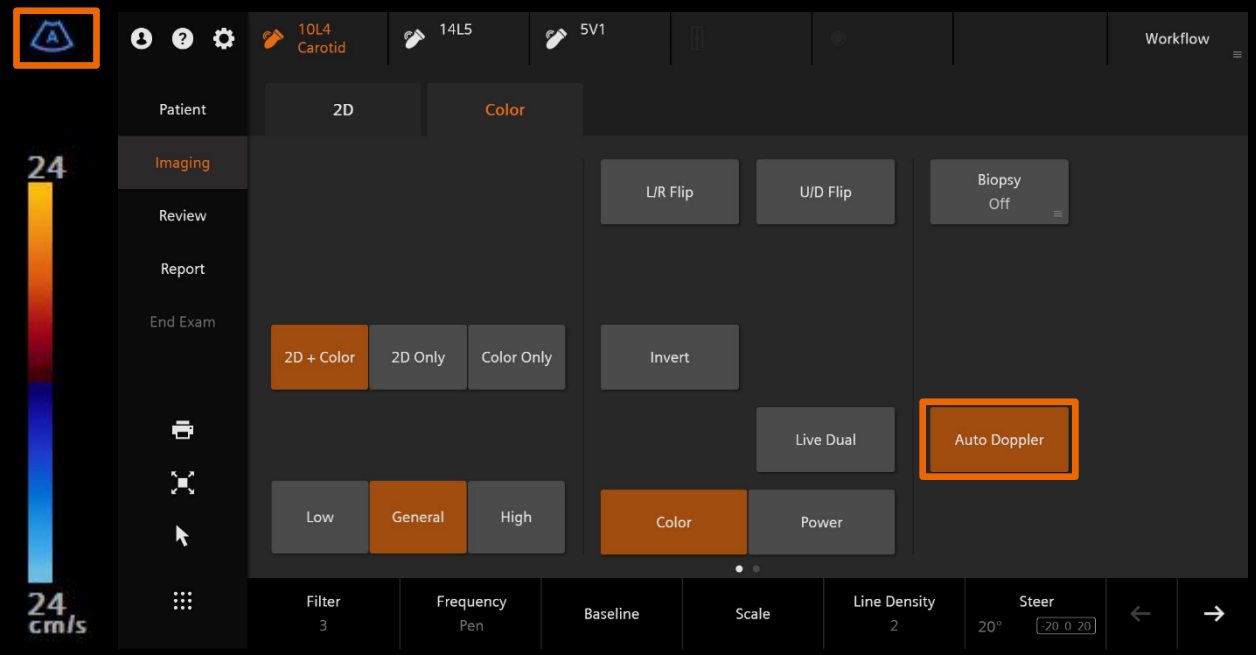
Dynamic MultiHertz Technology



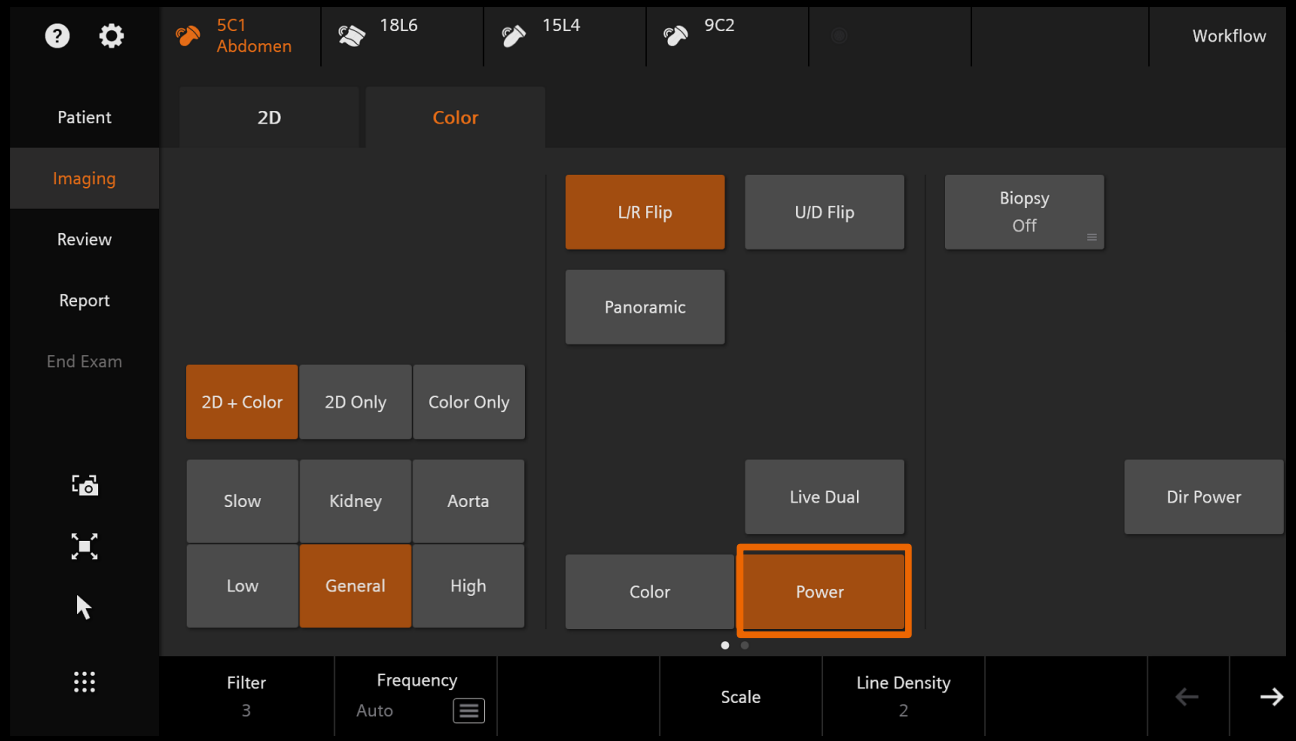


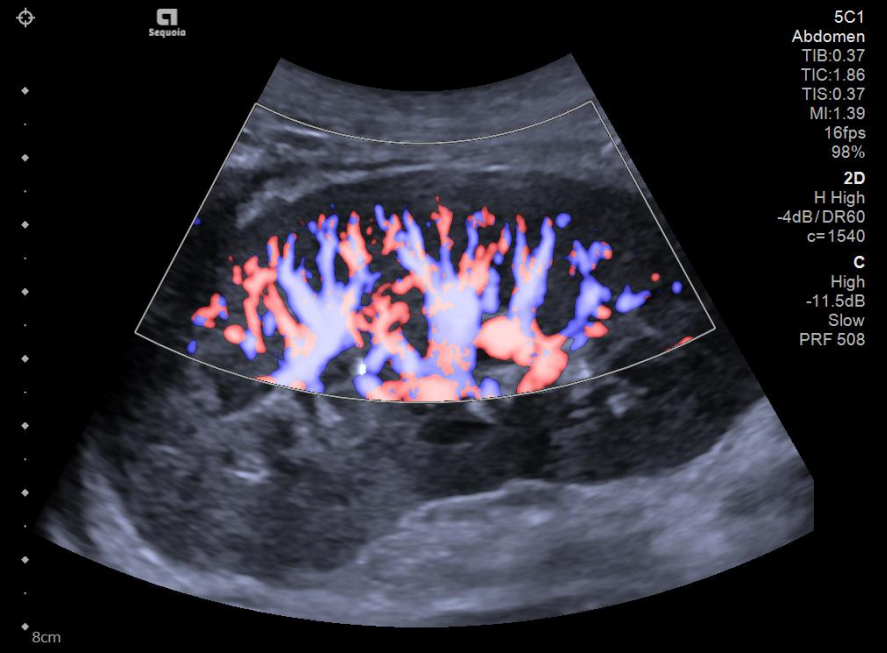
Auto Doppler

- Available on Touch Screen when Color or PW Doppler activated
- Automated placement of Color ROI
- Automated placement of the sample gate and 60 ° angle correct for Pulsed-wave Doppler
- Available on 10L4 Transducer in the carotid and arterial preset
- **Icon located above color bar**

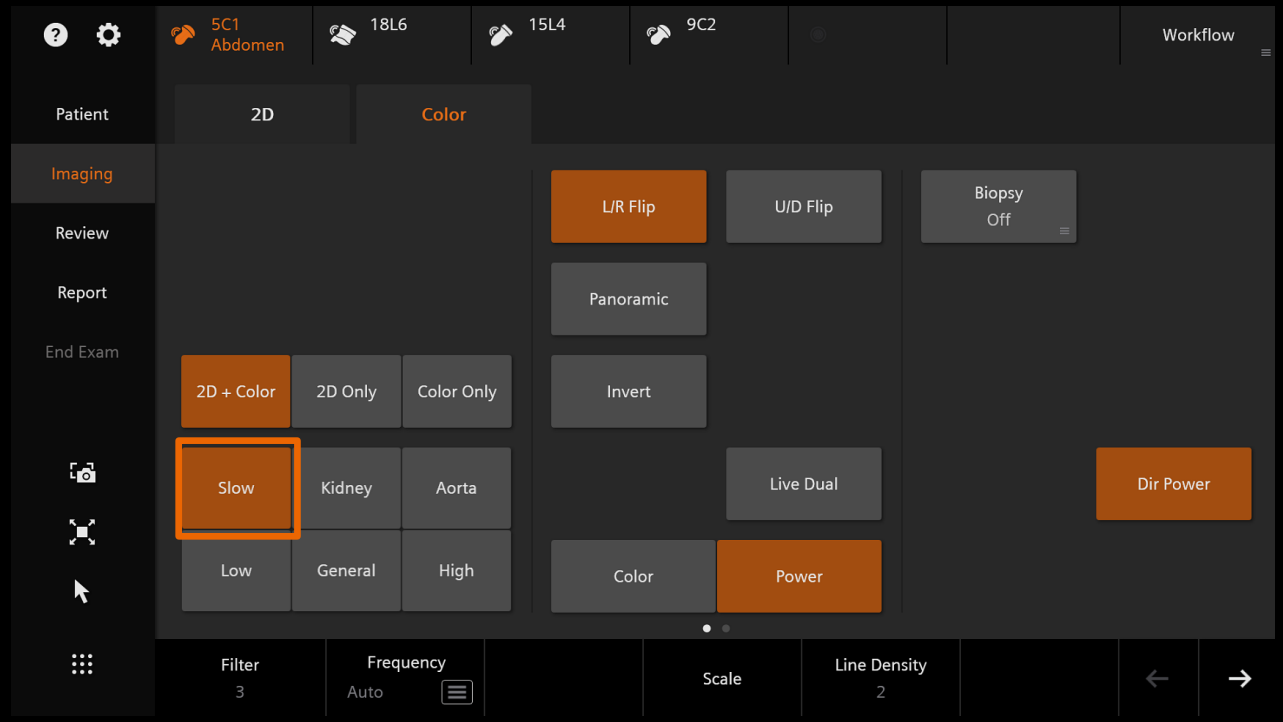


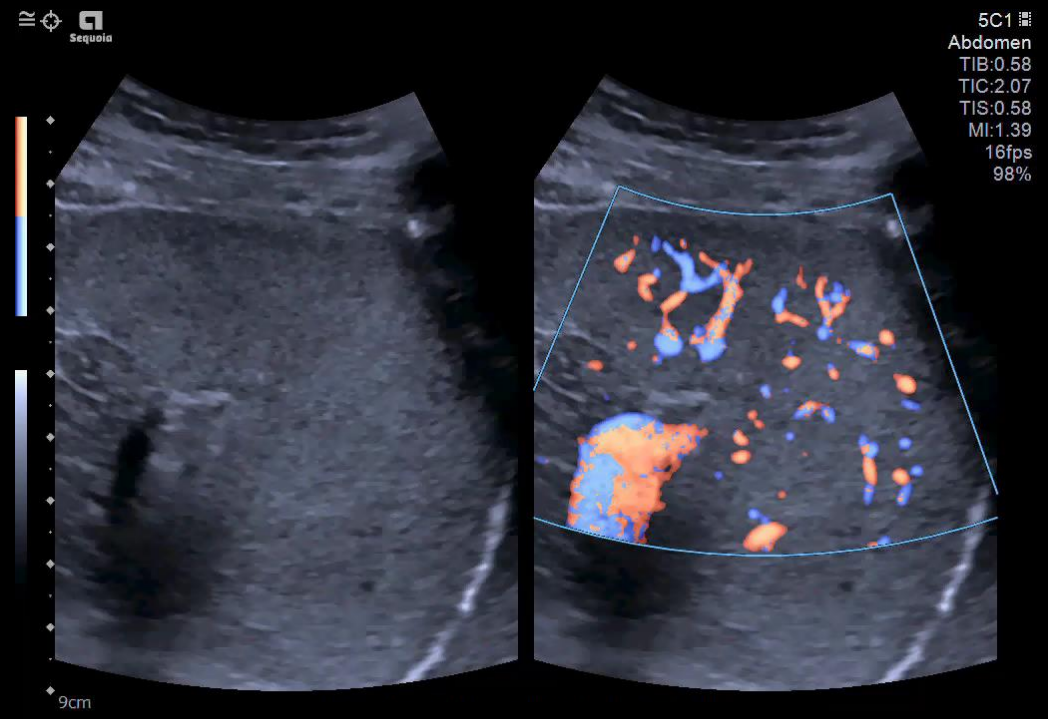
Power Doppler





Slow Flow





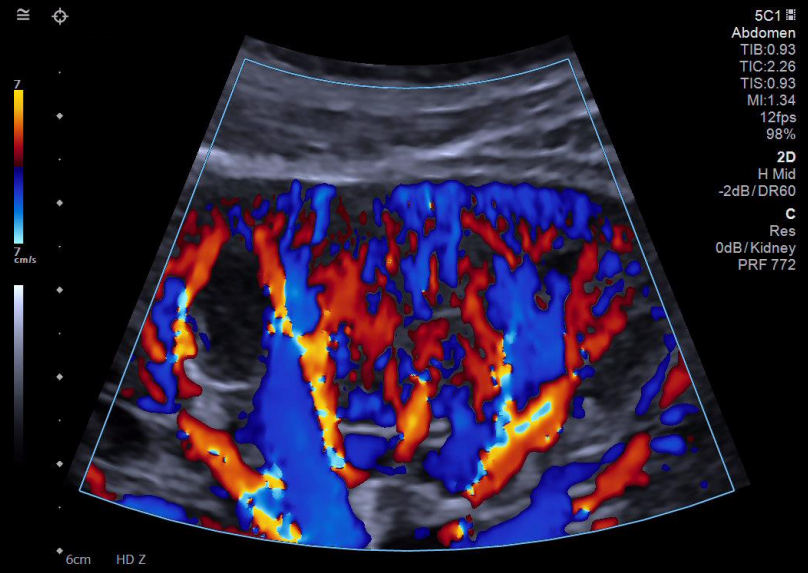
Color Doppler – Soft keys

Filter	Frequency	Baseline	Scale	Line Density
2	Auto			2

Page One

Smooth	Persist	Maps	Priority
3	3	F	4

Page Two



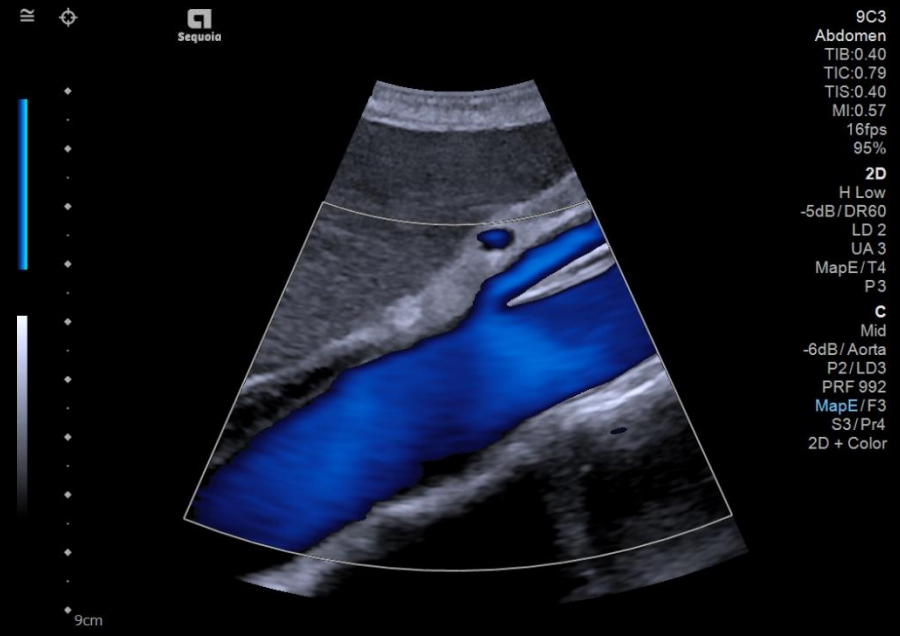
Power Doppler – Soft keys

Filter	Frequency		Scale	Line Density
3	Auto			2

Page One

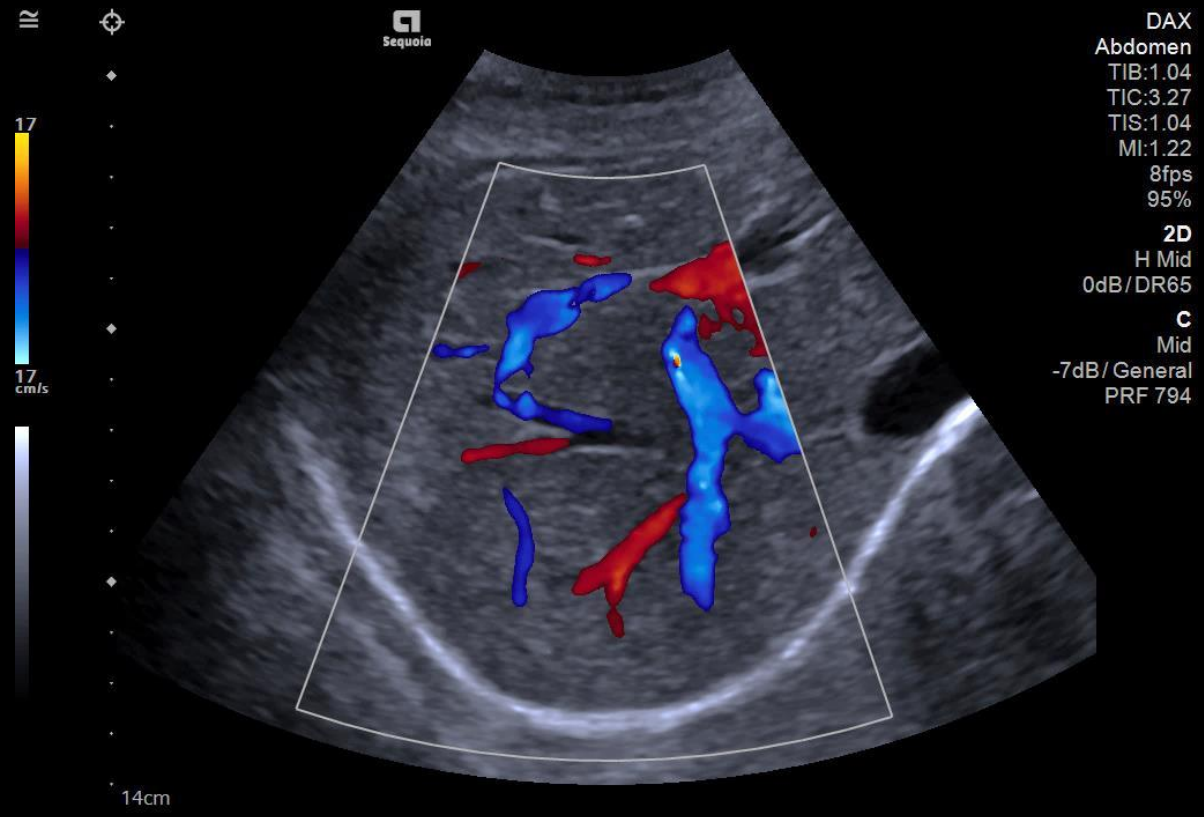
Gate Size				Angle Correct
2 mm				0° 60 0 60

Page Two

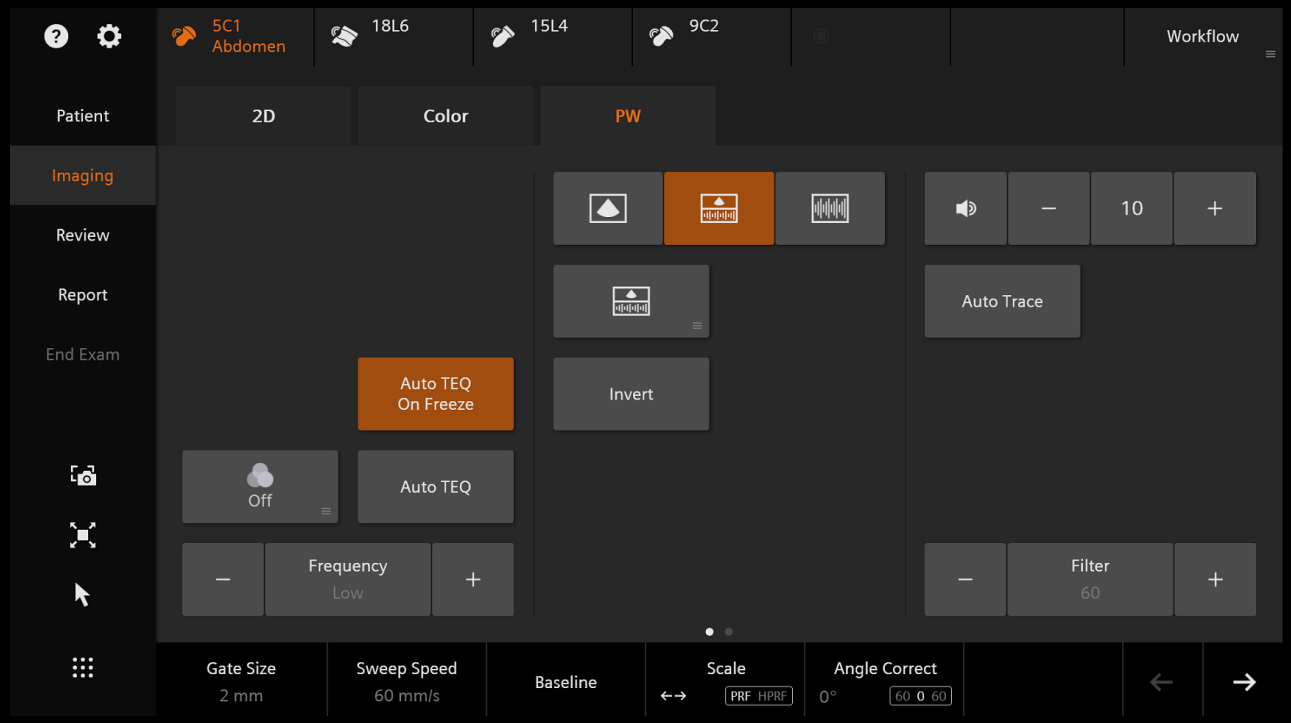


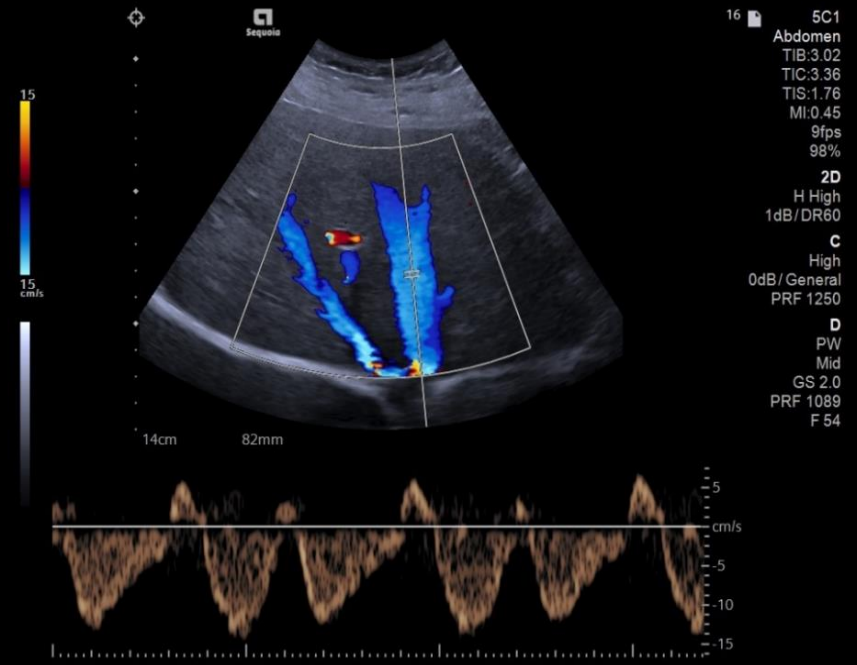
Color post-processing

- 2D Gain
- Baseline
- Map
- Priority
- Invert



Pulsed wave (PW) Doppler

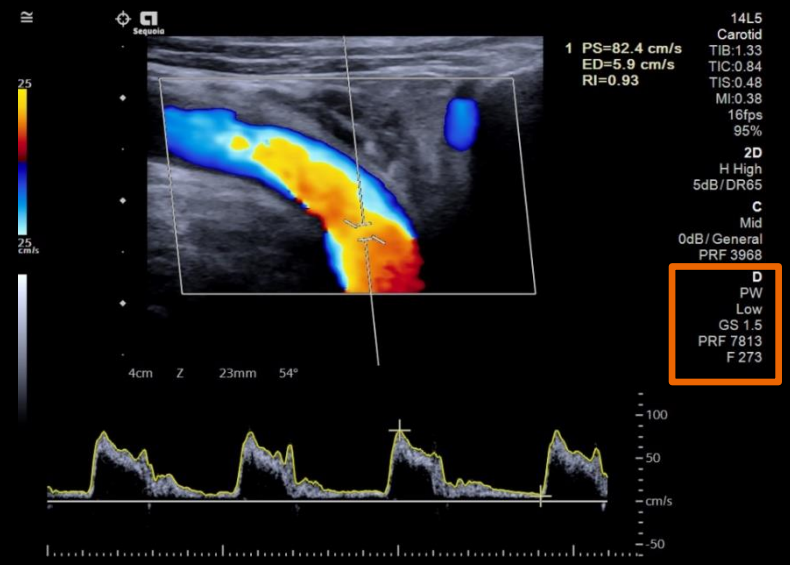




Pulsed wave (PW) Doppler – soft keys

Gate Size	Sweep Speed	Baseline		Scale	Angle Correct	
2 mm	60 mm/s		←→	PRF HPRF	0°	60 0 60

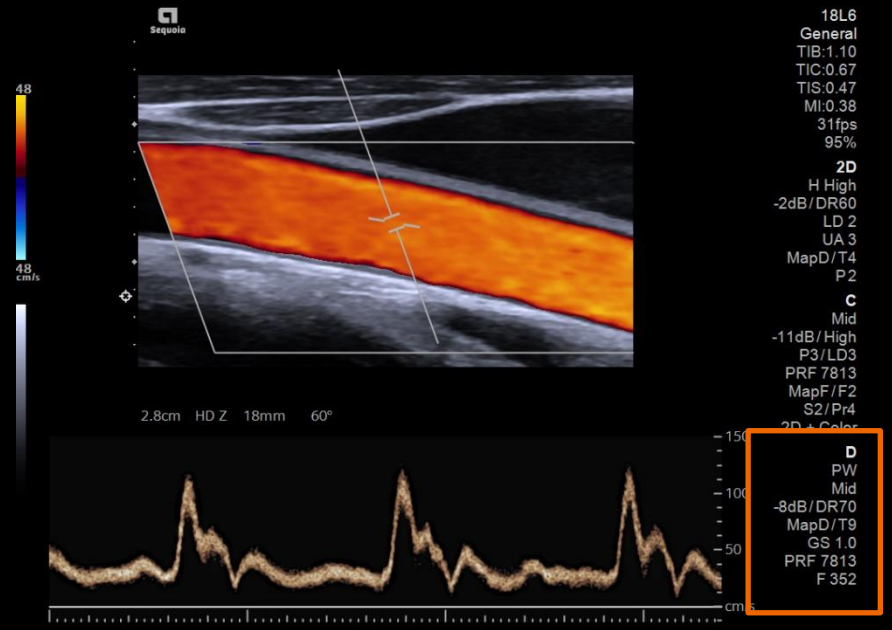
Page One



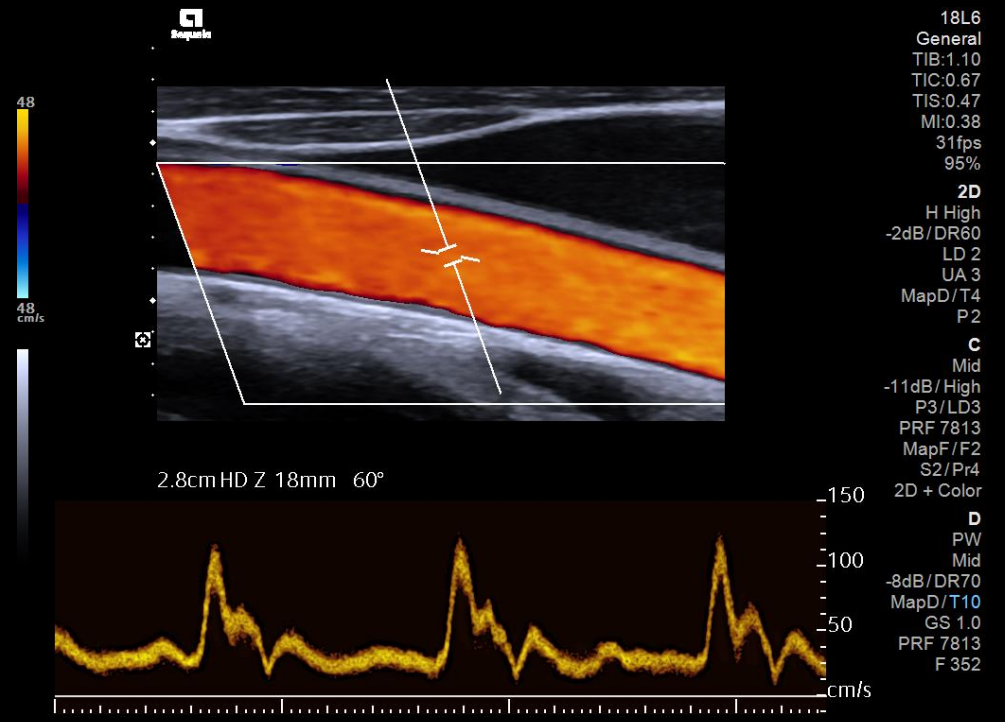
Pulsed wave (PW) Doppler – soft keys

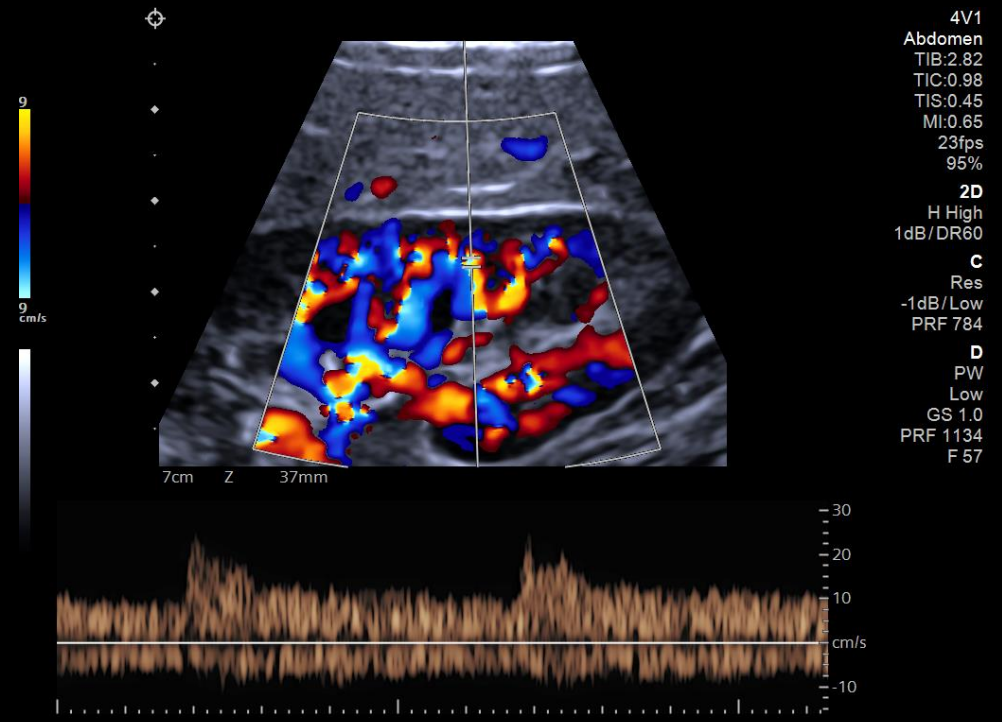
		DR	Edge	Maps	Tint
		60 dB	2	D	5

Page Two



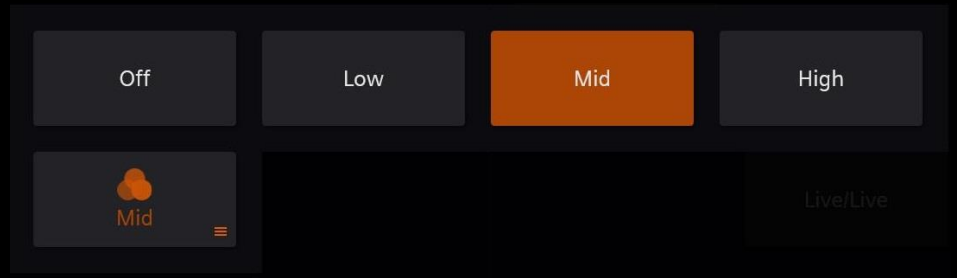
Tint

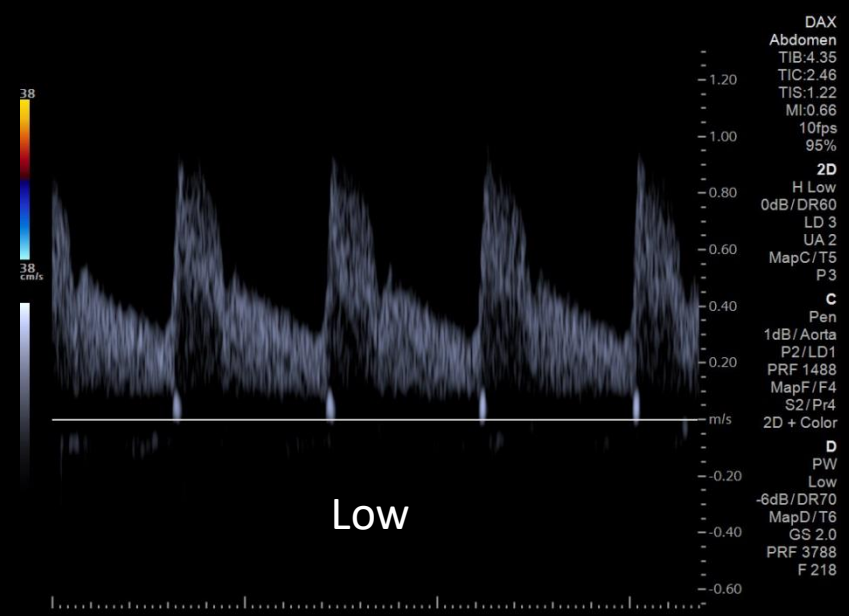




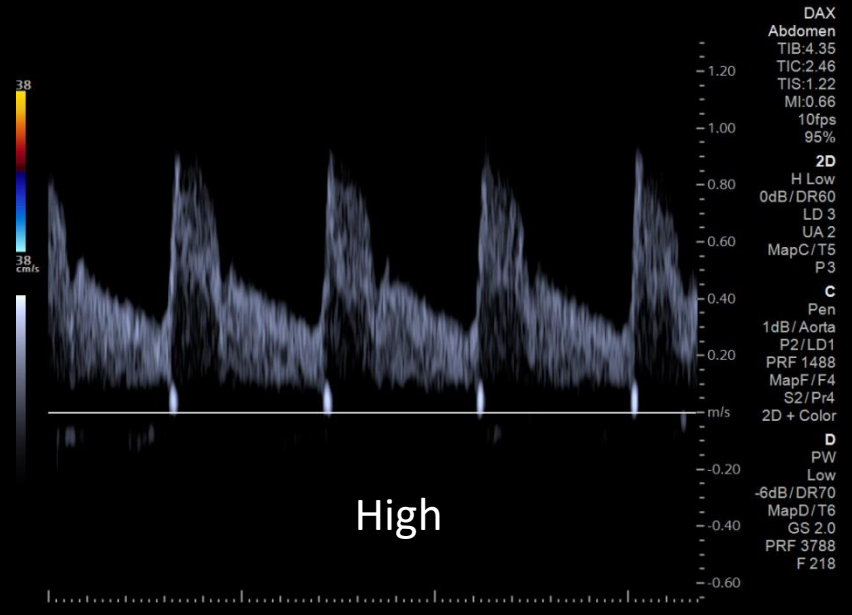
UltraArt

SIEMENS Healthineers



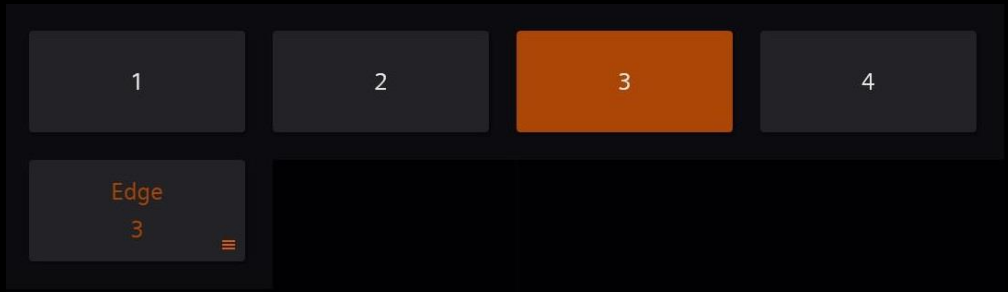


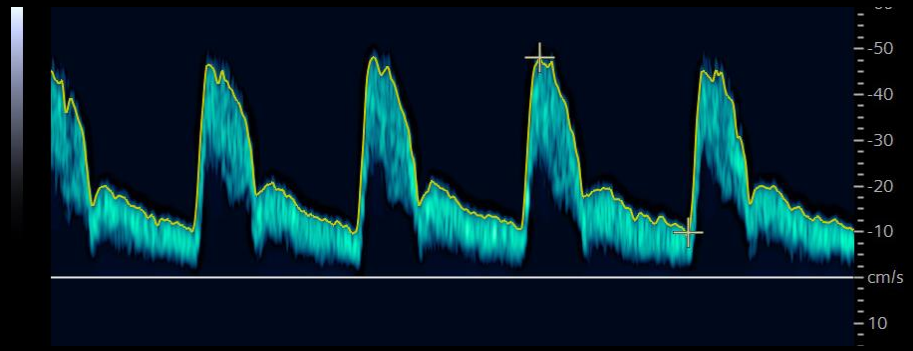
Low

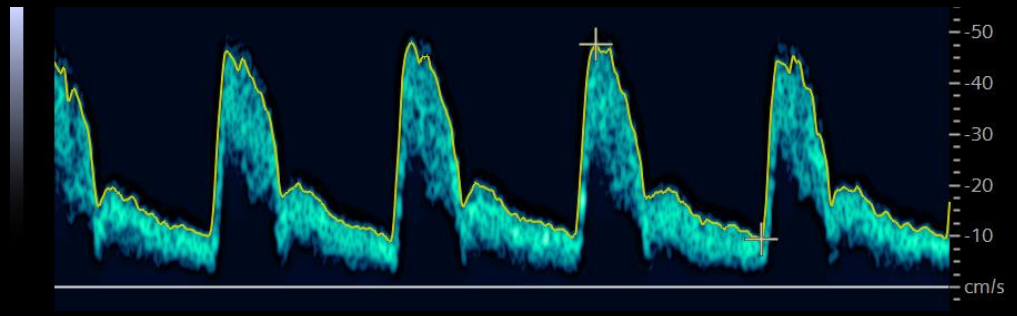


High

Edge in PW Doppler

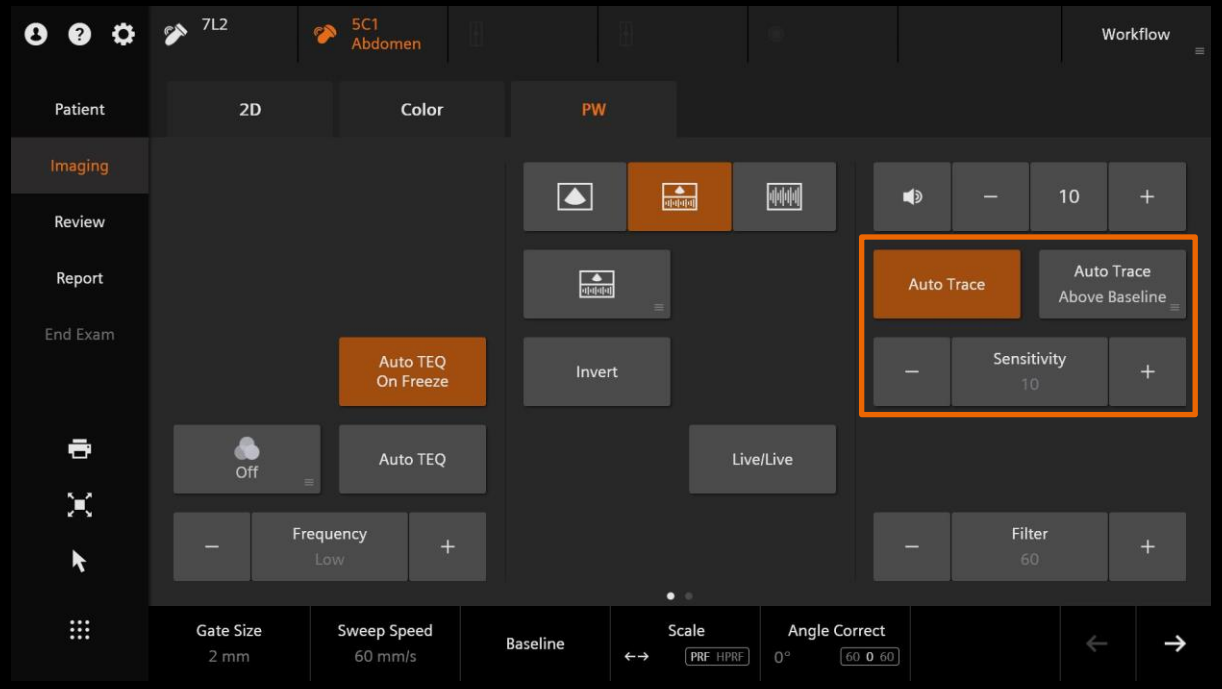


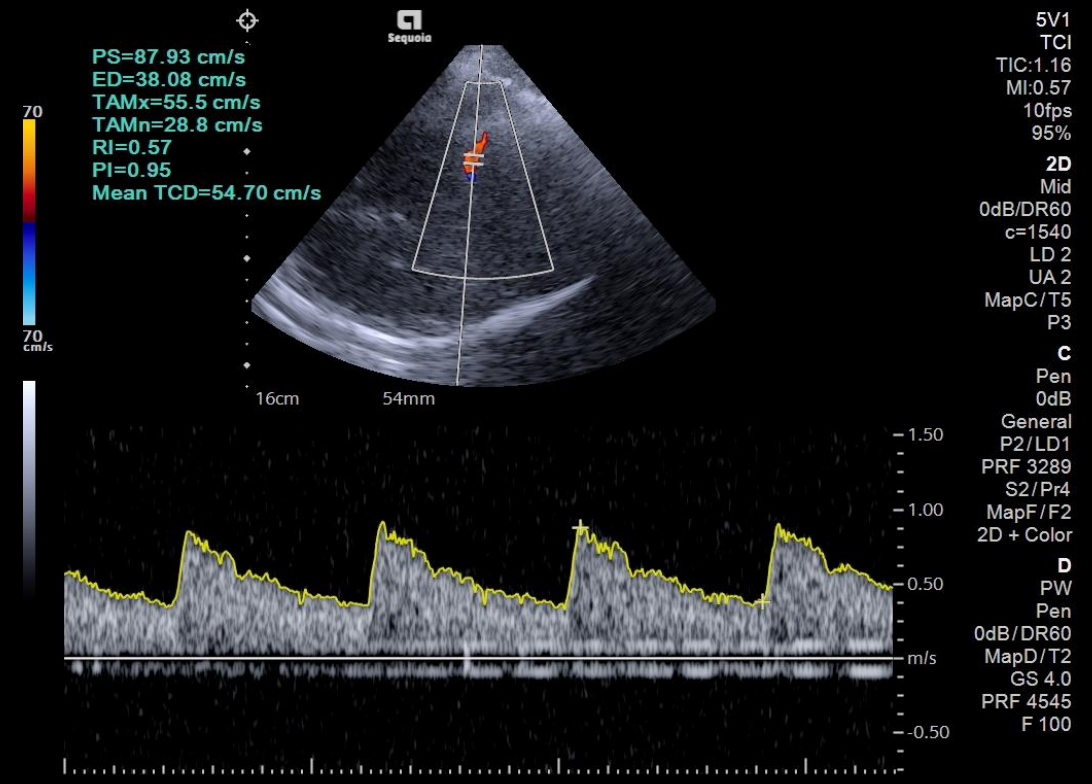




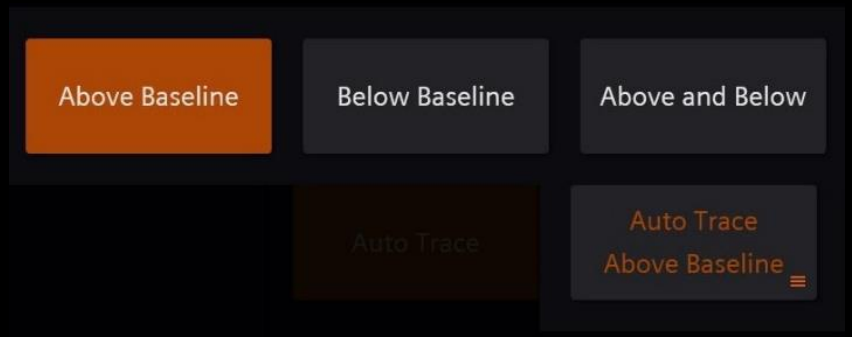
Auto Trace Optimization & Sensitivity

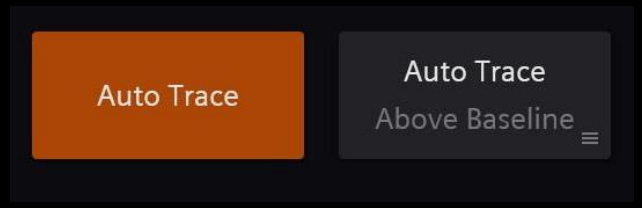
SIEMENS Healthineers

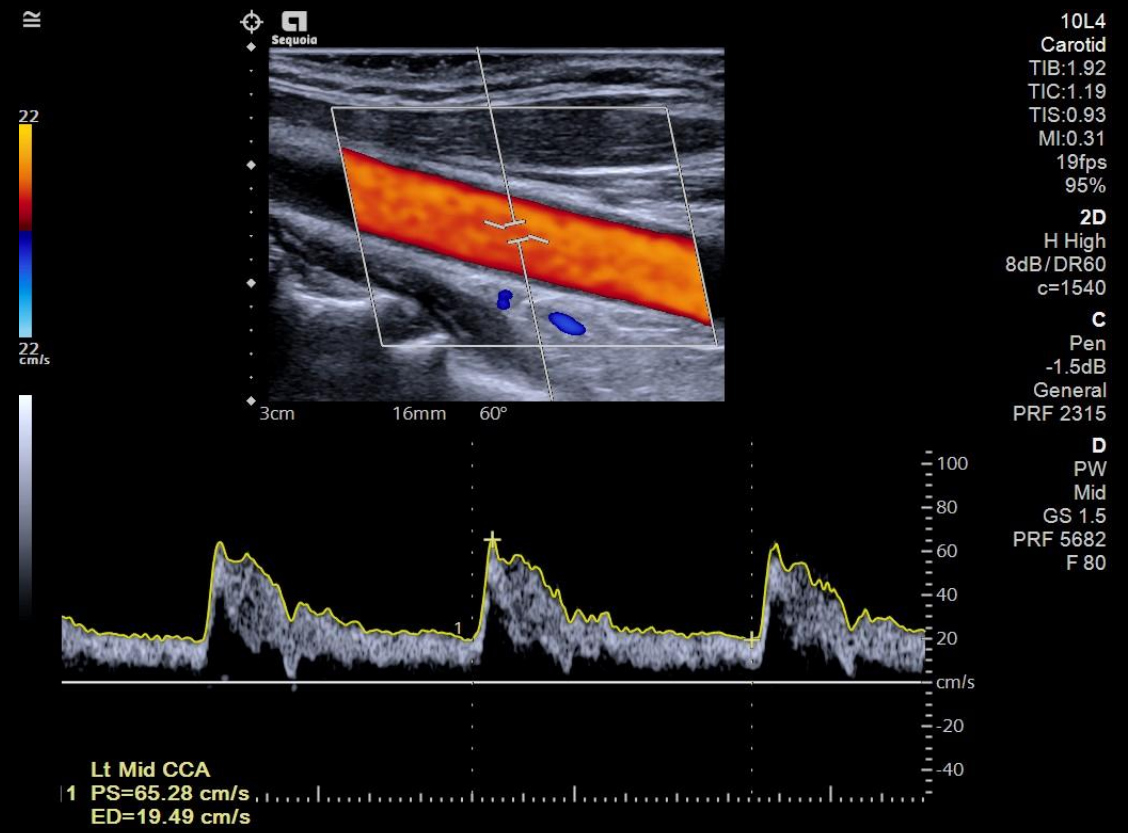




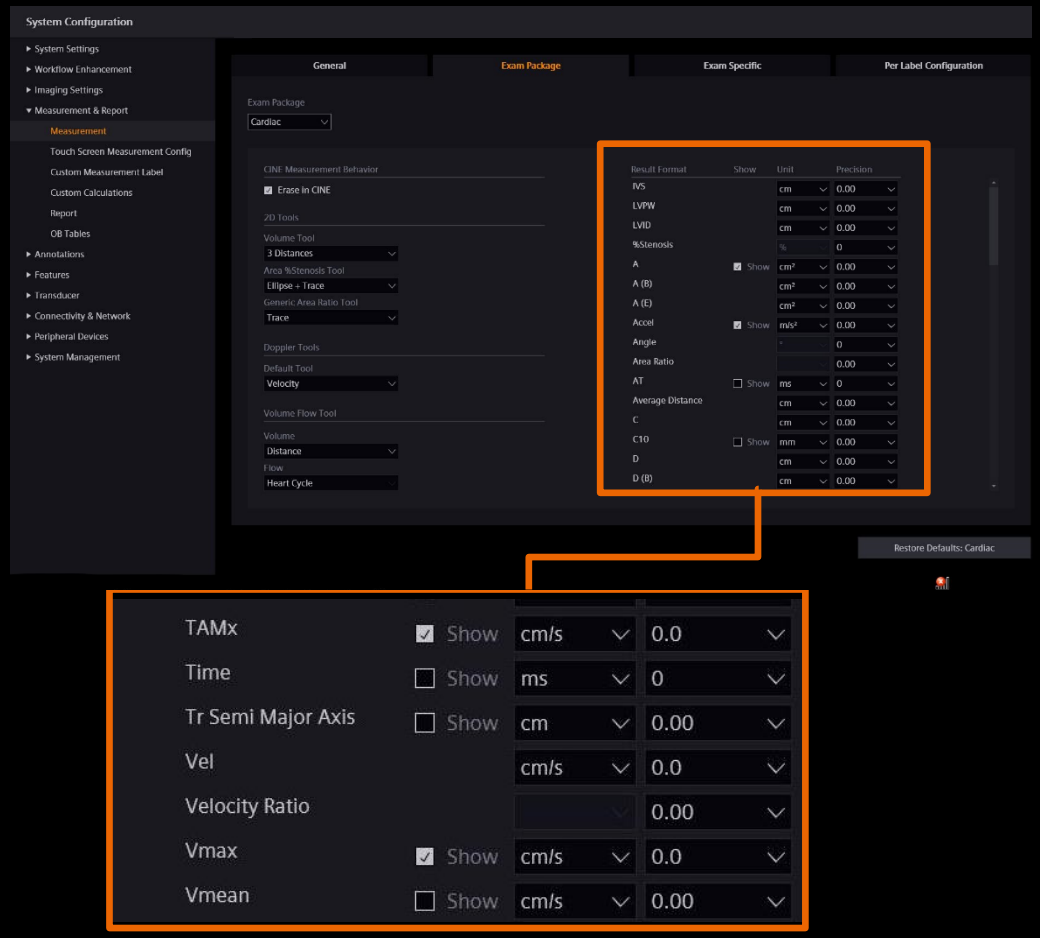
Auto Trace

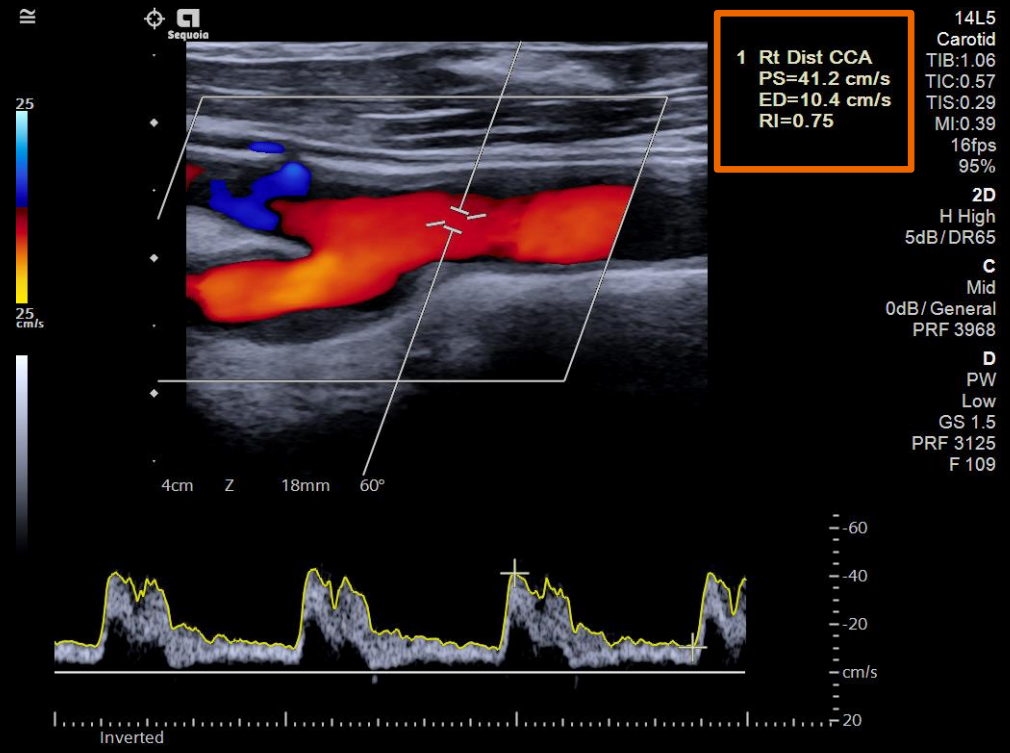






Auto Trace configuration

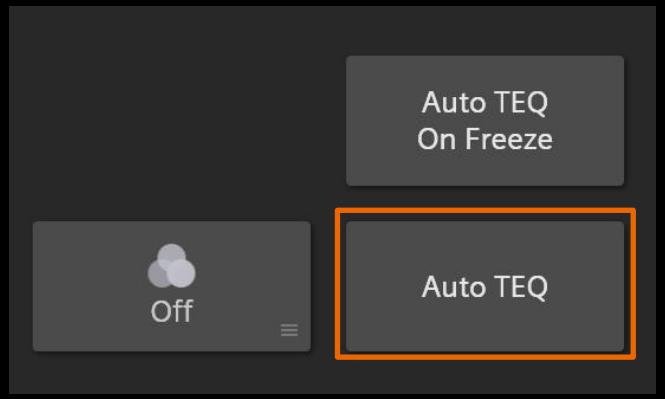


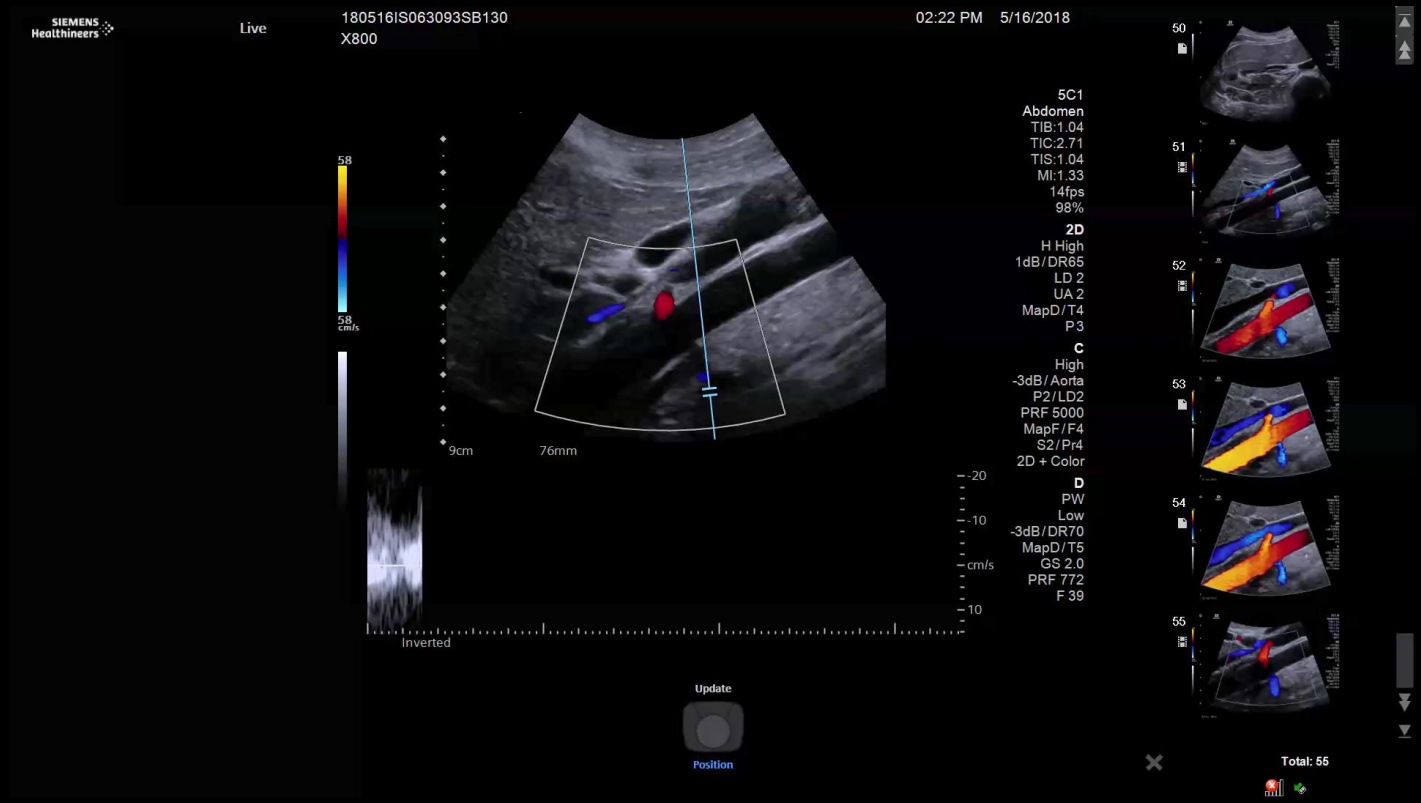


Auto TEQ tissue equalization technology
Doppler optimization

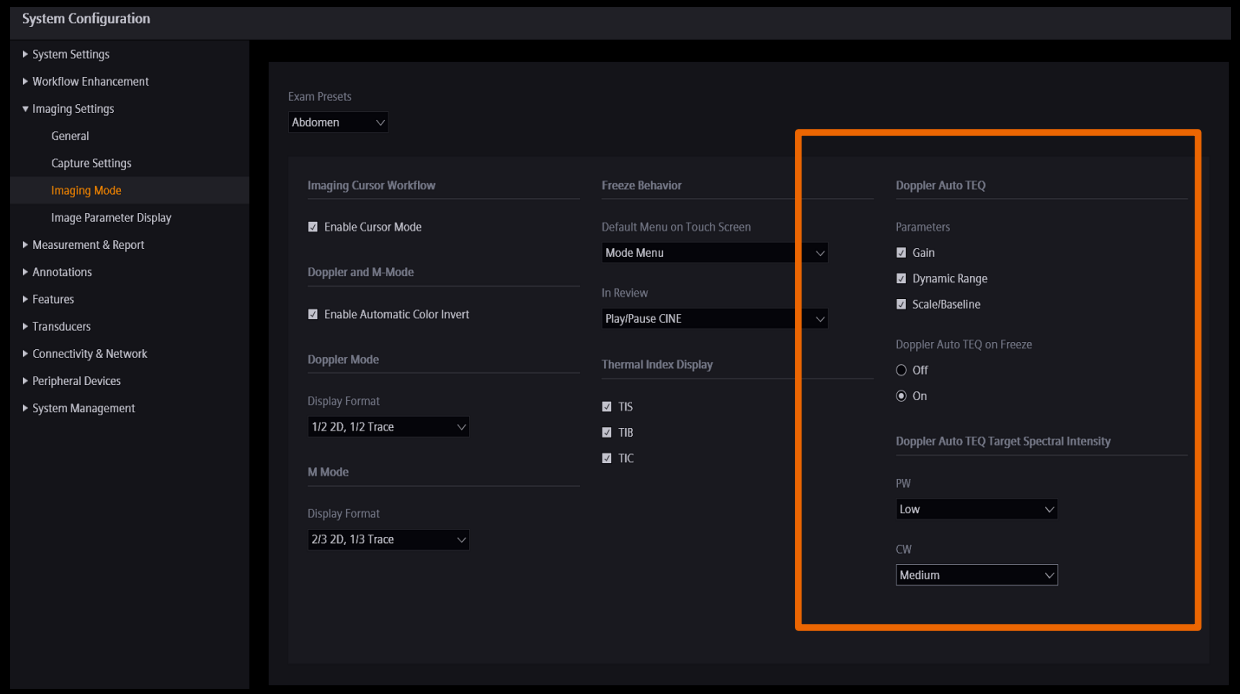
Automatic spectral Doppler optimization of:

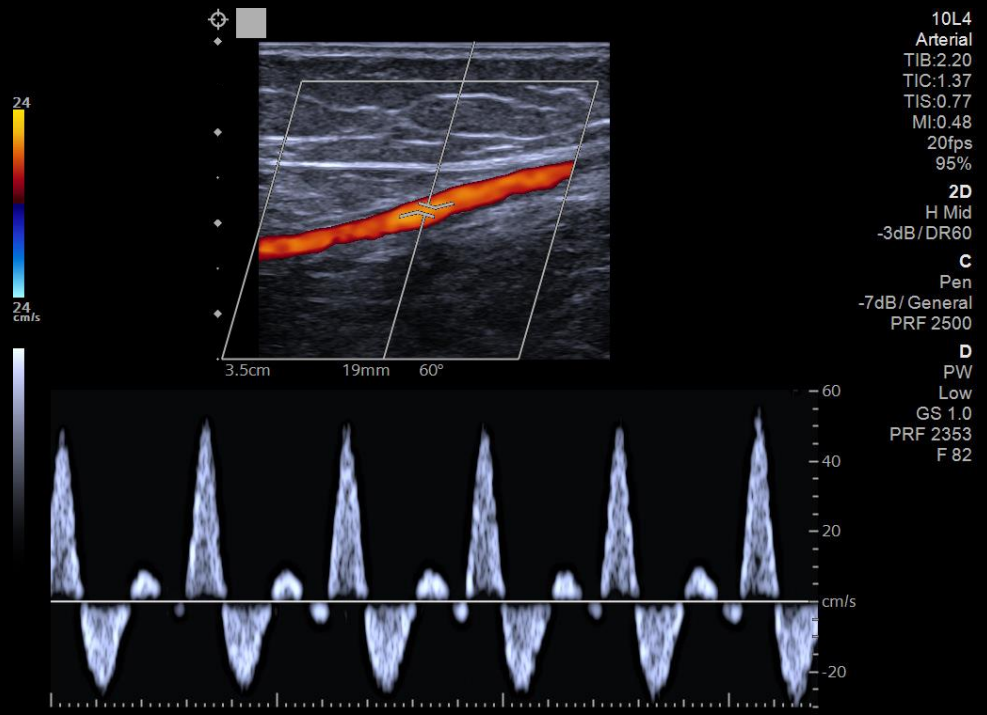
- Gain
- Scale/Baseline
- Dynamic Range





Auto TEQ tissue equalization technology
Doppler optimization

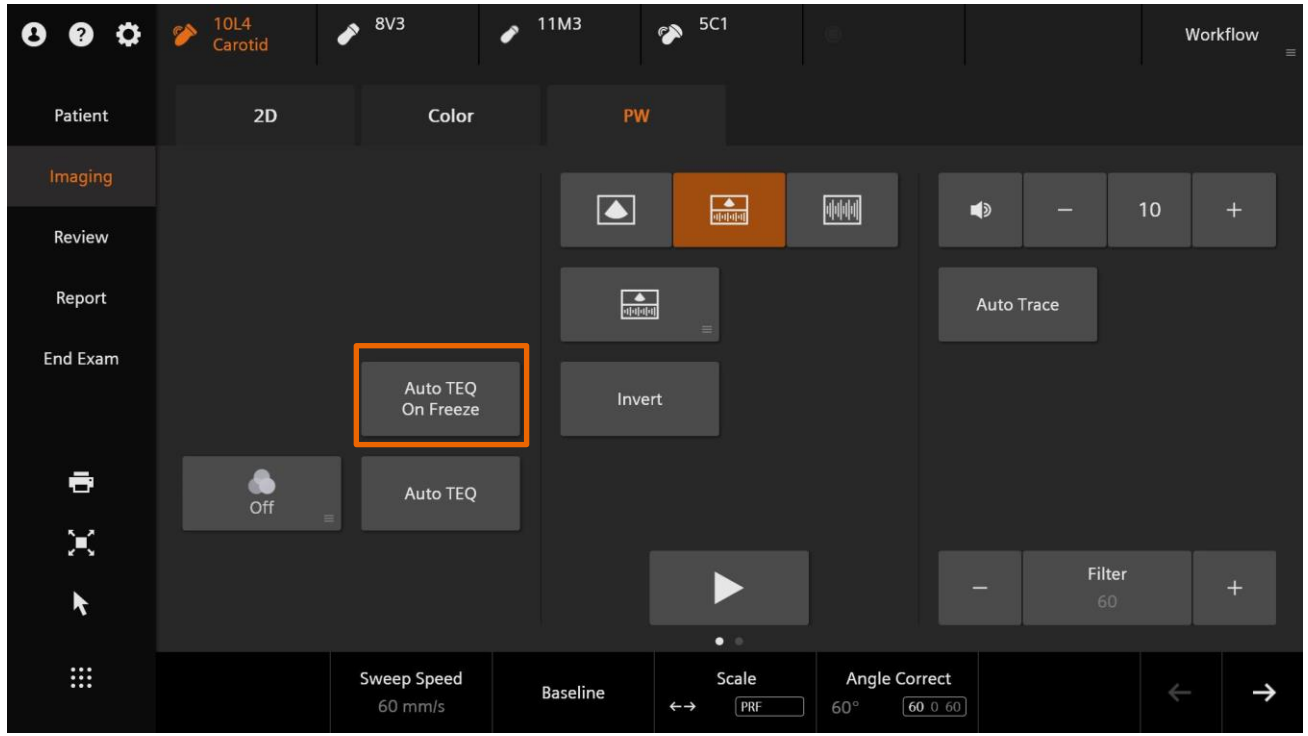




Auto TEQ on Freeze Touch Screen

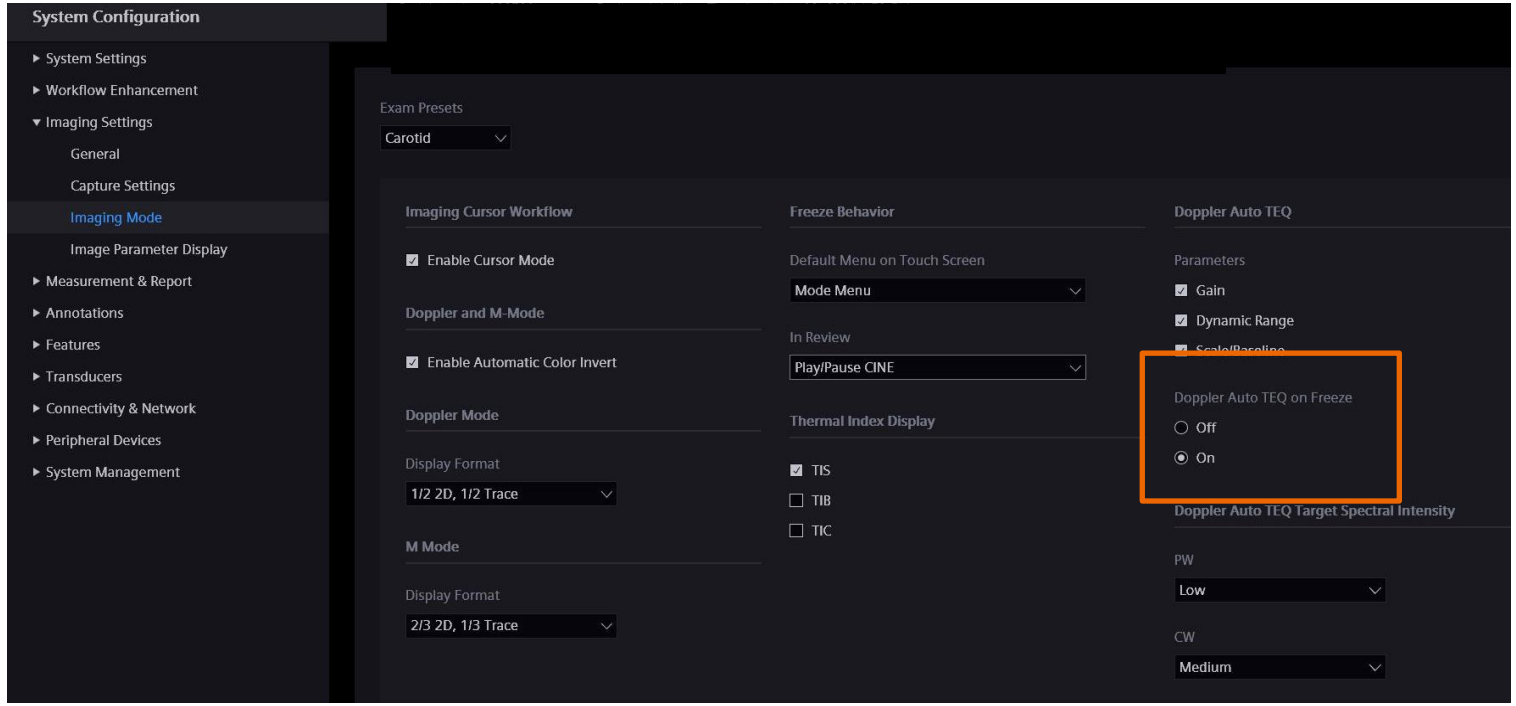
Touch Screen PW Mode Button will only appear when Doppler TEQ on freeze is *turned on*

- When feature is activated: scale and baseline will automatically optimize on freeze
- When the feature is not activated: scale and baseline is set by user and remain unchanged after freeze

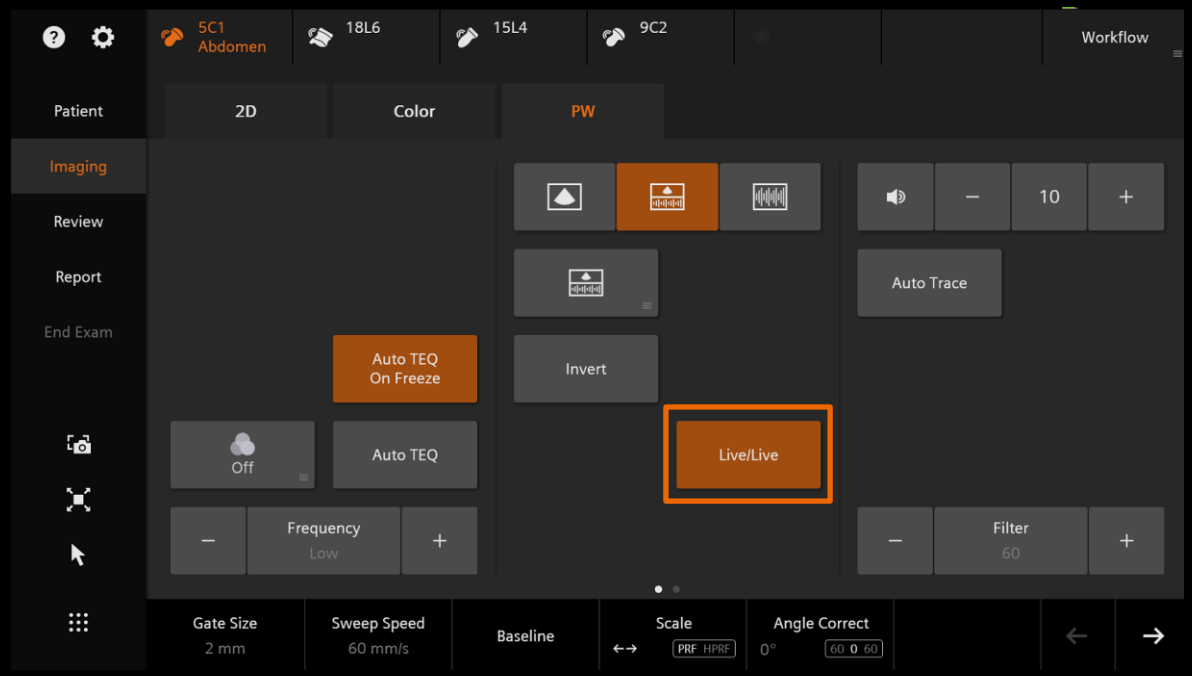


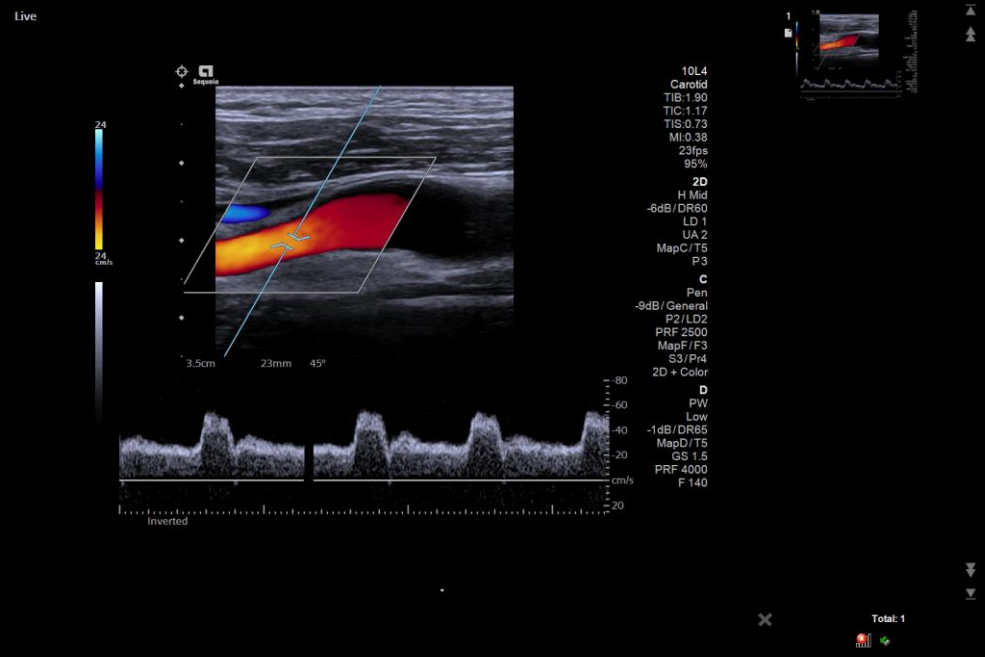
Doppler Auto TEQ on Freeze

- There is the option to pause Auto TEQ on Freeze
- System Configuration > Imaging Settings > Imaging Mode > doppler Auto TEQ on Freeze

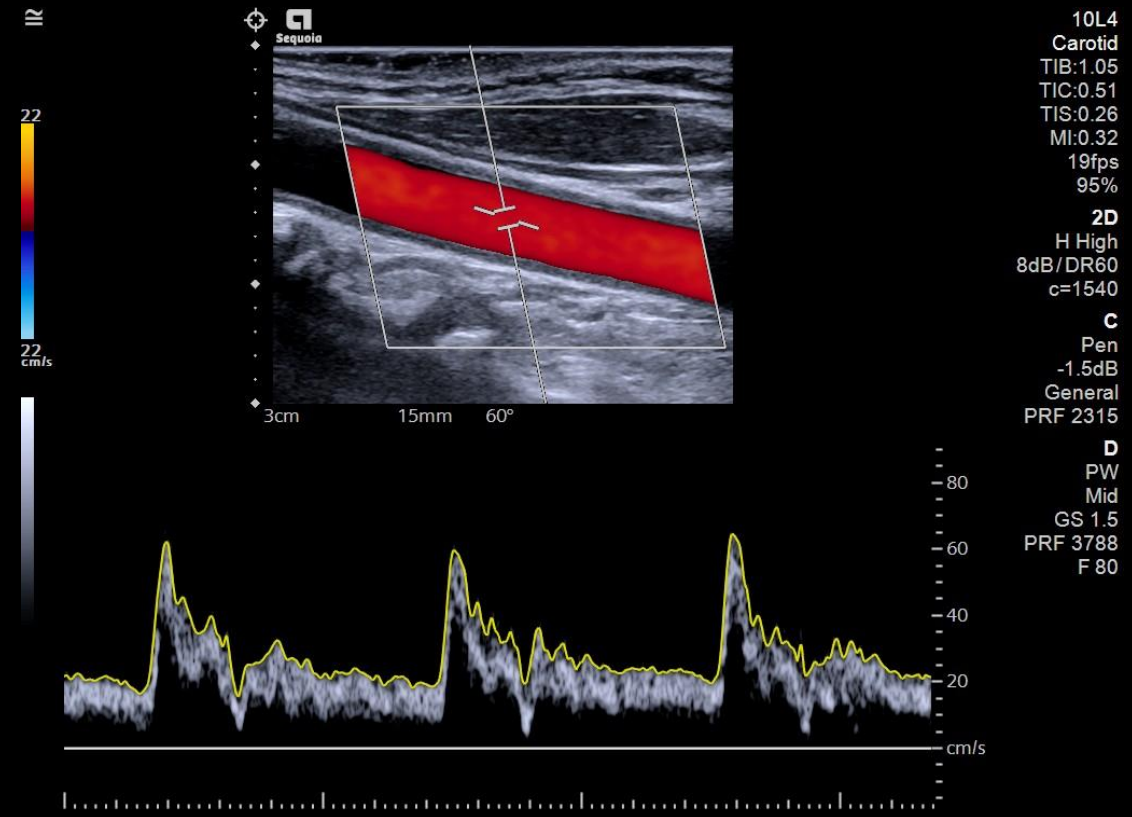


Live/Live (triplex)

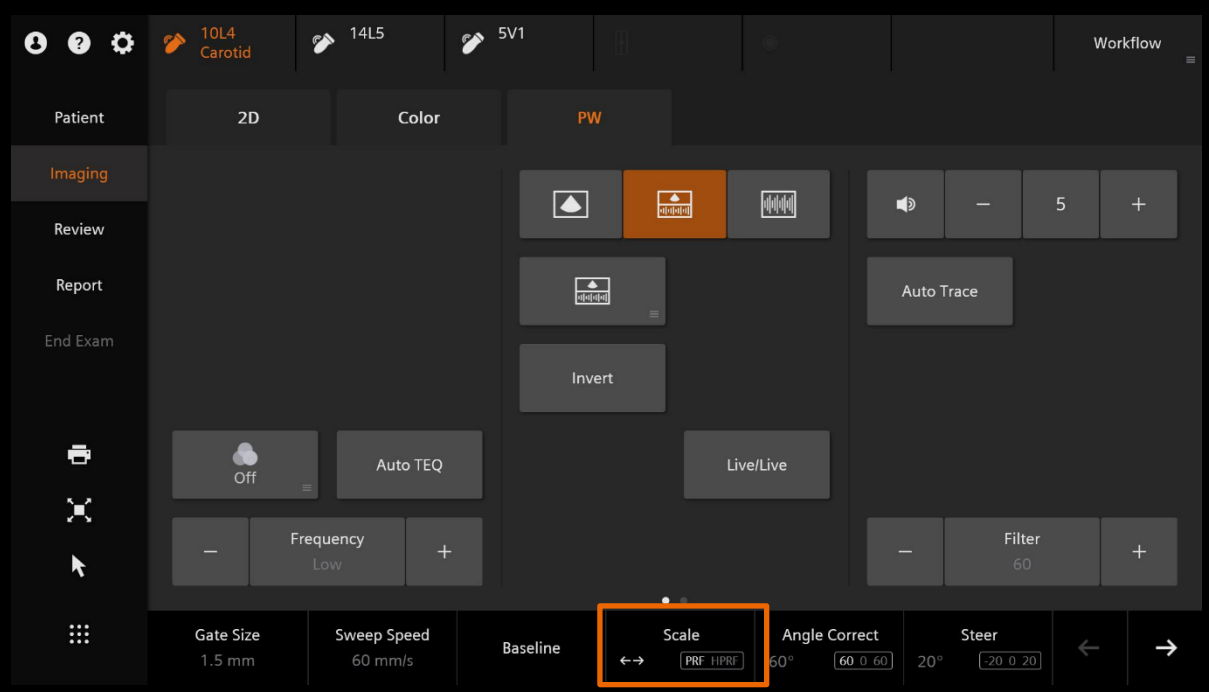


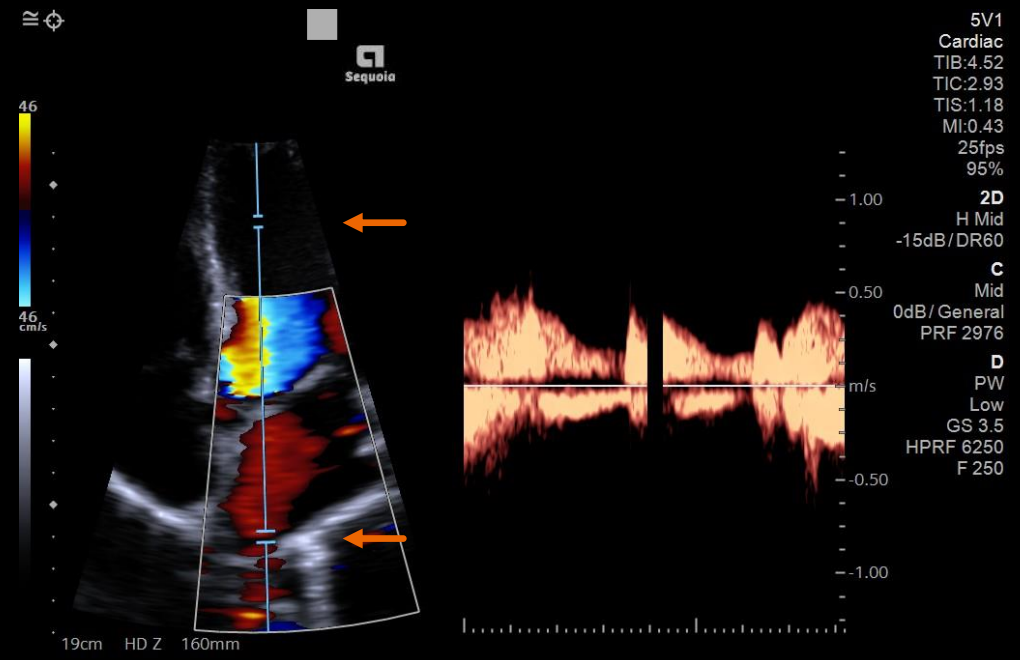


Display modes



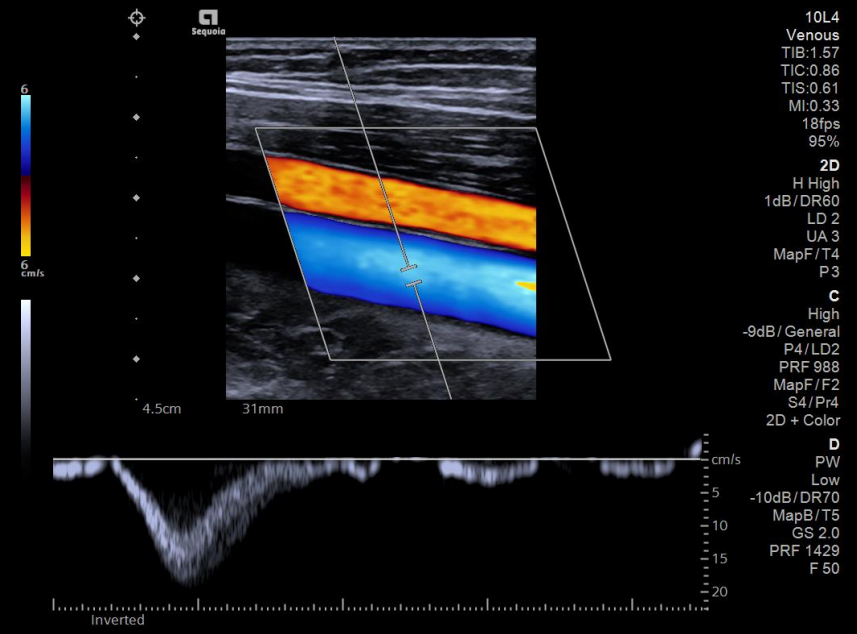
HPRF – High pulse repetition frequency





Doppler post-processing

- 2D/PW Gain
- Scale
- Baseline
- Invert
- Angle Correct
- Edge
- Auto Trace
- Ultra Art
- Sweep Speed
- Dynamic Range
- Maps
- Tints
- Format (1/3-2/3, side-by-side, 2/3-1/3, 1/2-1/2)



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Thank you for your enthusiasm!

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Questions?