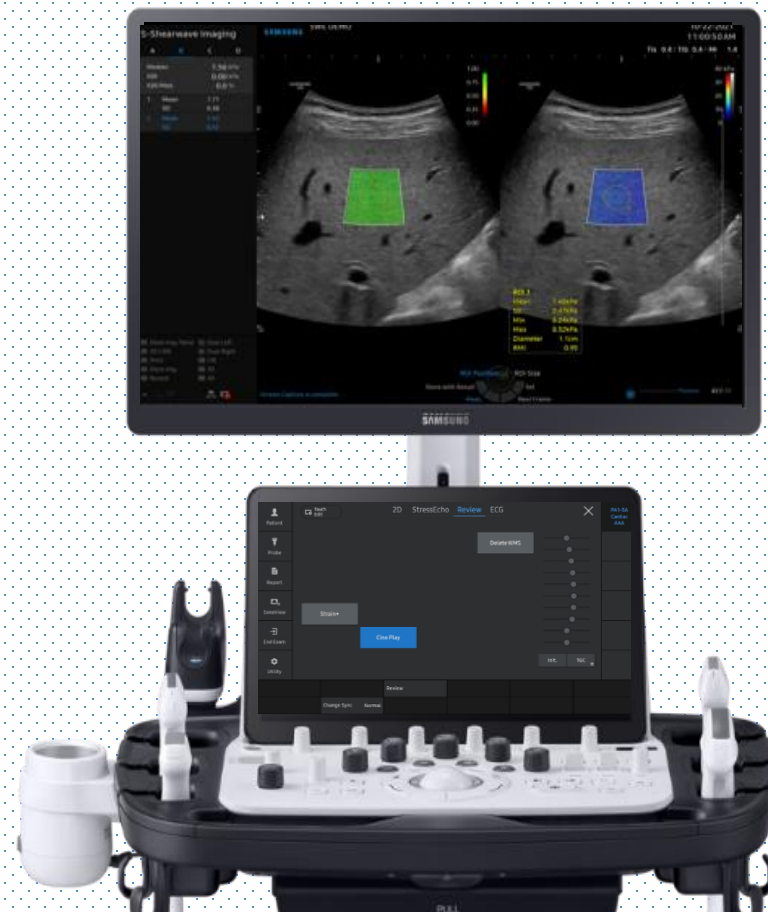
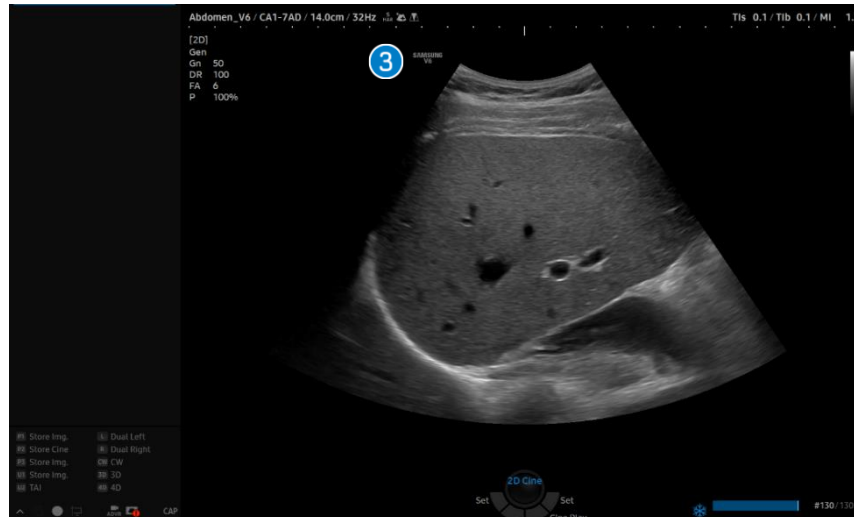
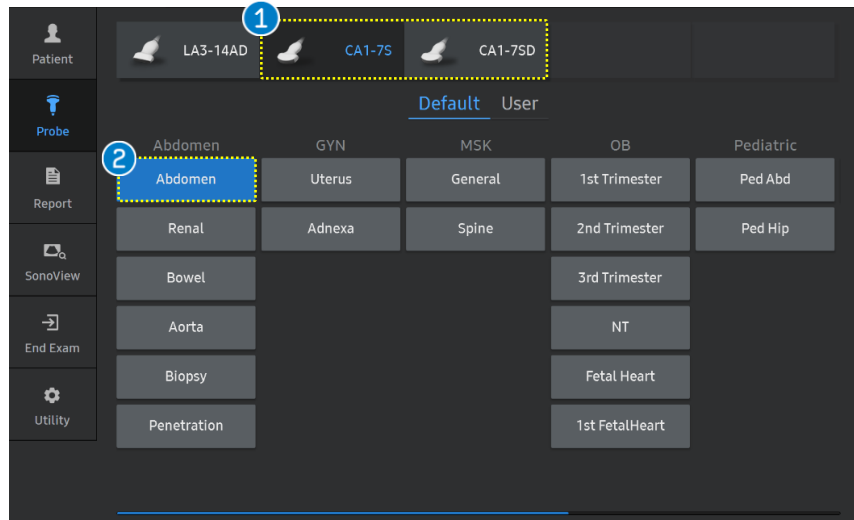


S-Shearwave Imaging™ V series Quick Guide



1. Preparation



① Probe Select [CA1-7S/CA1-7SD] on the touch screen.

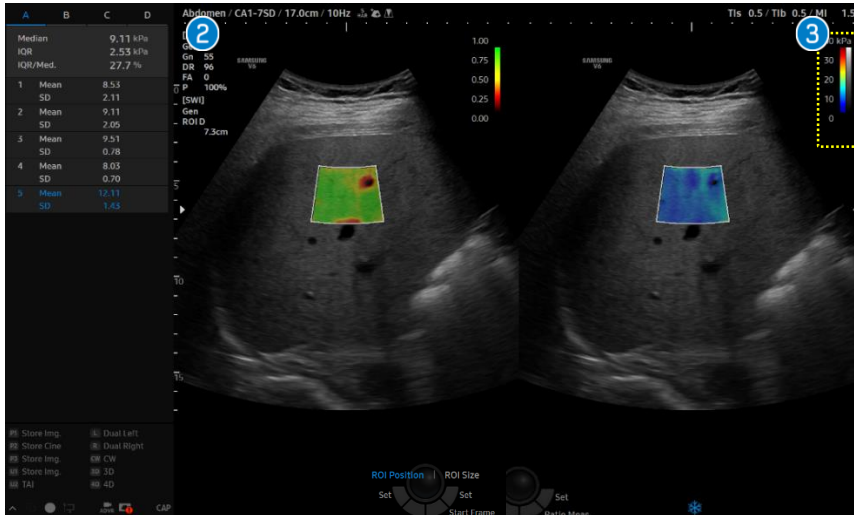
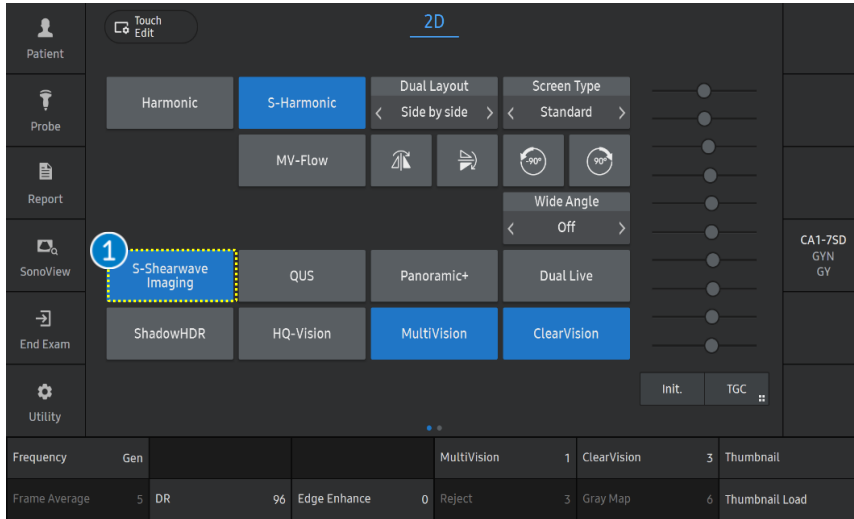
② Application & Preset Choose [Abdomen] application/preset to perform it.

[Scan guideline]

- Patient should fast at least 4 hours before the examination.
- Scan on intercostal area in the supine or slight left lateral position with the arm raised above the head to increase the intercostal space. (The right hepatic lobe is recommended)
- Ask patient to breath normally before holding the breath (Avoid deep inhalation or exhalation)
- The transducer should be perpendicular to the liver capsule.

③ Acquire a proper image

2. Start S-Shearwave Imaging™



1 S-Shearwave Imaging

Tap the [S-Shearwave Imaging] button on the touch screen to start.

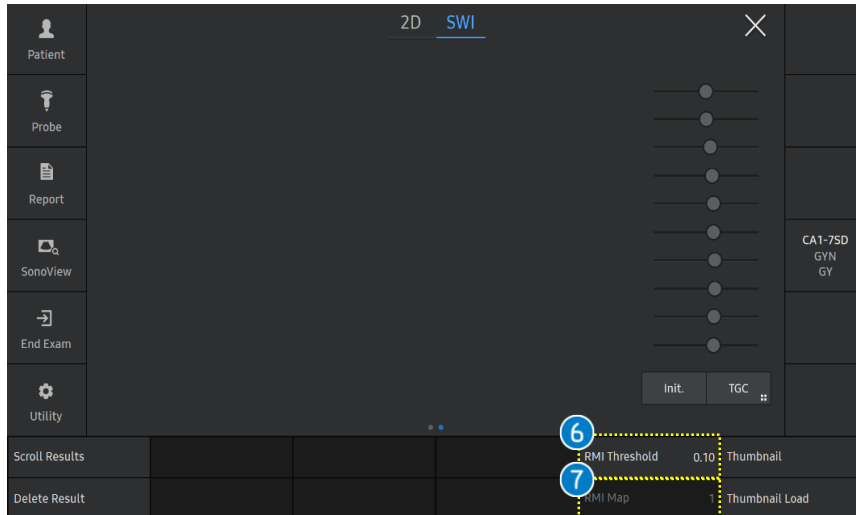
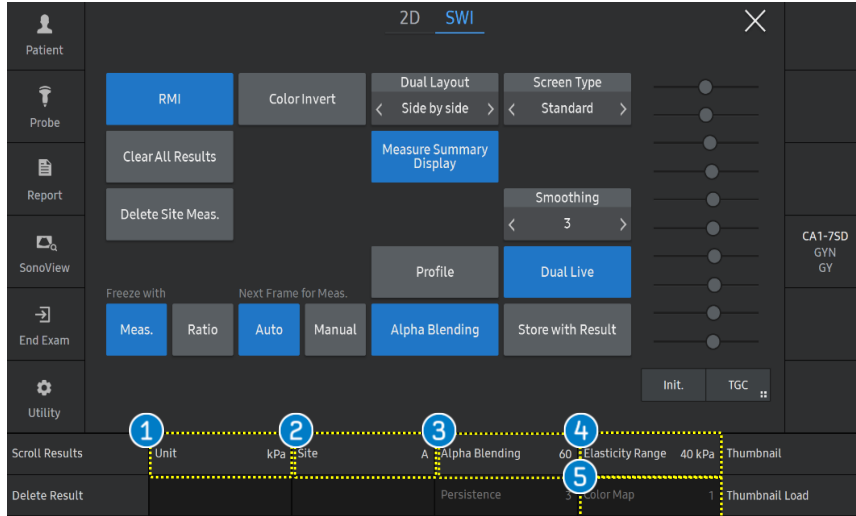
2 Image Display

When you select [S-Shearwave Imaging] button on the touch screen, the image layout is automatically turned to the dual mode as a default setting. (Left : B mode image, Right : Elasticity image)

3 Elasticity color bar

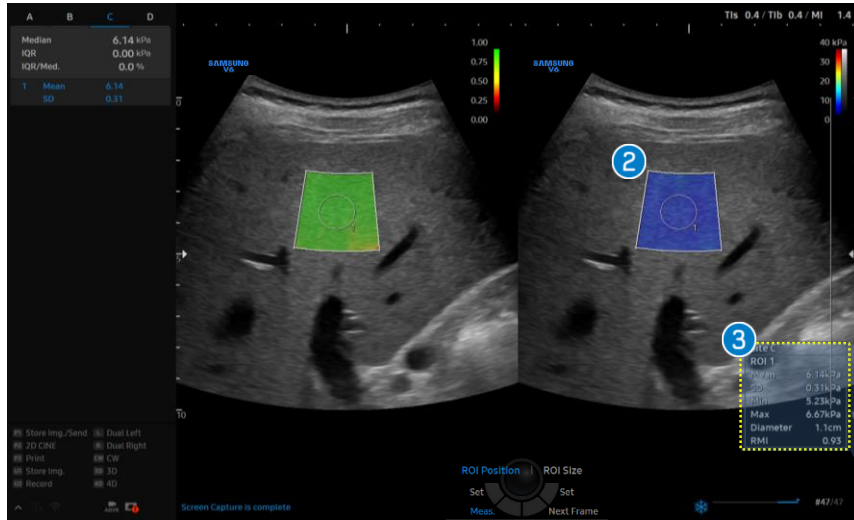
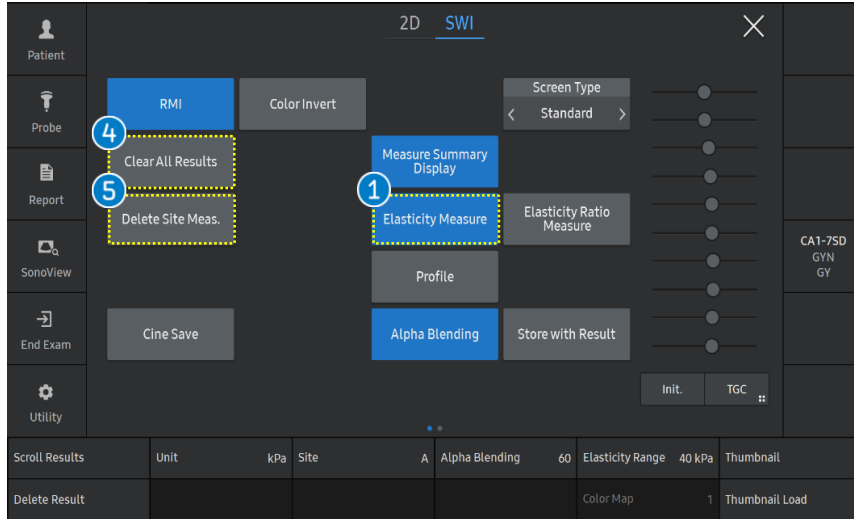
Display color map within ROI and the color It is to change the color stiffness map range. If you change the [Elasticity Range], color map within ROI and the color of elasticity bar also will be changed accordingly.

3. Parameters



1 Unit	It is to change the unit of an elasticity value. <ul style="list-style-type: none"> The unit [kPa] is based on Young's modulus. The unit [m/s] is for Shearwave speed.
2 Site	It is to change the ROI site up to 4 sites.
3 Alpha Blending	Superimposes a Shearwave elasticity image over a 2D image. You can specify the blending ratio between the 2D image and the Shearwave elasticity image.
4 Elasticity Range	It is to change the color stiffness map range. If you change the [Elasticity Range], color map within ROI and the color of elasticity bar also will be changed accordingly.
5 Color Map	Possible to change the Elasticity map depends on user preference.
6 RMI Threshold	Adjusts the threshold values, then the RMI color map will be excluded below the threshold.
7 RMI map	It can change the RMI map for user preference.

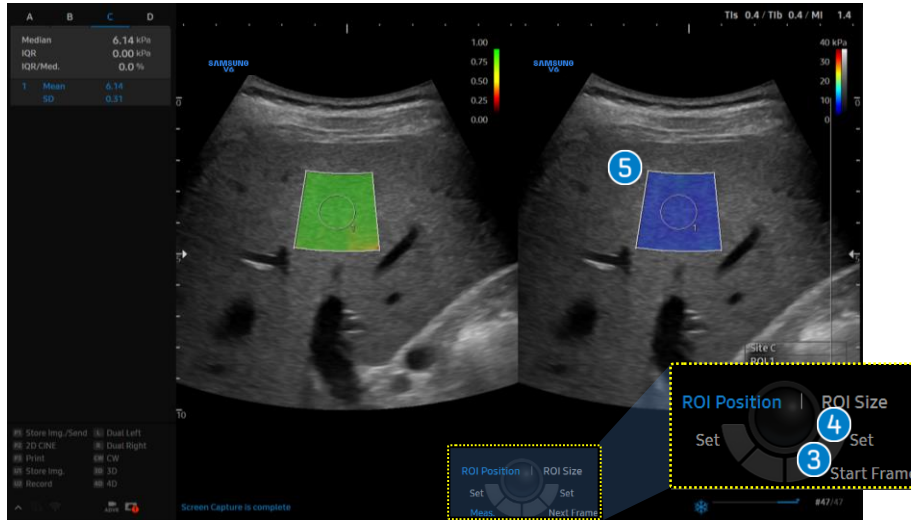
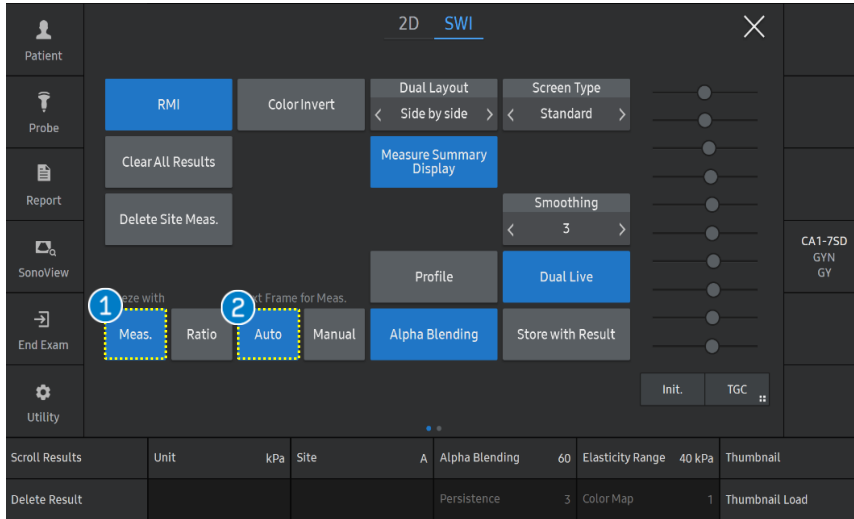
4. Measure the Elasticity



- 1 Elasticity Measure**
Starts Elasticity Measurement. Press [Freeze] and then select [Elasticity Measure] button on the touch screen.
- 2 Measure (Elasticity)**
Use the trackball to move to desired ROI measurement position within the Elasticity Image ROI. Pressing the [Set] button, then Elasticity statistics within the measure ROI will be displayed on the screen.
- 3 Results**
A maximum of four sites can be specified, and a maximum of 20 measure ROIs can be specified per site.
- 4 Clear All Result**
Clears the results of all sites.
- 5 Delete Site Meas.**
Clears the results of selected sites.

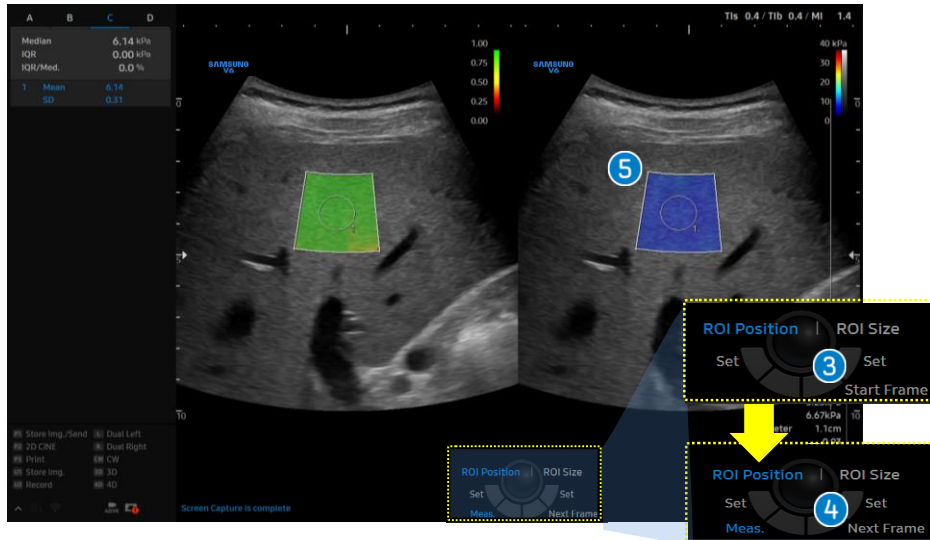
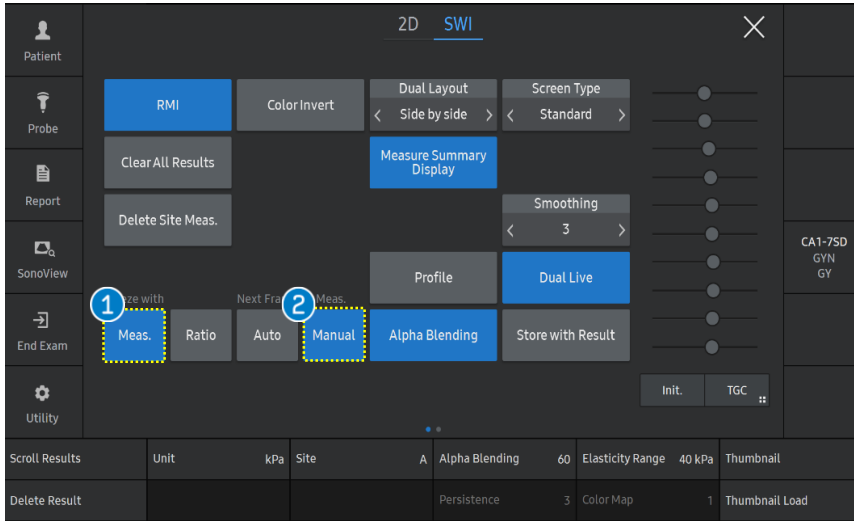
Site C	
ROI 1	
Mean	6.14kPa
SD	0.31kPa
Mjn	5.23kPa
Max	6.67kPa
Diameter	1.1cm
RMI	0.93

4-1. Measure the Elasticity (Auto)



<p>① Freeze with Meas.</p>	<p>Starts Elasticity Measurement when pressing Freeze.</p>
<p>② Next Frame for Meas. (Auto)</p>	<ul style="list-style-type: none"> ▪ This option is only activated when you select [Freeze with Meas.]. ▪ Auto : Automatically moves to the next frame after confirming the measurement by pressing [Set] button.
<p>③ Start Frame</p>	<ul style="list-style-type: none"> ▪ Select [Start Frame] button which is updated the starting frame for cine. Then press [Freeze] button. ▪ Moves to the first frame with Elasticity Image and starts measurement if you press [Freeze].
<p>④ - ⑤ Measure (Elasticity)</p>	<ul style="list-style-type: none"> ▪ Use the trackball to move to desired ROI measurement position within the Elasticity Image ROI. ▪ Pressing the [Set - ④] button, then automatically move on to the next frame. Selects this menu for sequential measurements.

4-2 Measure the Elasticity (Manual)

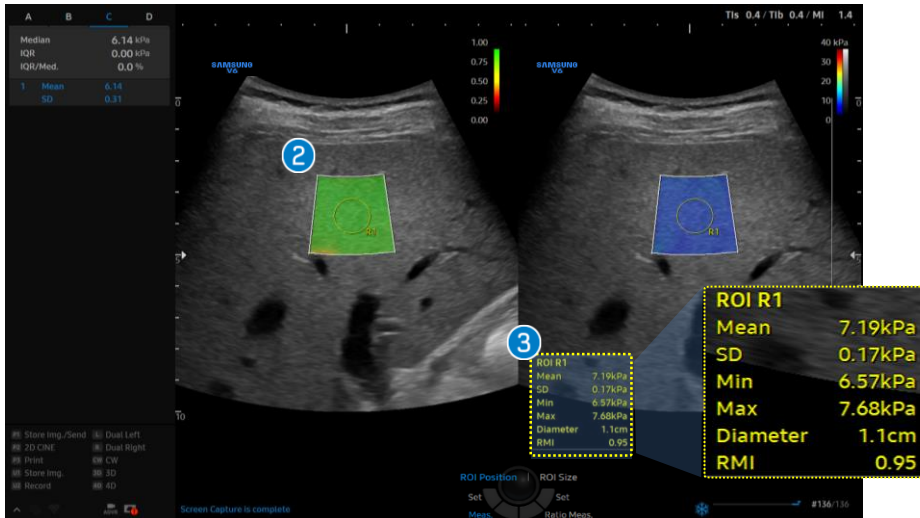
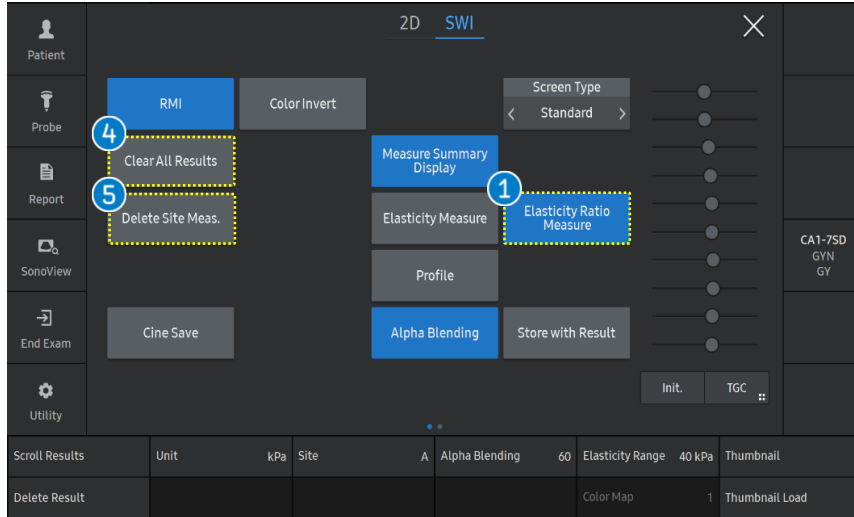


1 Freeze with Meas.	Starts Elasticity Measurement when pressing Freeze.
2 Next Frame for Meas. (Manual)	<ul style="list-style-type: none"> This option is only activated when you select [Freeze with Meas.]. Manual : Moves to the next frame by pressing [Next Frame- 4] after confirming the measurement.
3 Start Frame	<ul style="list-style-type: none"> Select [Start Frame] button which is updated the Starting frame for cine. Then press [Freeze] button. Moves to the first frame with Elasticity Image and starts measurement if you press [Freeze].
4 - 5 Measure (Elasticity)	<ul style="list-style-type: none"> Use the trackball to move to desired ROI measurement position within the Elasticity Image ROI. Pressing the [Set] button. Select [Next Frame- 4] button to move on to the next frame. Selects this menu for sequential measurements.

★Tips

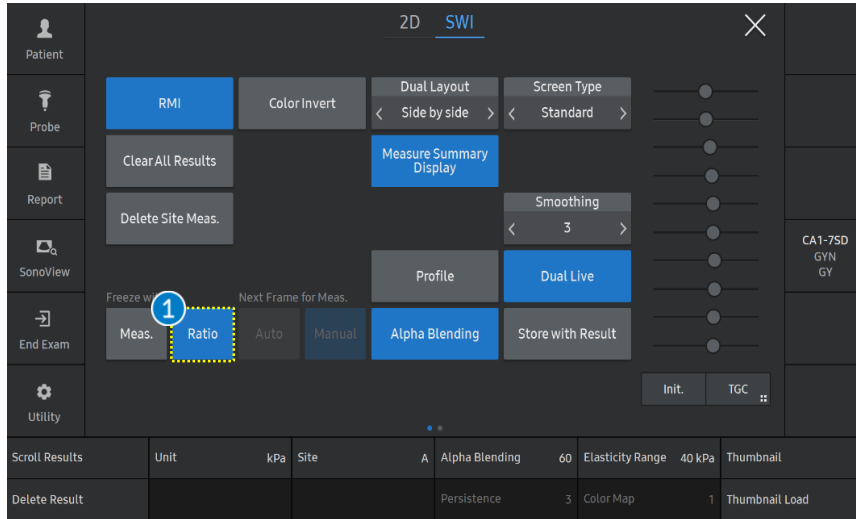
Available to select the direction of the frame between forwards or backwards.

5. Measure the Elasticity Ratio

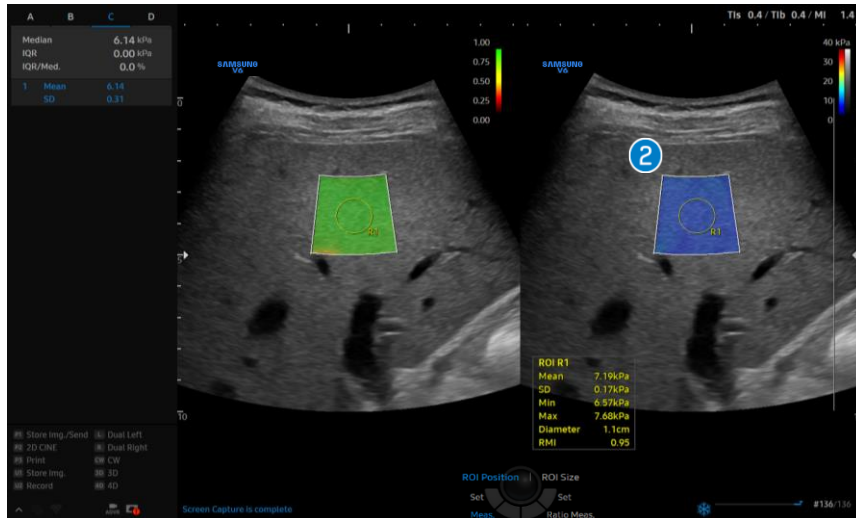


<p>1 Elasticity Ratio Measure</p>	<p>Starts Elasticity Ratio measurement. Press [Freeze] and then select [Elasticity Ratio Measure] button on the touch screen.</p>
<p>2 Measure (Ratio)</p>	<p>Use the trackball to move to desired ROI measurement position within the Elasticity Image ROI. Pressing the [Set] button, then Elasticity statistics within the measure ROI will be displayed on the screen. When two measure ROI are specified, it will display the elasticity ratio and save the value.</p>
<p>3 Results</p>	<p>A maximum of four sites can be specified, and a maximum of 20 measure ROIs can be specified per site.</p>
<p>4 Clear All Result</p>	<p>Clears the results of all sites.</p>
<p>5 Delete Site Meas.</p>	<p>Clears the results of selected sites.</p>

5-1. Measure the Elasticity Ratio

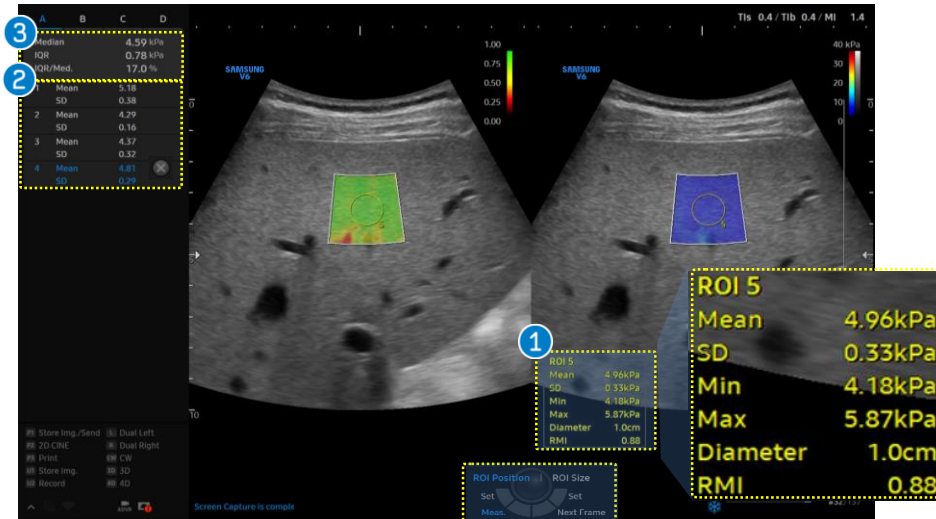


1 Freeze with Ratio Starts Elasticity Ratio Measure when pressing Freeze.



2 Measure (Ratio) Use the trackball to move to desired ROI measurement position within the Elasticity Image ROI. Pressing the [Set] button, then Elasticity statistics within the measure ROI will be displayed on the screen. When two measure ROI are specified, it will display the elasticity ratio and save the value.

6. Results




- 1 Result box**

The stiffness results within quantification ROI are displayed.

 - Mean : Mean Elasticity value in ROI.
 - SD : Standard deviation in ROI.
 - Min : Minimum Elasticity value in ROI.
 - Max : Maximum Elasticity value in ROI.
 - Diameter : Diameter of ROI box.
 - RMI : The reliability of the measured Shearwave Elasticity value.

- 2 Stiffness Result**

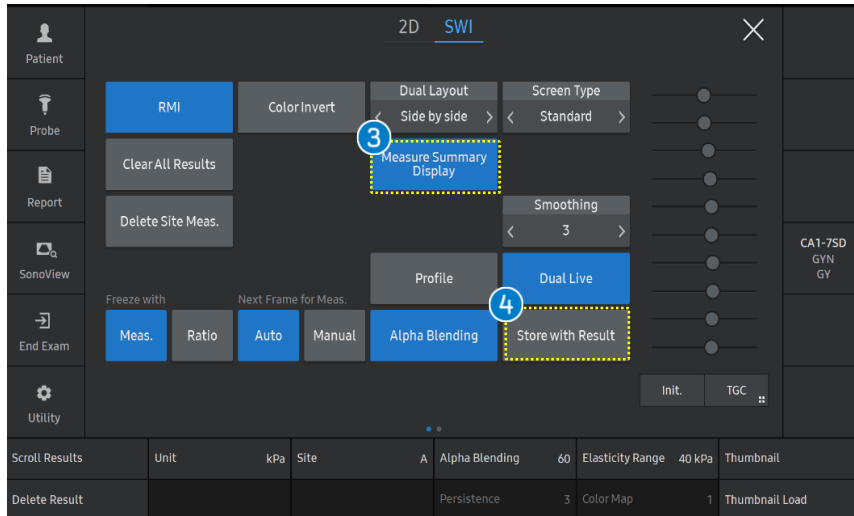
Available to view the measured results. It can scroll the result using the [Scroll] button. If you want to delete the result individually by pressing the [Delete] button or selecting  icon.

 - Available to select if the measure summary (Median, Mean, IQR, IQR/Med value) display on the result or not.
 - You can configure the results that you wish to display and their order in 'Utility > Setup > Imaging > Features > S-Shearwave imaging™'.

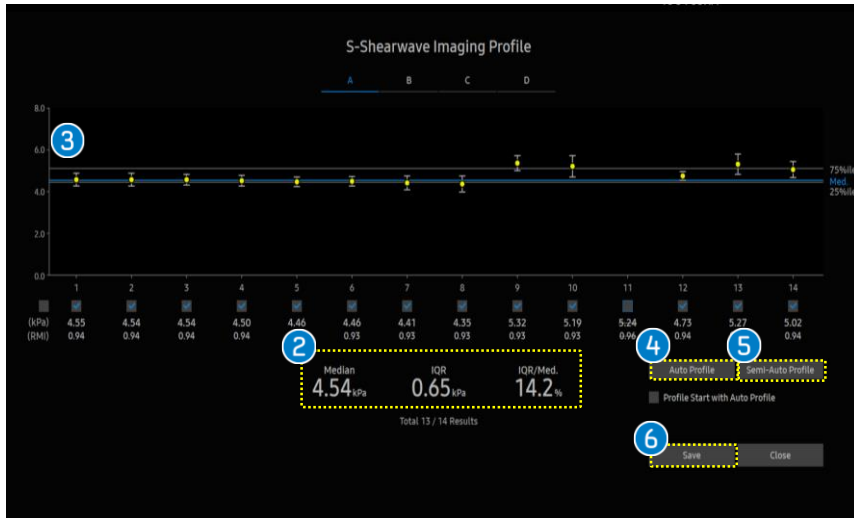
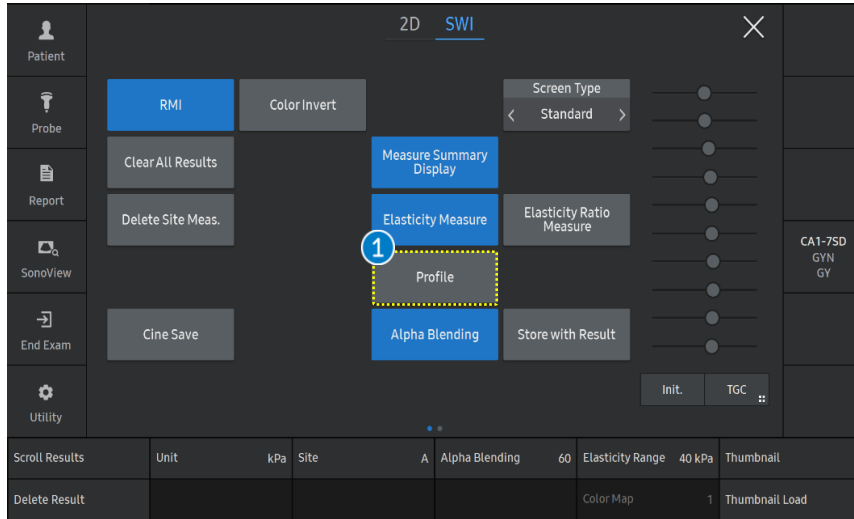
- 3 Measure Summary Display**

- 4 Store with Result**

Saves the image including the measurement results area.



7. Profile



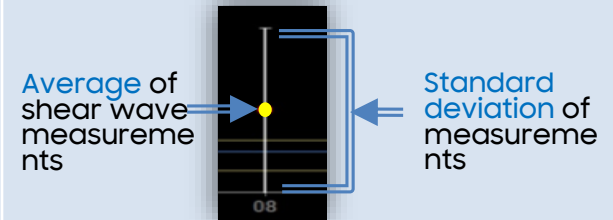
1 Profile

Displays statistical results obtained from repeated measurements. Select [Profile] button on the touch screen.

2 Results

- Median : Central value
- IQR/Med.
 - IQR(Interquartile Range) : 75-25percentile
 - IQR/Med < 30% : Acceptable value
 - IQR/Med > 30% : Unreliable value

3 Result Graph



4 Auto Profile

Exclude all unreliable data to set the IQR/Med value to 30% or lower.

5 Semi-Auto Profile

Exclude unreliable data one by one, start from the most unreliable data, and set the IQR/Med value close to 30% or lower.

6 Save

When you modify the measure value, [Save] button is activated which will be updated to the report page.

8. Report

ID	SWE DEMO		Name					
Date of Birth(Age)	Gender		Exam Date					
Indication		Ref. Physician		Operator				
Diag. Physician								
Abdomen								
Height		Weight						
S-Shearwave Imaging								
Elasticity [Site B]								
Mean : 7.16kPa / 1.54m/s			Median : 7.18kPa / 1.55m/s					
IQR : 0.81kPa / 0.09m/s			IQR/Med. : 11.3% / 5.7%					
ROI	Mean		SD	Min-Max		Diameter	RMI	
	kPa	m/s	kPa	m/s	kPa	m/s	cm	
1	7.71	1.60	0.38	0.04	7.03 - 8.57	1.53 - 1.69	1.1	0.94
2	7.42	1.57	0.43	0.05	6.07 - 8.49	1.42 - 1.68	1.1	0.95
3	6.81	1.50	0.63	0.07	5.48 - 8.47	1.35 - 1.68	1.1	0.95
4	7.18	1.55	0.45	0.05	6.00 - 8.15	1.41 - 1.65	1.1	0.95
5	6.70	1.49	0.59	0.06	5.83 - 8.06	1.39 - 1.64	1.1	0.95
S-Shearwave Imaging								
Elasticity [Site C]								
Mean : 6.14kPa / 1.43m/s			Median : 6.14kPa / 1.43m/s					
IQR : 0.00kPa / 0.00m/s			IQR/Med. : 0.0% / 0.0%					
ROI	Mean		SD	Min-Max		Diameter	RMI	
	kPa	m/s	kPa	m/s	kPa	m/s	cm	
1	6.14	1.43	0.31	0.04	5.23 - 6.67	1.32 - 1.49	1.1	0.93

1 Patient info.

Displays basic patient information.

2 Display all results

Displays specific measure information as the below;

- Measured site, Mean, IQR, Median and IQR/Med value.
- Each ROI's measure item (Mean, SD, kPa, m/s, Diameter, RMI).
- The most important reliability criterion is IQR/M of $\leq 30\%$ for kilopascals and $\geq 15\%$ for measurements in velocity.

- The features, options may not be commercially available in some countries.
- Sales and shipments are effective only after the approval by the regulatory affairs. Please contact your local sales representative for further details.
- This Quick guide does not include all of the details of instruction, for more detail, please refer to V series User Manual.
- Do not distribute this document to customers unless relevant regulatory and legal affairs officers approve such distribution.
- This User Quick Guide is based on V series V1.05.
- Disclaimer: Some Images in this content were obtained from other system.

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