Features for VINNO Products

General

OB/GYN

Features

Cardiac
&
Vascular

Superficial

Feature List: General

General image

- ✓ VLuminous Flow
- ✓ V Flow
- ✓ SWE (Shear wave Elastography)
- ✓ CBI (Contrast Bubble Image)
- ✓ Auto Bladder

General Features

- ✓ Customized UI
- ✓ V Work
- ✓ V Report
- ✓ Finger Draw Comments
- ✓ Wireless (Bluetooth/WiFi)
- ✓ Tutorials

Feature List: OB/GYN

OB

- ✓ **3D**
  - -- Rendering
  - -- M Cut
  - -- Free View
  - -- Niche View
  - -- STIC
  - -- Smart Face
  - -- VNavIn
  - -- Magic Cut
  - -- VCI
  - -- 3D Mesh
  - -- Vocal
- ✓ **Z Score**
- ✓ Vaim OB
- ✓ Auto OB
- ✓ Auto NT
- ✓ Auto IT

GYN

- ✓ Vaim Pelvic-2D
- ✓ Vaim Pelvic-3D
- ✓ 4D HSG
- ✓ Vaim Follicle
- ✓ Auto Follicle-2D
- ✓ Auto Follicle-3D

Feature List: Cardiac&Vascular

Cardiac

- ✓ Strain image
- ✓ Stress Echo
- ✓ Auto EF
- ✓ Mutil Angle M mode
- ✓ Mutil line M mode
- ✓ Curved M mode
- ✓ vCQ

Vascular

- ✓ Auto IMT
- ✓ Live IMT
- ✓ AMAS
- ✓ PWV

Feature List: Superficial

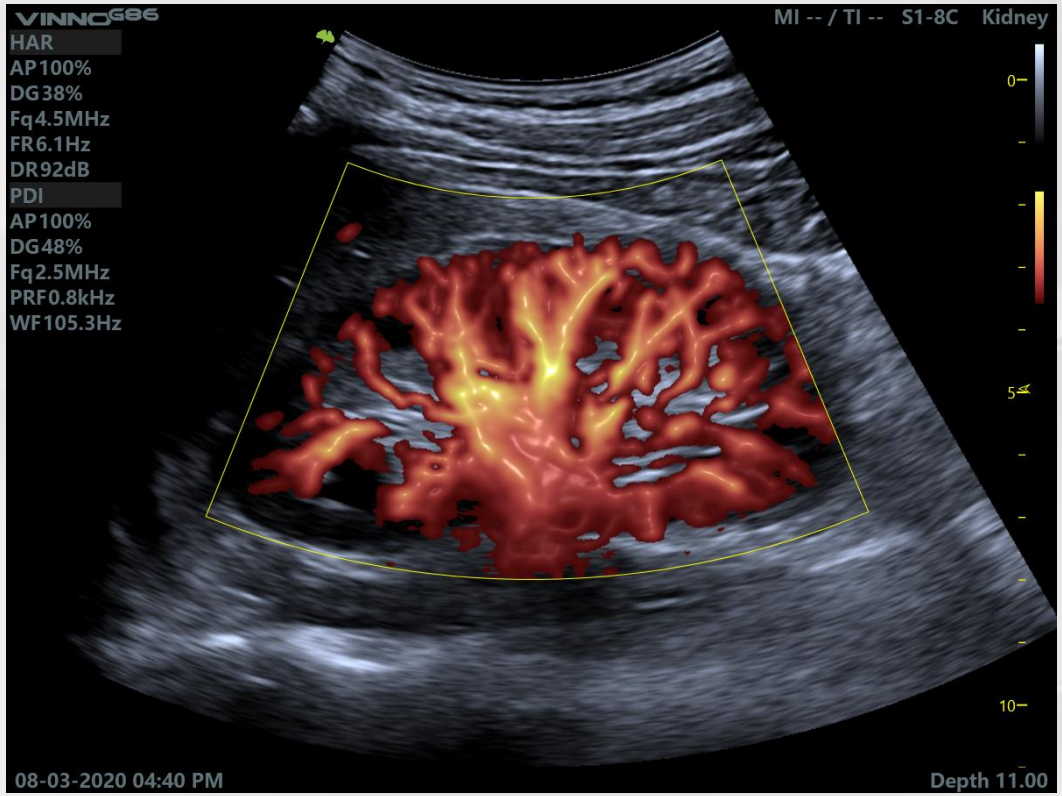
- ✓ NeedlEnhancement
- ✓ Vaid for breast
- ✓ Vaim Hip
- ✓ Panoramic View
- ✓ V Guide
- ✓ Elastography(Strain method)
- ✓ Free 3D

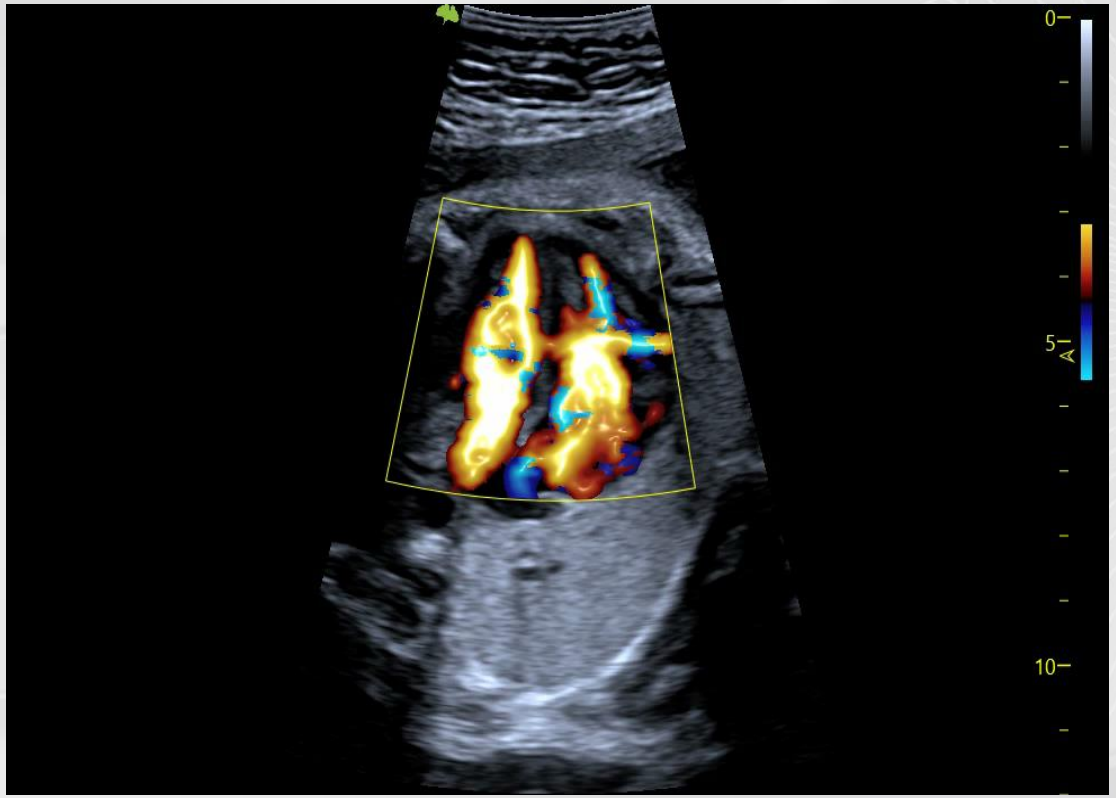
General image

- ✓ VLuminous Flow
- ✓ V Flow
- ✓ SWE (Shear wave Elastography)
- ✓ CBI (Contrast Bubble Image)
- ✓ Auto Bladder

General Feature: VLuminous Flow

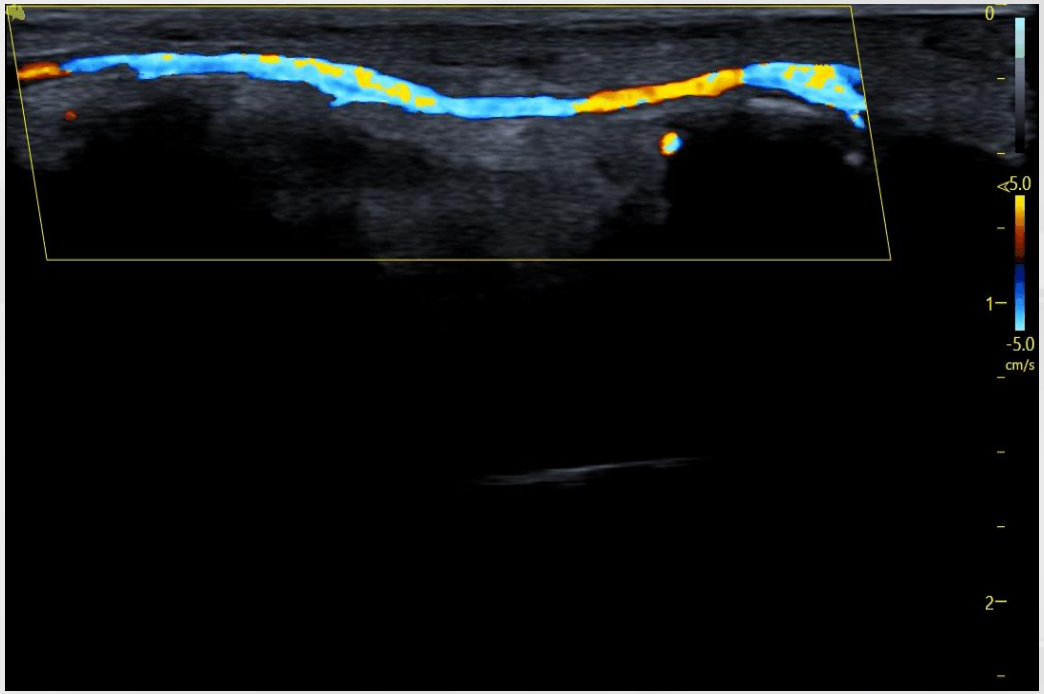
- ✓ An innovative color flow technology which enhance blood flow visualization and provide an impression of 3D flow.

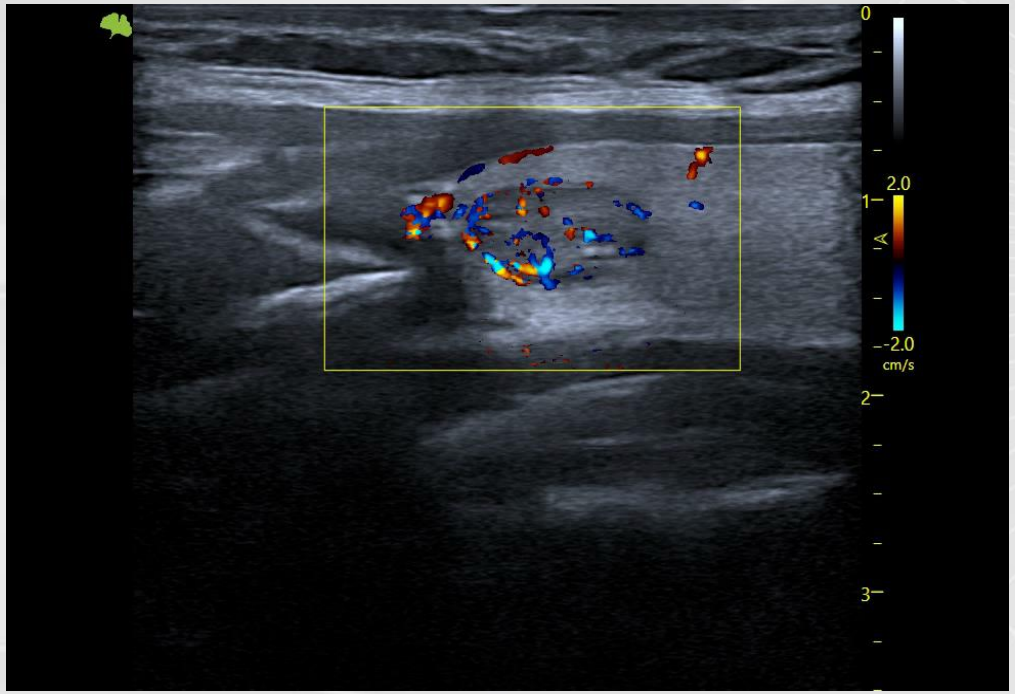




General Feature:V Flow

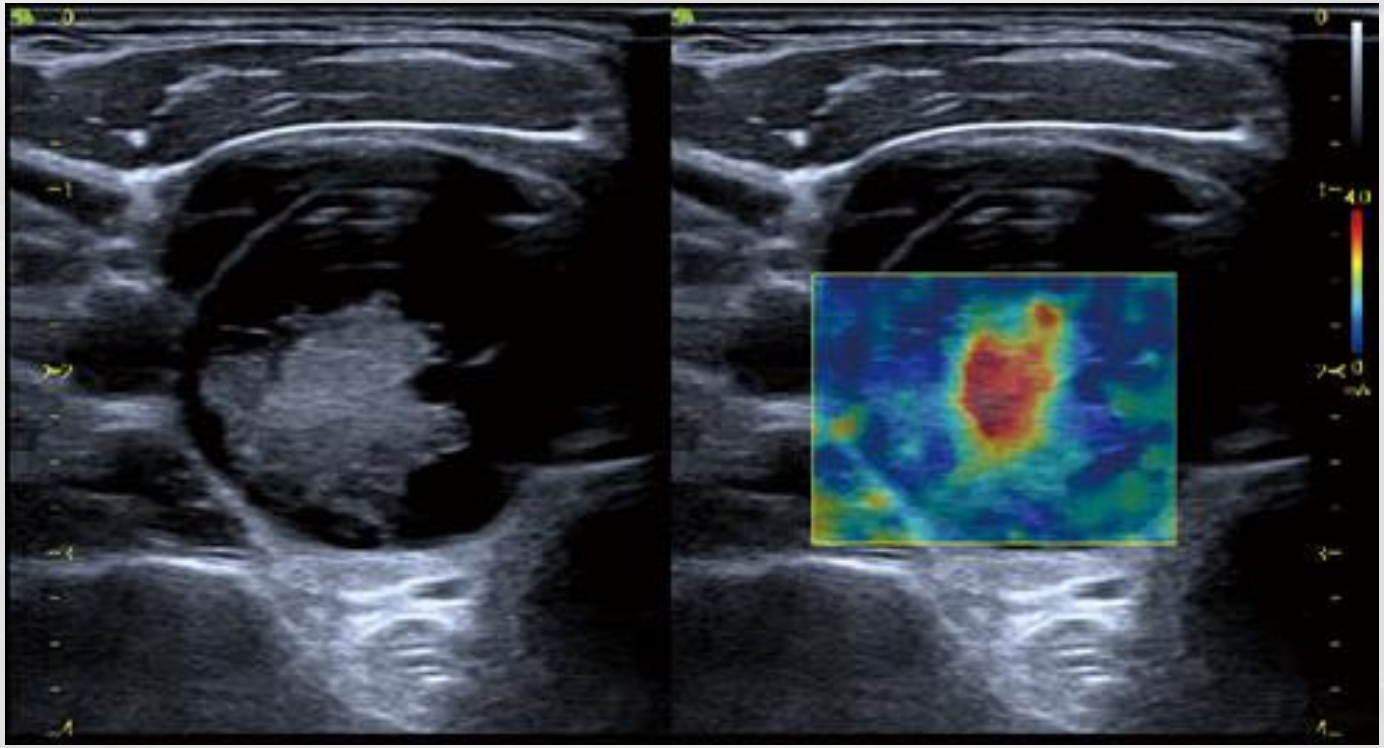
✓ Reduce blood overflow (blooming) based on the new algorithm to improve color flow display with smooth vessel borders and better color presentation.





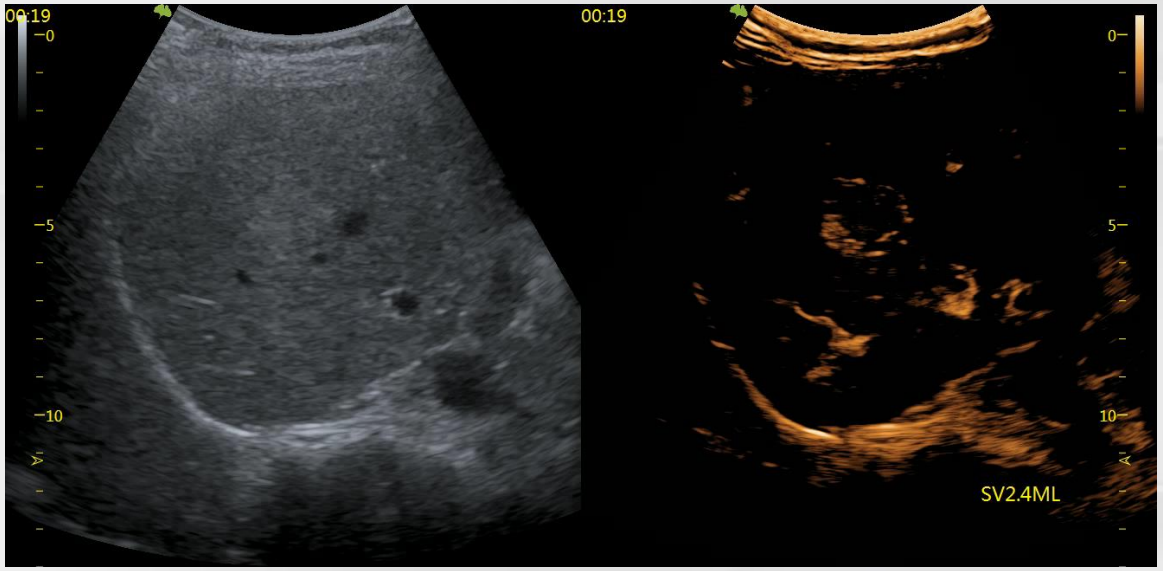
General Feature: SWE (Shear wave Elastography)

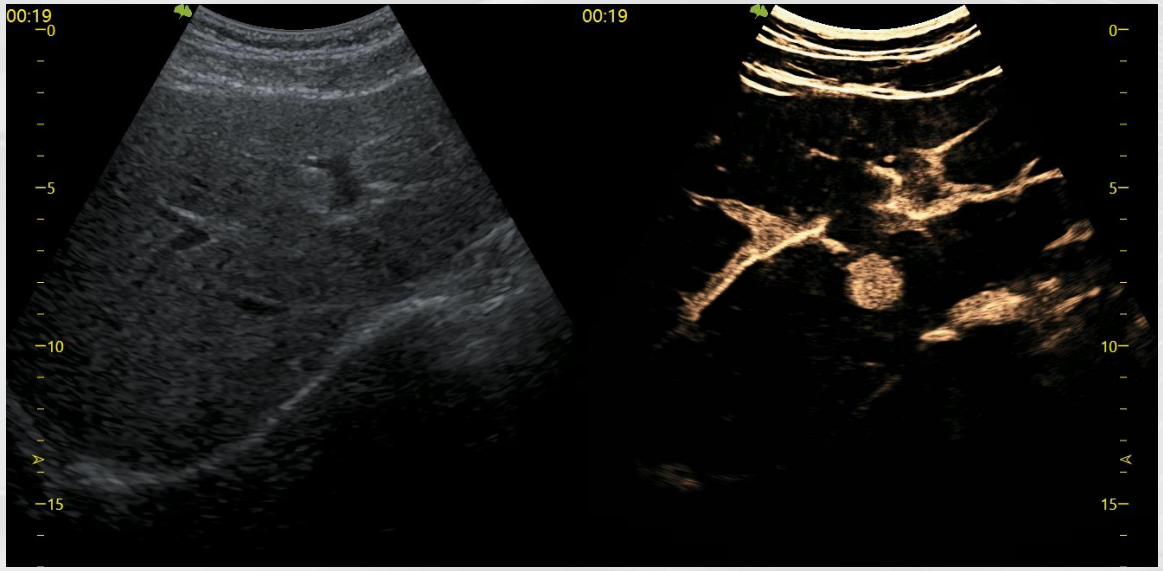
- ✓ SWEI is a non-invasive method to detect the velocity of the Shear-waves propagated through the targeted area and provide quantitative tissue characteristic information in Elasticity (kPa) or Velocity (m/s), which can be used in various applications such as Breast, Liver, MSK, Thyroid and Prostate.



General Feature: CBI (Contrast Bubble Image)

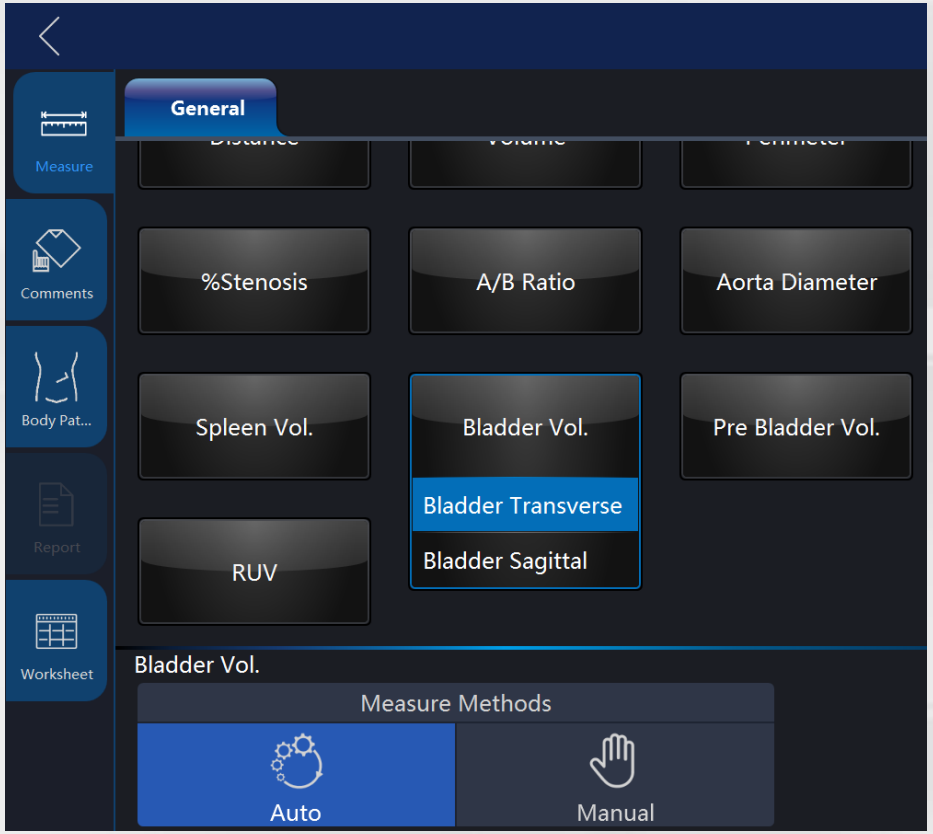
- ✓ The ultrasound contrast agent resonates for the low pressure (MI) ultrasound, thereby enhances the micro-vascular signal with superior spatial resolution. The observed tissue perfusion and its enhancement characteristics are useful in qualitative lesion differentiation.

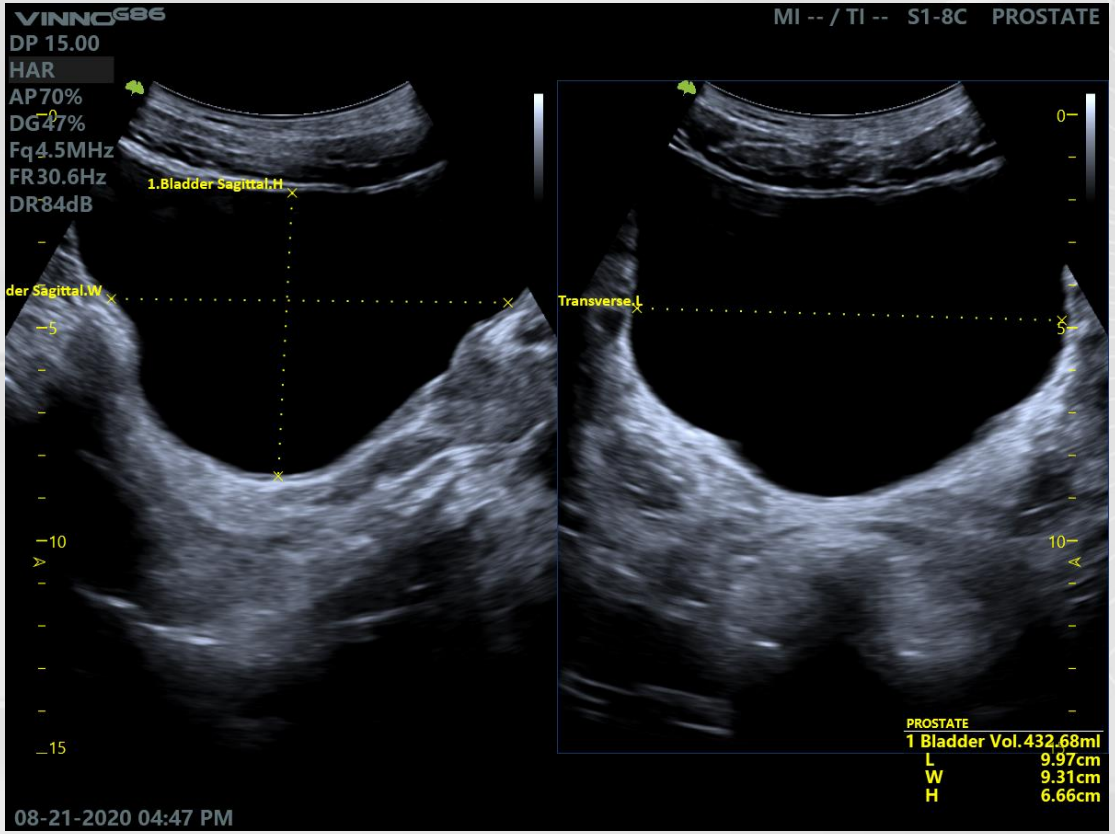


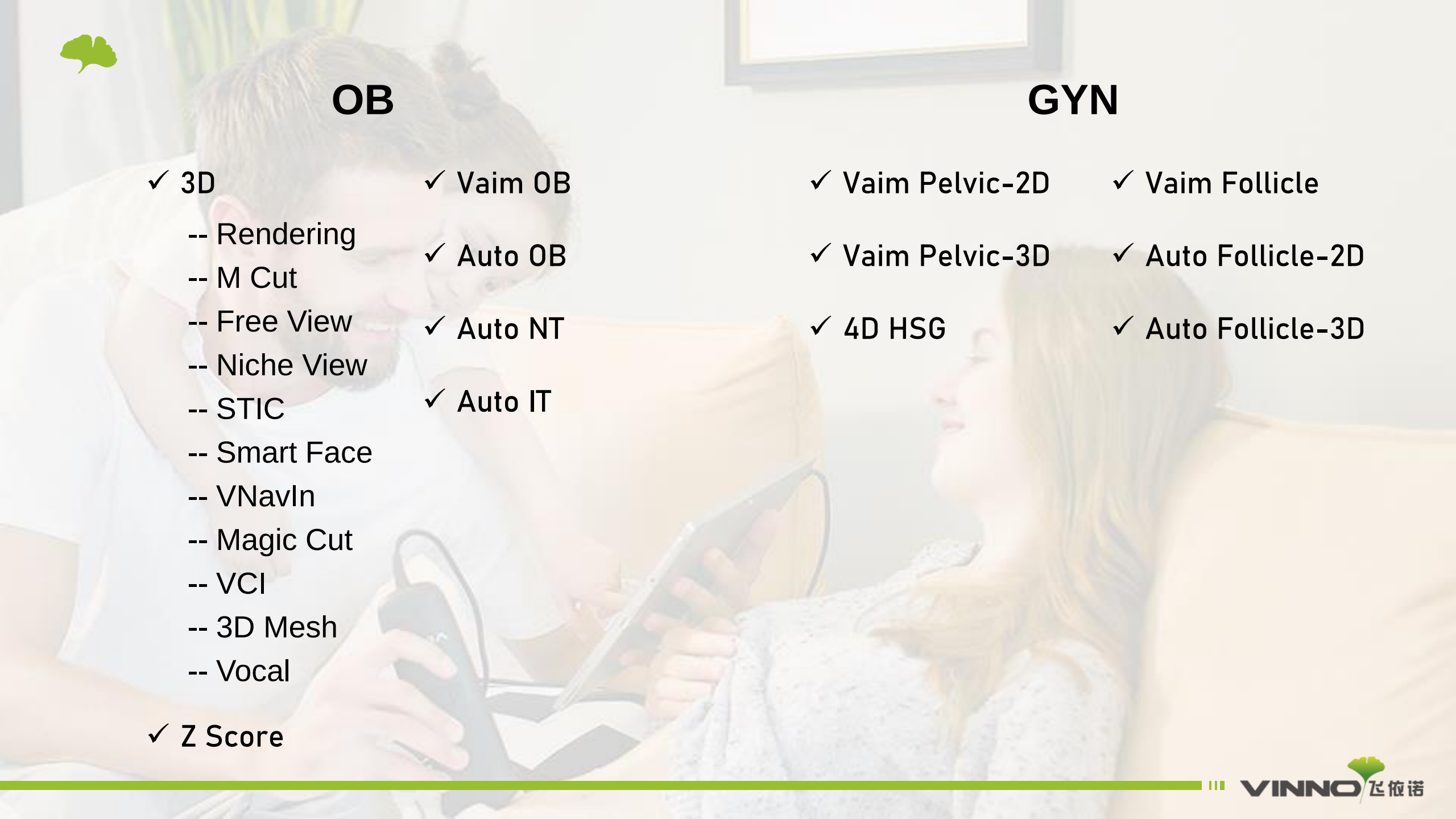


General Feature: Auto Bladder

- ✓ This innovative ‘Auto Bladder Volume’ measurement can greatly simplify a routine, time consuming procedure







OB

- ✓ 3D
  - -- Rendering
  - -- M Cut
  - -- Free View
  - -- Niche View
  - -- STIC
  - -- Smart Face
  - -- VNavIn
  - -- Magic Cut
  - -- VCI
  - -- 3D Mesh
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- ✓ Z Score
- ✓ Vaim OB
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GYN

- ✓ Vaim Pelvic-2D
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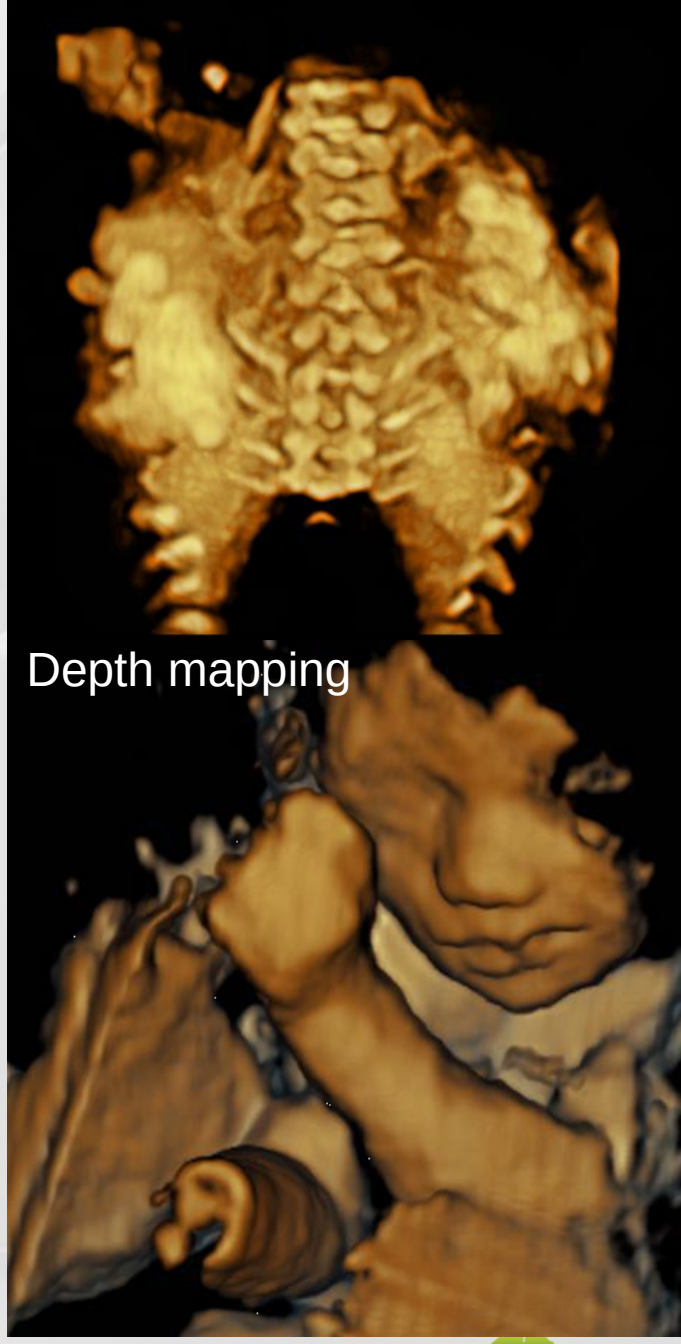
- ✓ 4D HSG
- ✓ Vaim Follicle
- ✓ Auto Follicle-2D
- ✓ Auto Follicle-3D

OB Feature: 3D Rendering

✓ **Normal rendering**

Surf Texture	Transp Max
Surf Smooth	X-ray
Grad Light	Transp Min
Surf HDR	Light



Depth mapping

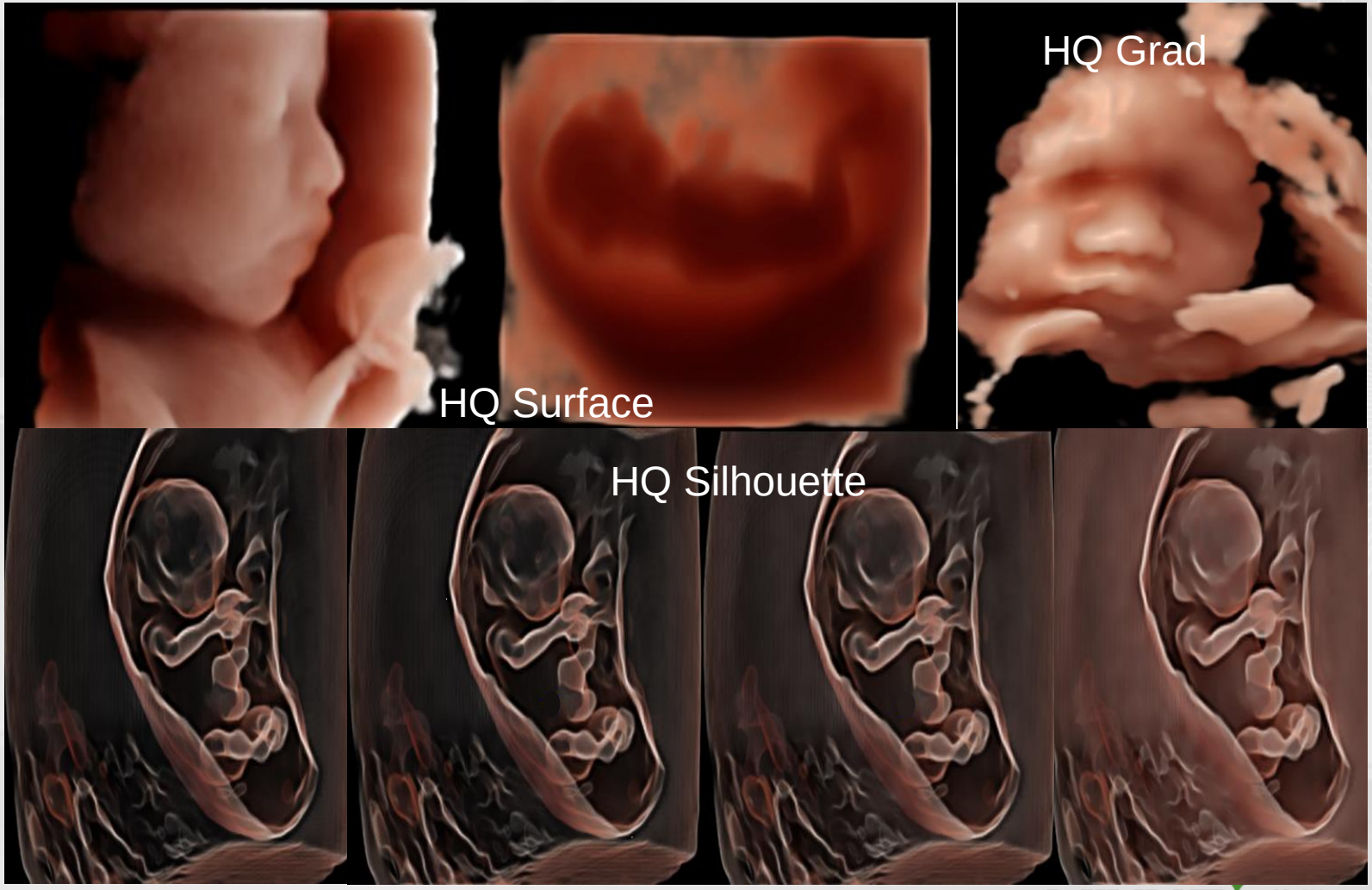
OB Feature: 3D rendering-HQ series

✓ **HQ Grad**

Light rendered, Photo-realistic rendering Light source direction,shadow effect Changeable hue.

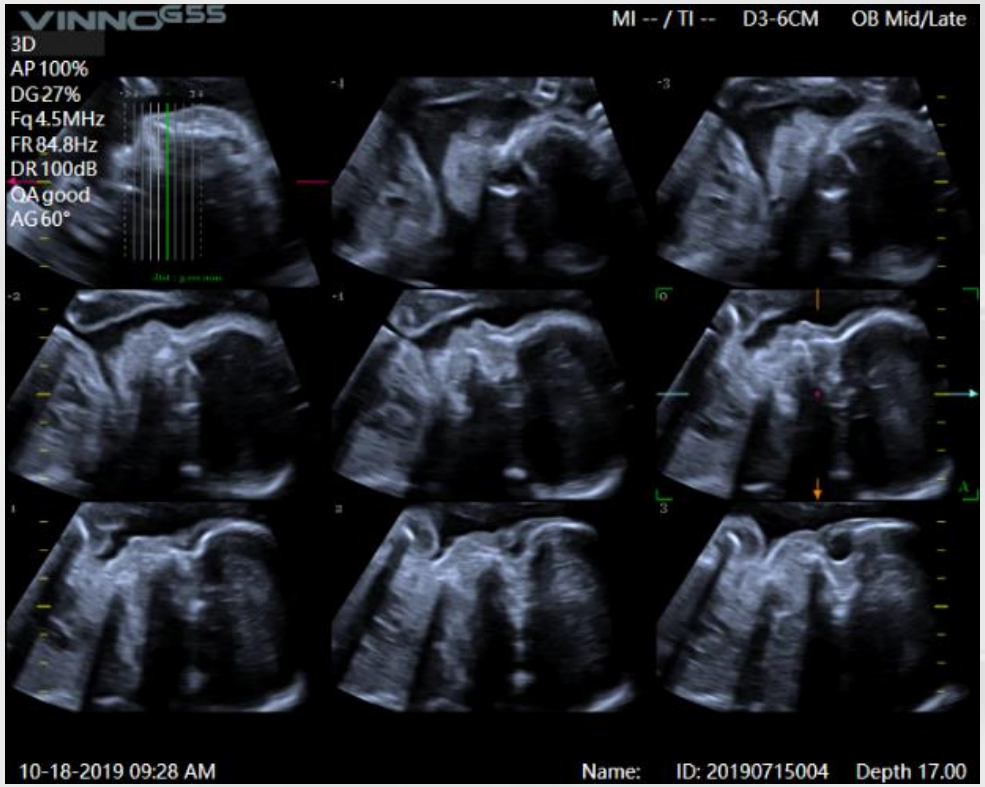
✓ **HQ Silhouette**

Contour/Boundary line is highlighted with inverse brightness to tissue regions Creates a “see through” effect.



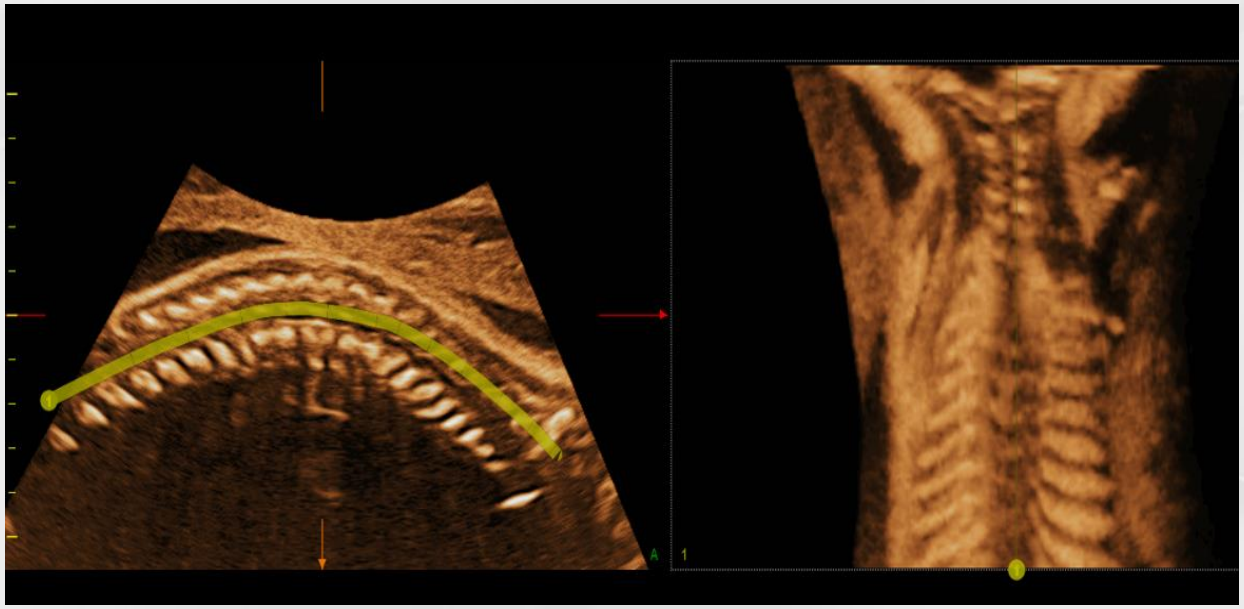
OB Feature: 3D M-Cut

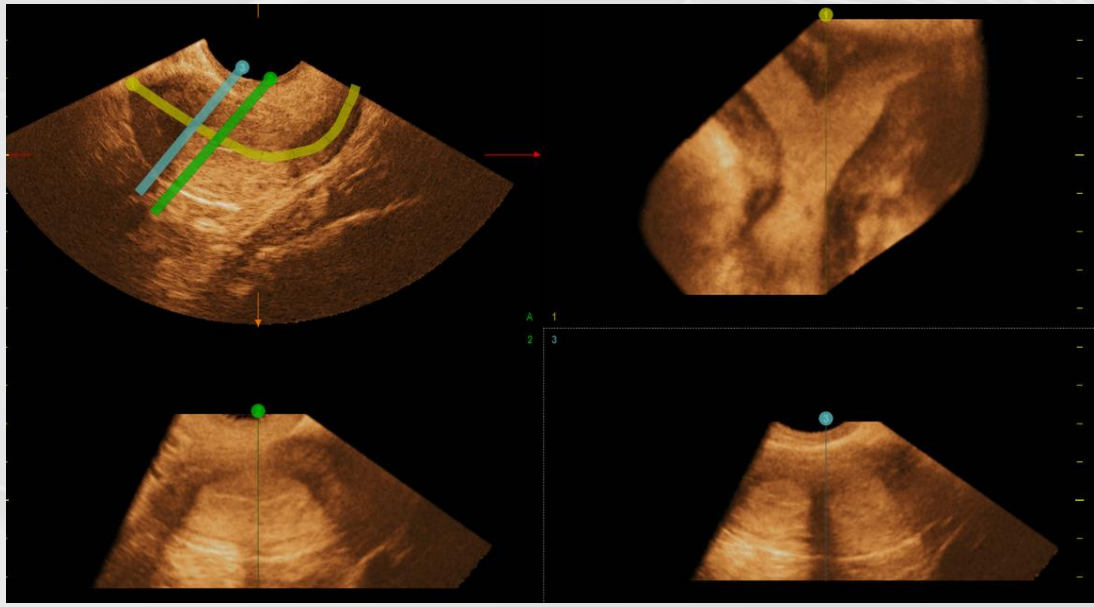
- ✓ M Cut is a feature to cut the volume image into slices, showing one by one ,so that the doctor would check the structure and organ sorroundings.
- ✓ It would cut from plane A/B/C, could rotate,adjusting the slice thickness and number.



OB Feature: 3D-Free View

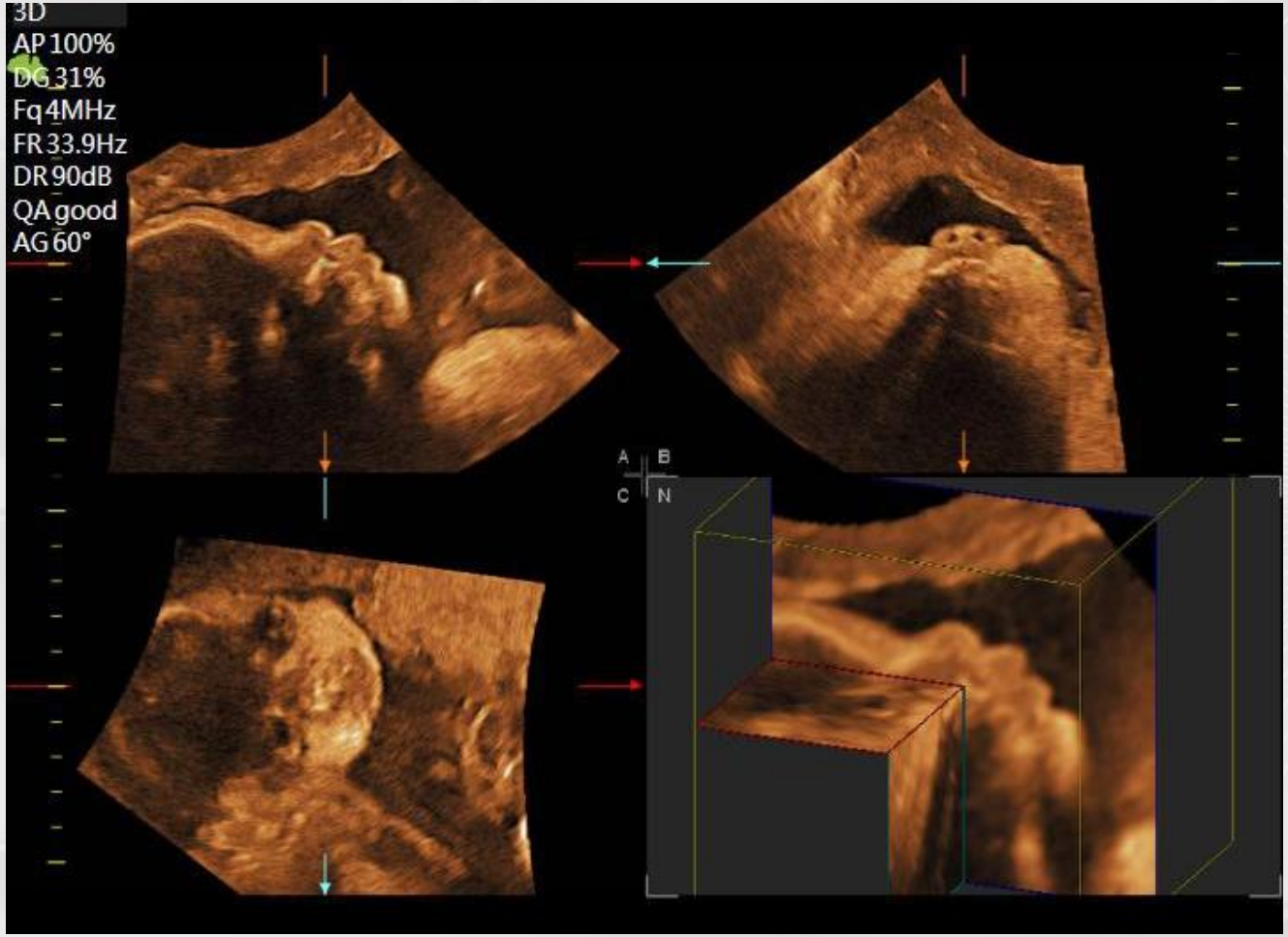
- ✓ This powerful tool reconstructs an image plane, of a freely drawn line/curve(up to 3) out of the volume data, that cannot be captured in 2D imaging.
- ✓ Multi-line Free-View
  --Displays any 3 planes (freely, without fixed/restricted to orthogonal planes).
- ✓ Select number of active lines (up to 3).





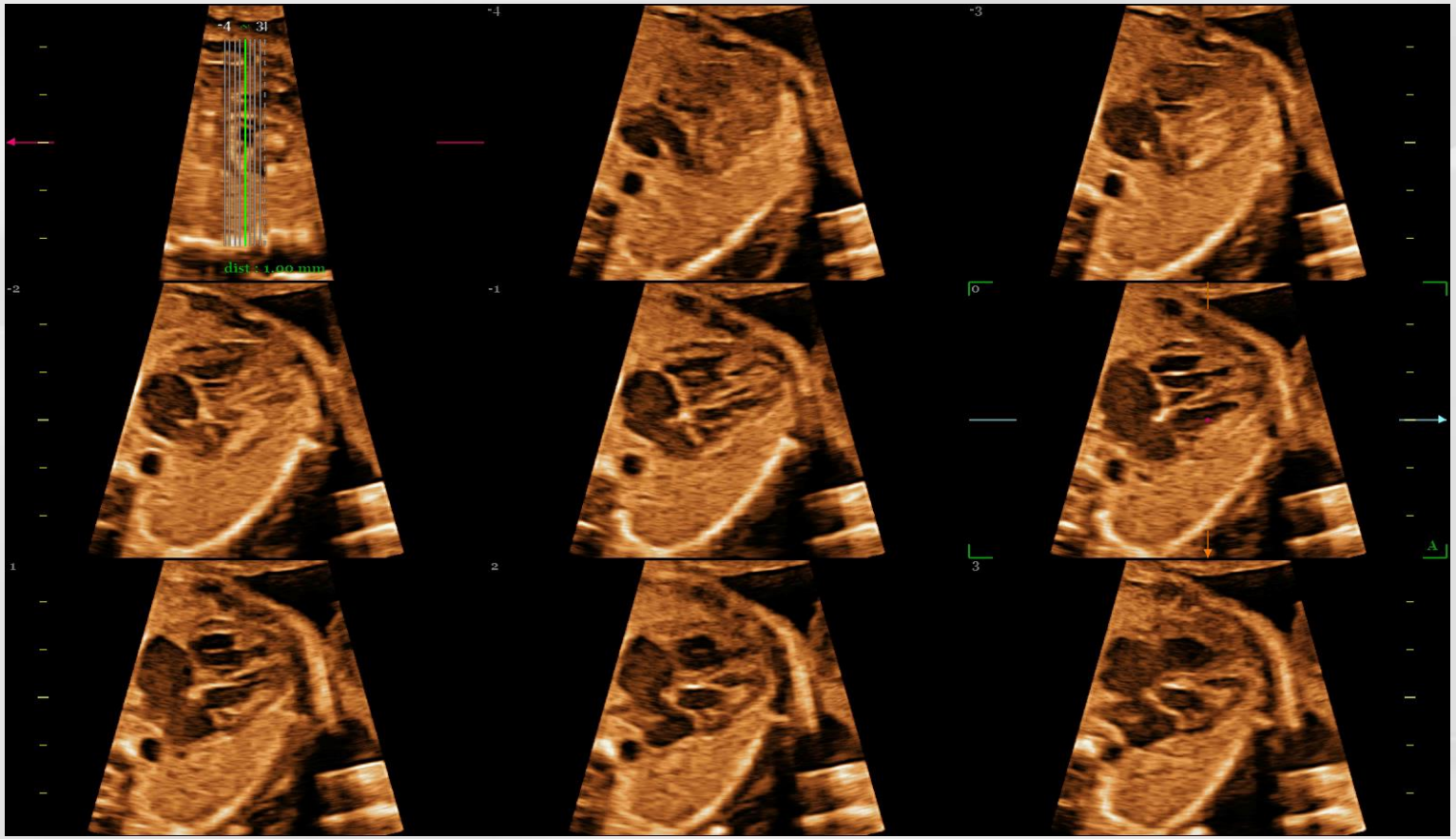
OB Feature: 3D-Niche View

- ✓ Displays 3 orthogonal planes centered on ROI.
- ✓ Use “Depth” to translate the select plane.
- ✓ Each imaging plane or Niche image can be selected by image reference by using track ball or X/Y/Z to obtain required structure.



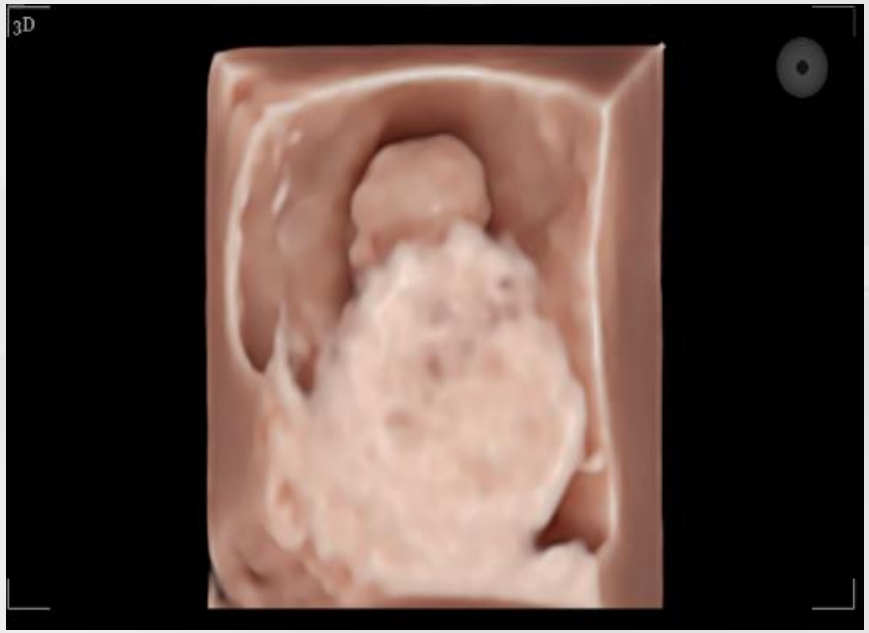
OB Feature: 3D-STIC

- ✓ STIC: Spatio Temporal Image Correlation
- ✓ The three-dimensional real-time display allows the user to visualize the internal structure of the fetal heart.



OB Feature: 3D-Smart Face

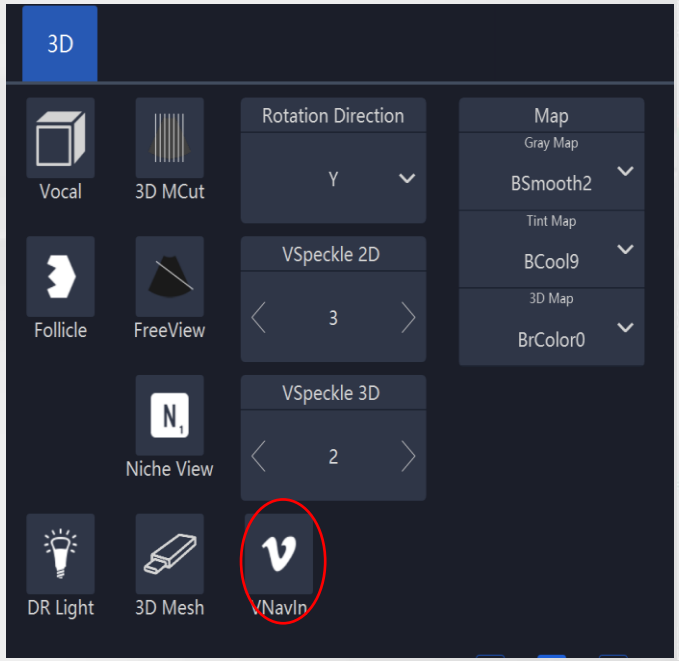
- ✓ An intelligent tool for 3D/4D fetal face optimization. This tool detects the fluid/tissue interface and smartly removes noise in front of the baby inside the ROI, to obtain an optimal baby face.

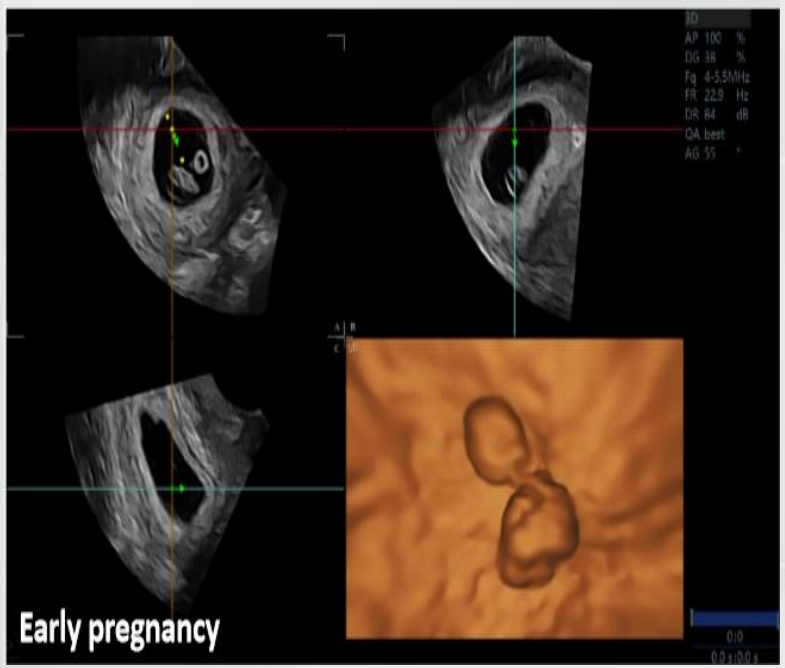


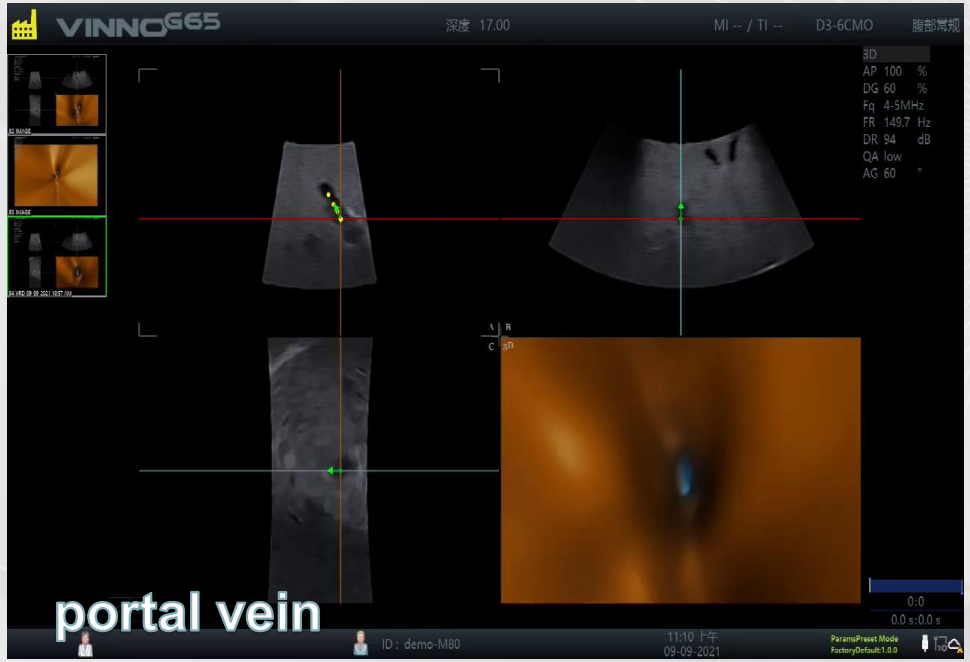
Smart Face

OB Feature: 3D-VNavIn

- ✓ New tool that navigates inside the 3D volume data and projects an inside-out perspective image that displays the inner most structures like virtual endoscopy.
- ✓ This feature is useful in body structures which are surrounded by fluid, like gynecology, obstetrics, abdomen, vascular, or any other fluid-filled areas.
- ✓ Two ways: Manual and auto.

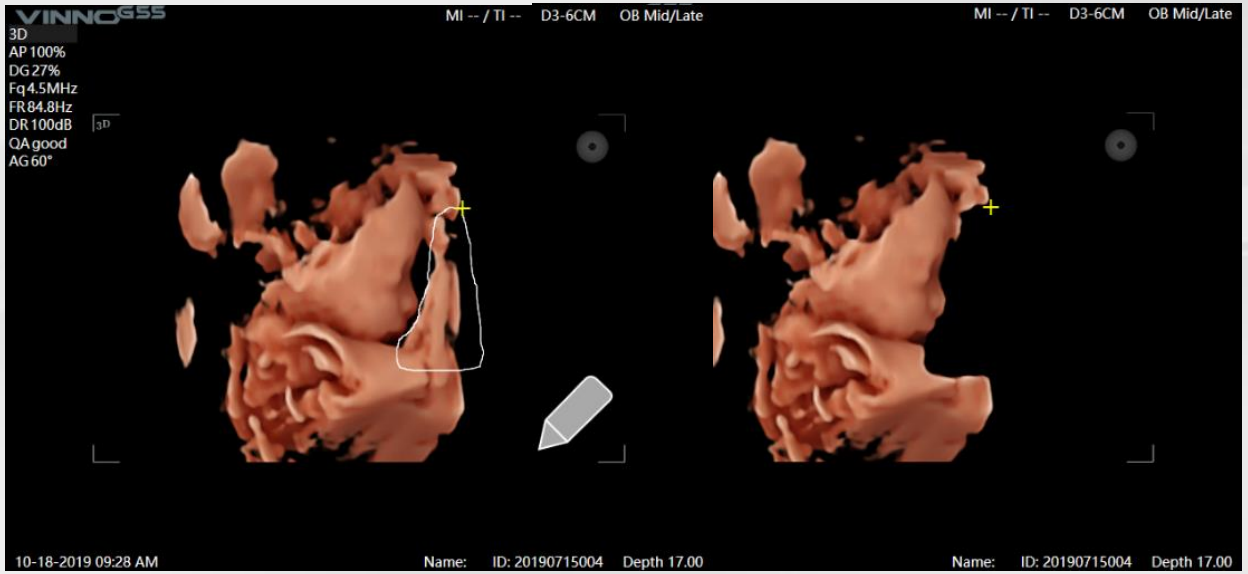


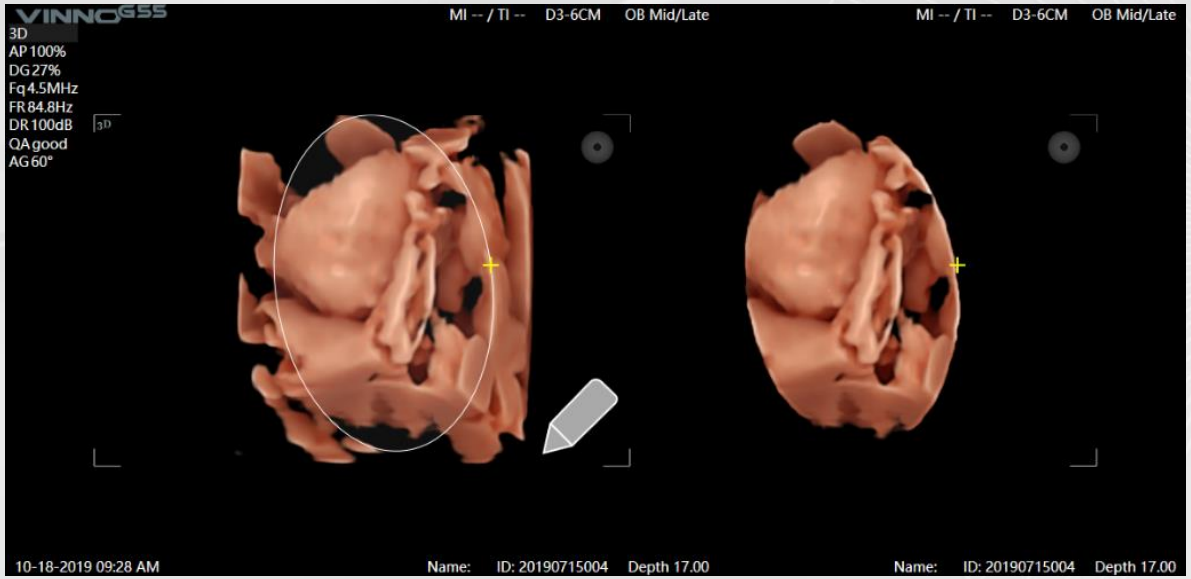




OB Feature: 3D-Magic Cut

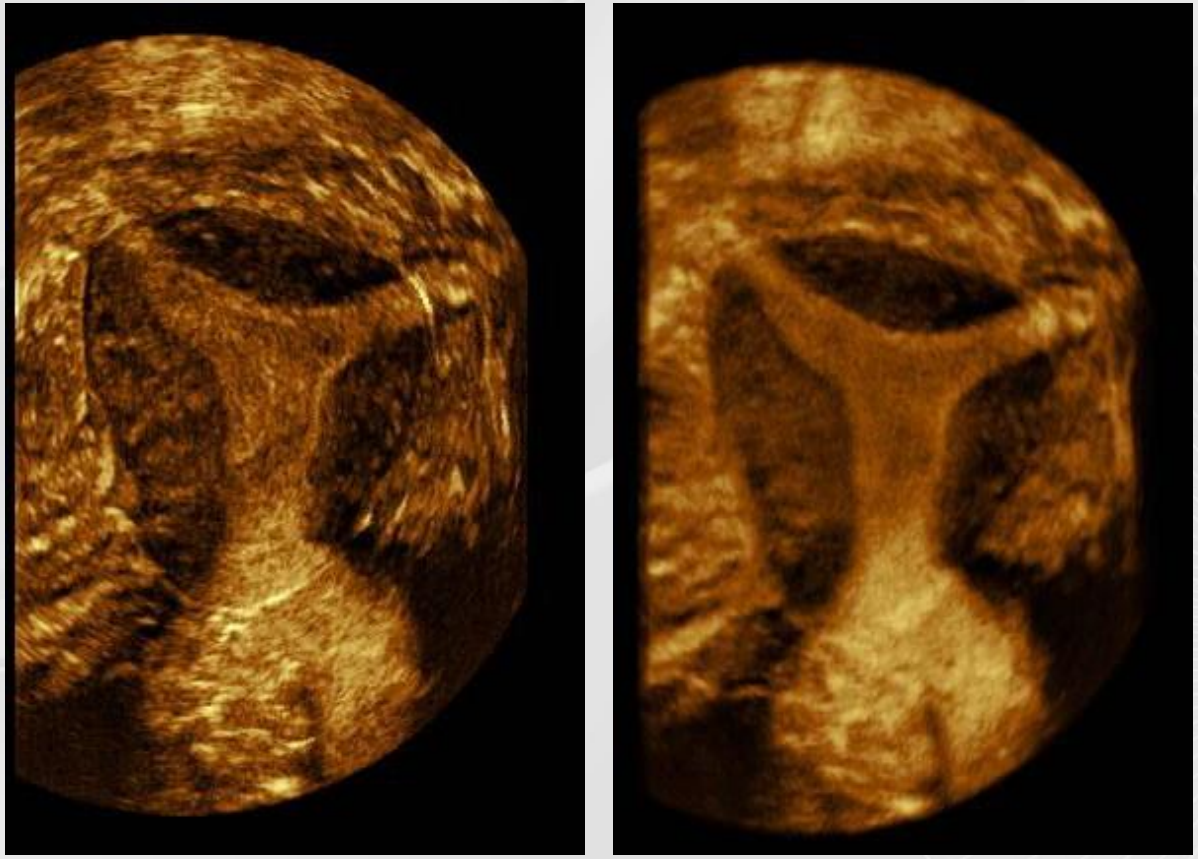
- ✓ In order to remove some tissue (e.g. hide the baby face) which would prevent users to see what they need.
- ✓ Also allows user to cut some shape (Rectangle or Ellipse).





OB Feature: 3D-VCI

- ✓ Volume Contrast Imaging
- ✓ Increases the tissues demarcation inside the adjustable slab (Slice Thickness : 1-20mm).
- ✓ Advanced Volume Contrast Imaging
- ✓ VSpeckle is available to further reduce Speckle noise Improves image and tissue contrast.
- ✓ Renderes images with improved contrast resolution.



VCI - OFF

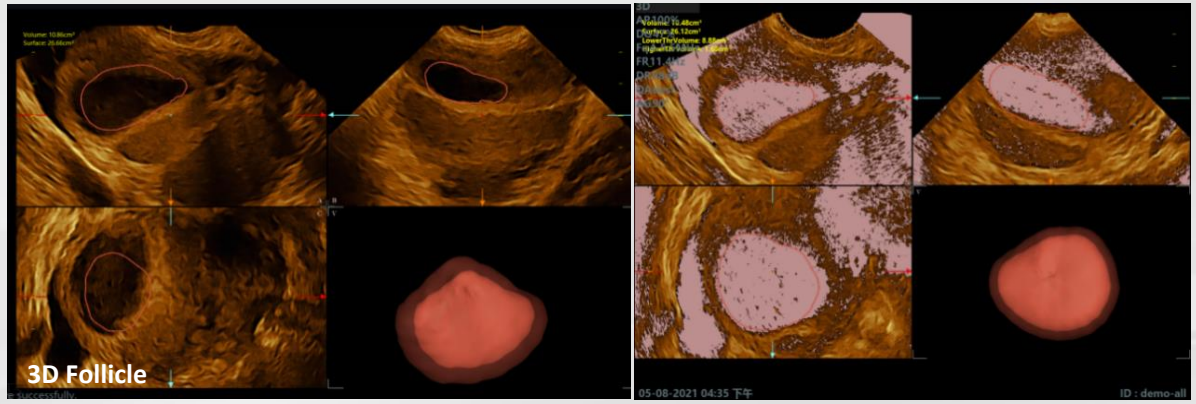
VCI - ON

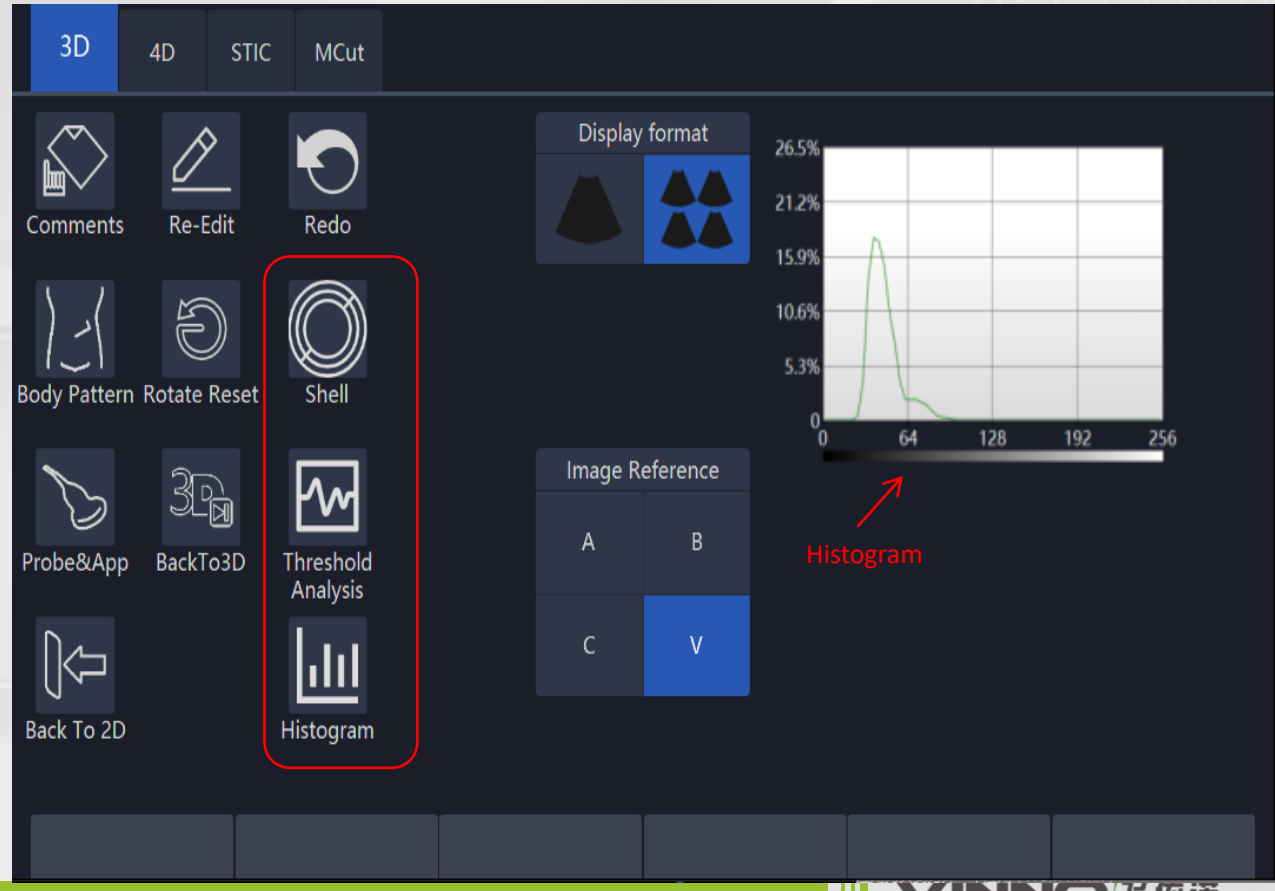
OB Feature: 3D Mesh

✓ Data for 3D printer.

OB Feature: 3D-Vocal

- ✓ The new functions, shell, histogram, and threshold has been added to 3D VOCAL, now it can not only display the three-dimensional volume, but also effectively detect anatomical structures with even weak boundaries and the gray-scale histogram, helping users understand the overall structure of the target area.





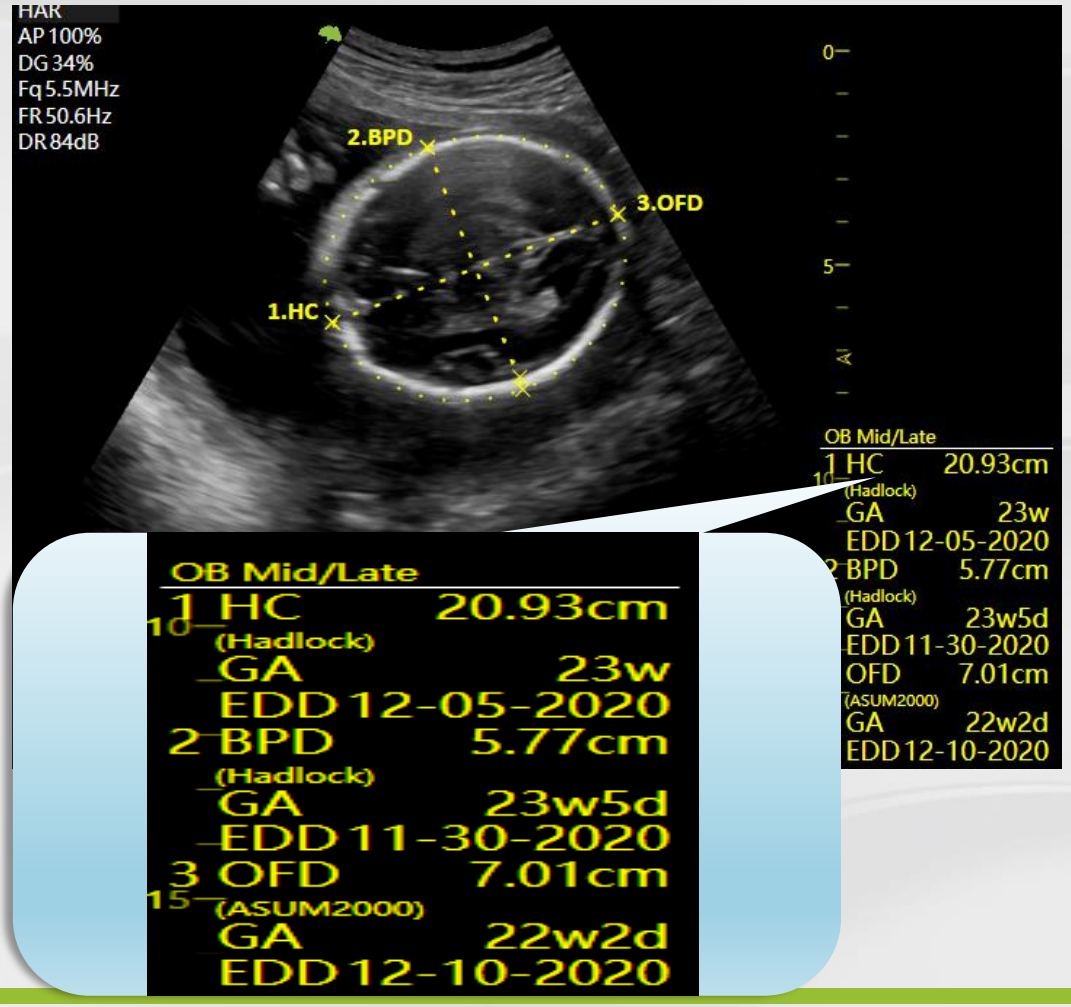
OB Feature: Z Score (OB)

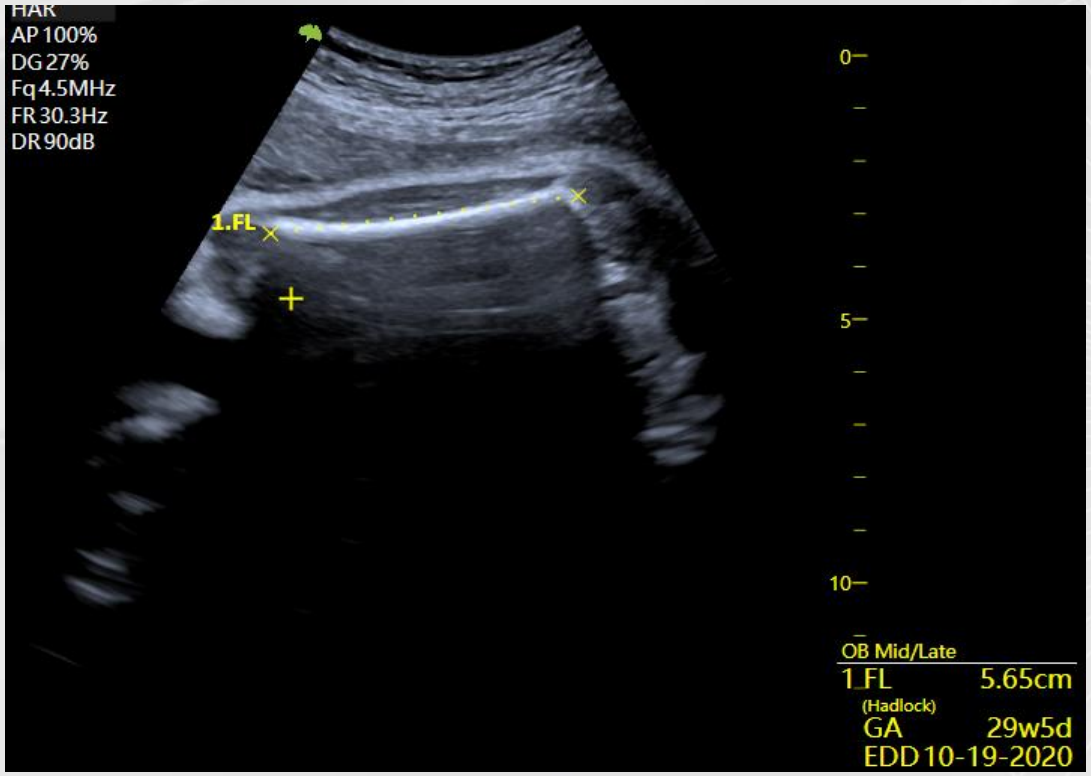
- ✓ It is considered there is a good correlation between fetal biometry (FL, BPD, GA) and fetal heart growth. Based on the relevant parameters of fetal trunk, Z-Score analysis accurately the growth of fetal heart (totally17 measurement items for fetal heart).

Name	1	2	3	4	5	Statistic	Unit	ZScore (By FL)	ZScore (By BPD)	ZScore (By GA)
ZScore (OB Early)										
AV Diam	28.59					28.59 Avg	mm	17.92	18.51	18.49
Ao Asc Diam	22.52					22.52 Avg	mm	13.11	16.80	15.07

OB Feature: Vaim OB

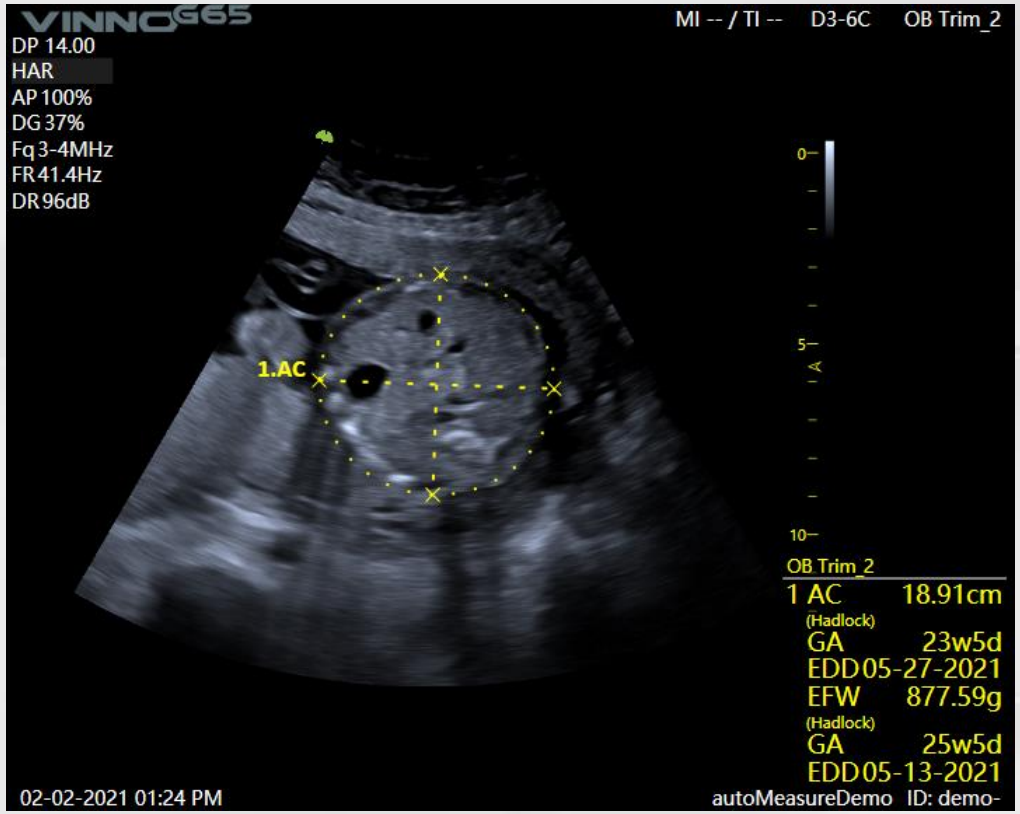
- ✓ Get the fetal biometry quickly and accurately.
- ✓ One touch, auto identification and GA & EDD calculation.

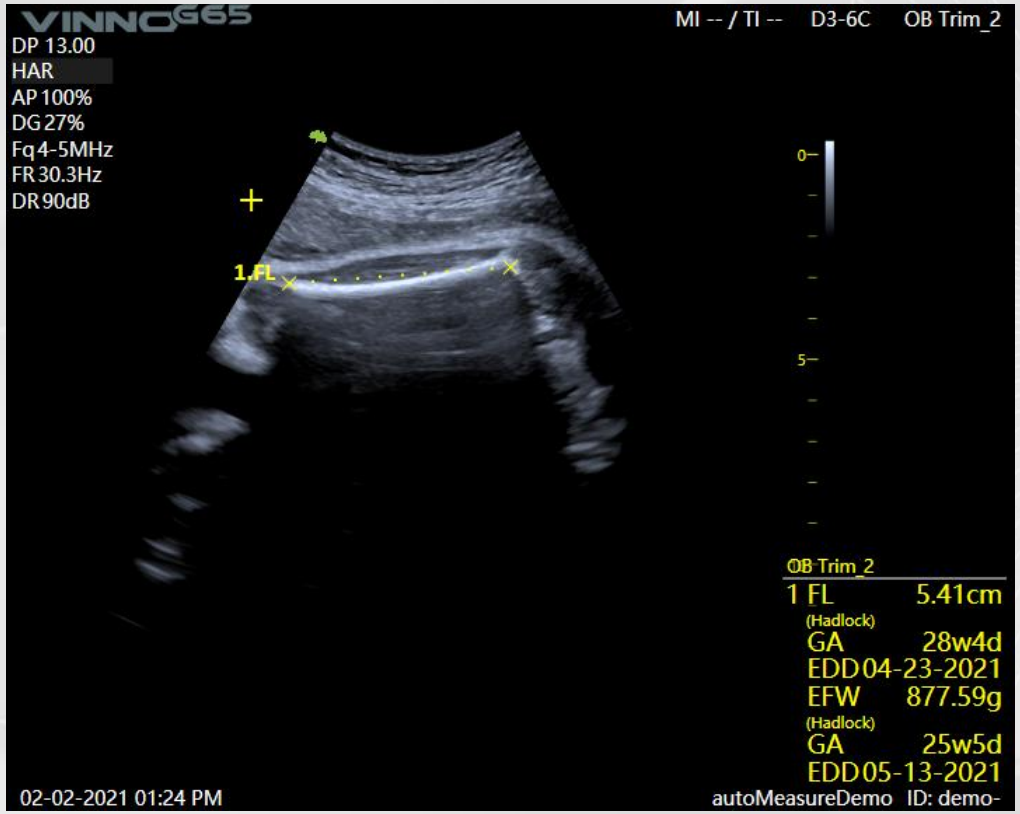




OB Feature: Auto OB

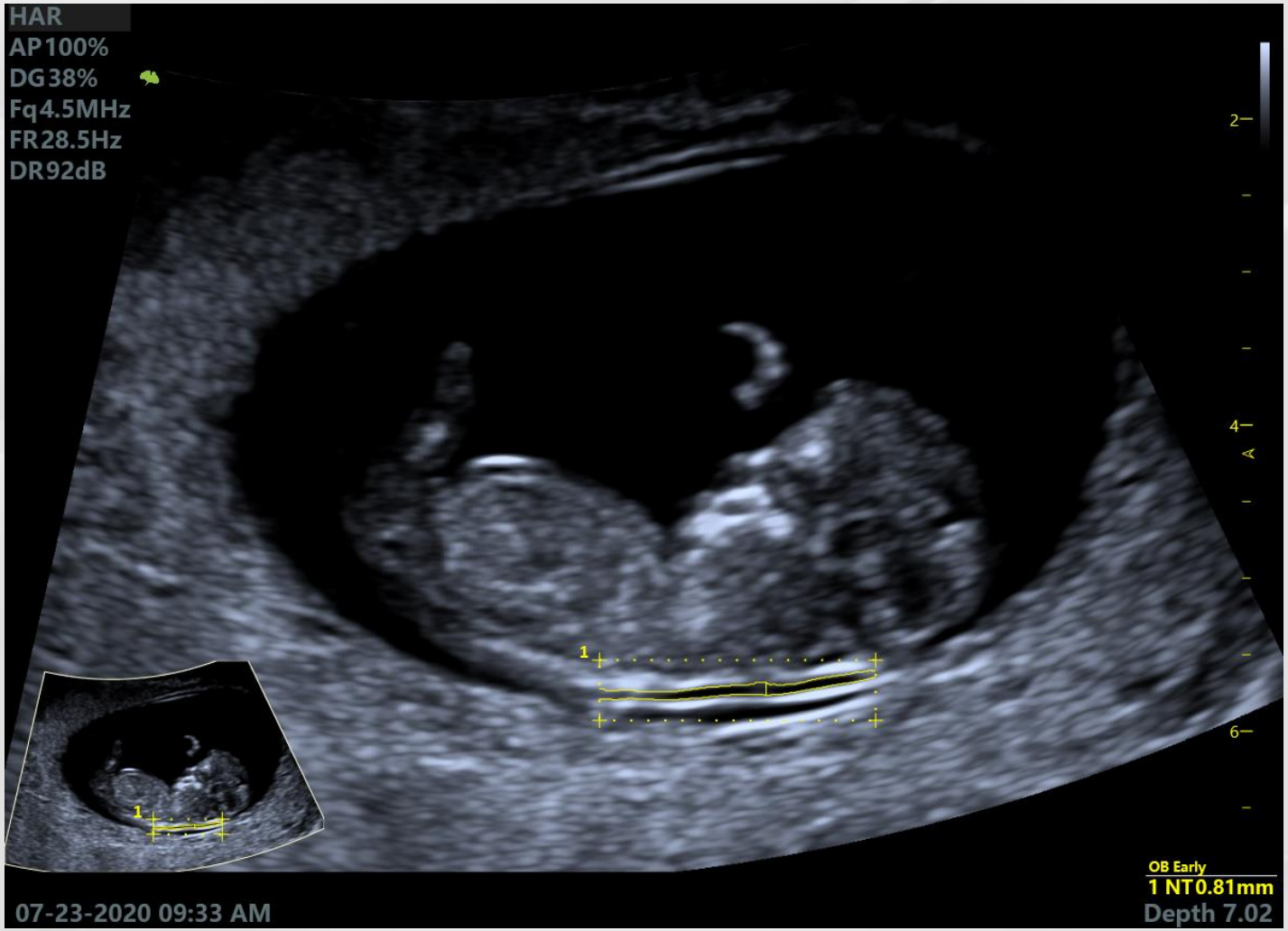
- ✓ The system will identify the border and measure automactically arrcording to the user's selection.
- ✓ Available on BPD/HC/AC/FL.





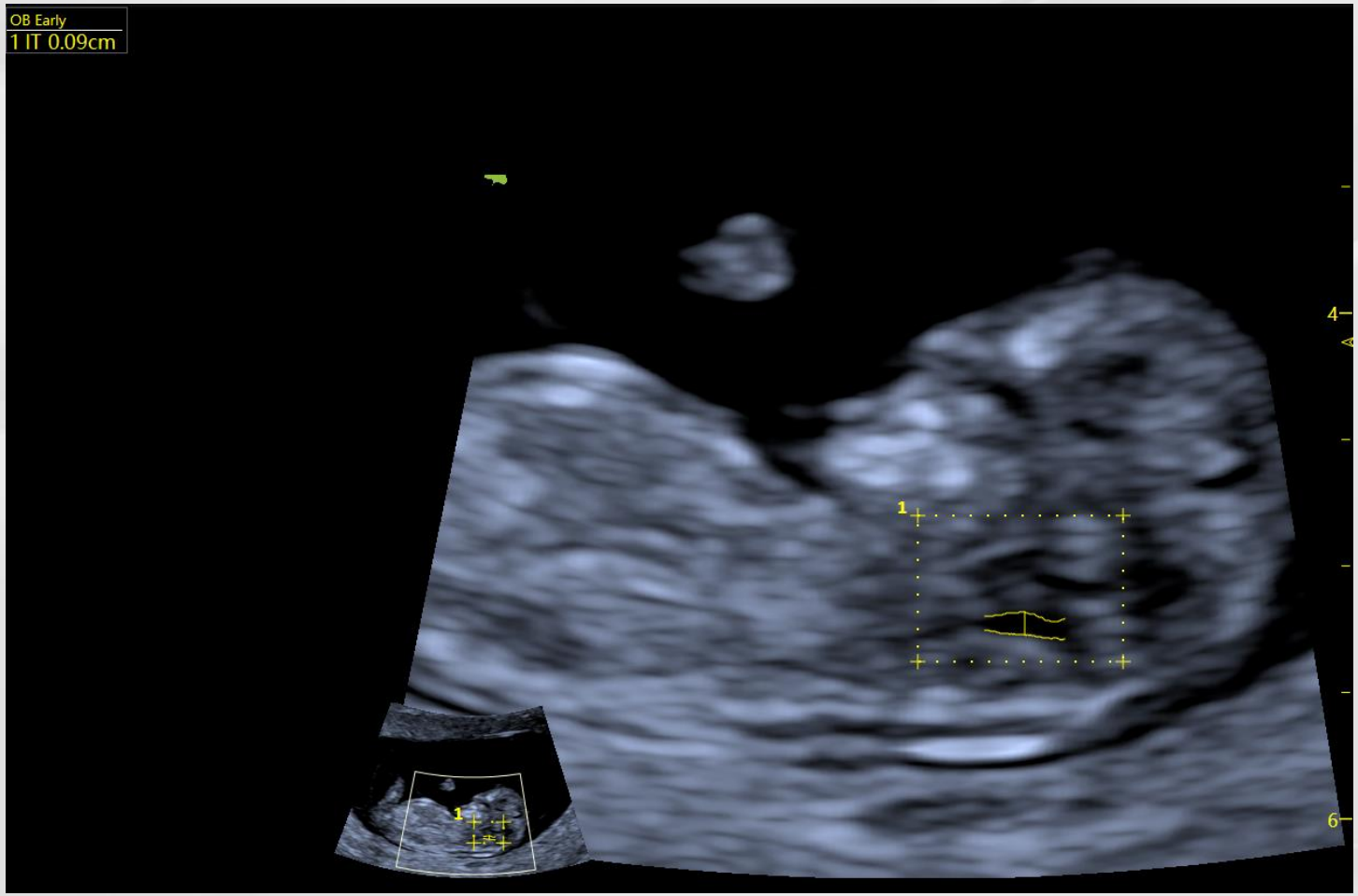
OB Feature: Auto NT

- ✓ The system will automatically calculate NT by defining ROI.



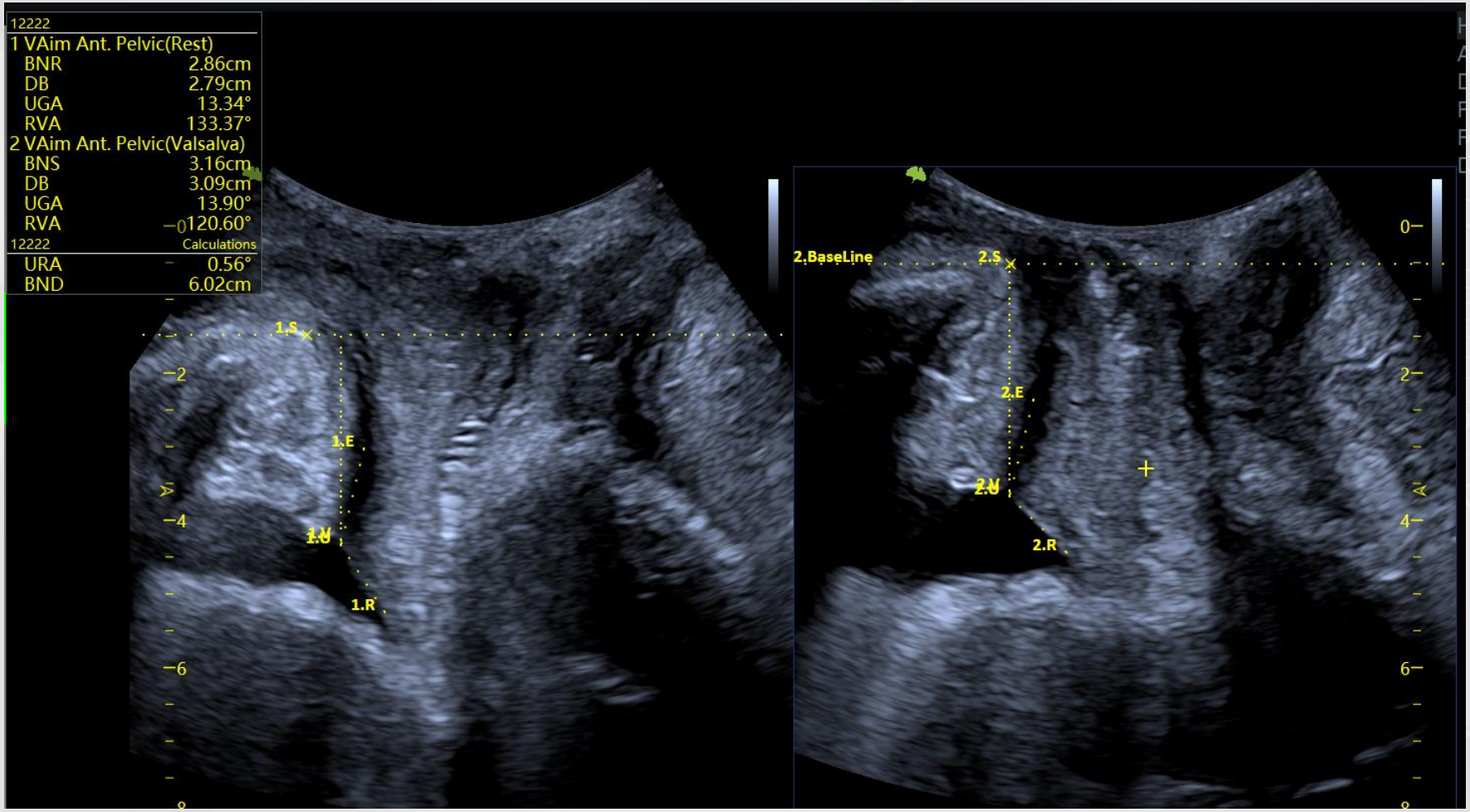
OB Feature: Auto IT

✓ After defining ROI, the system will automatically calculate IT.



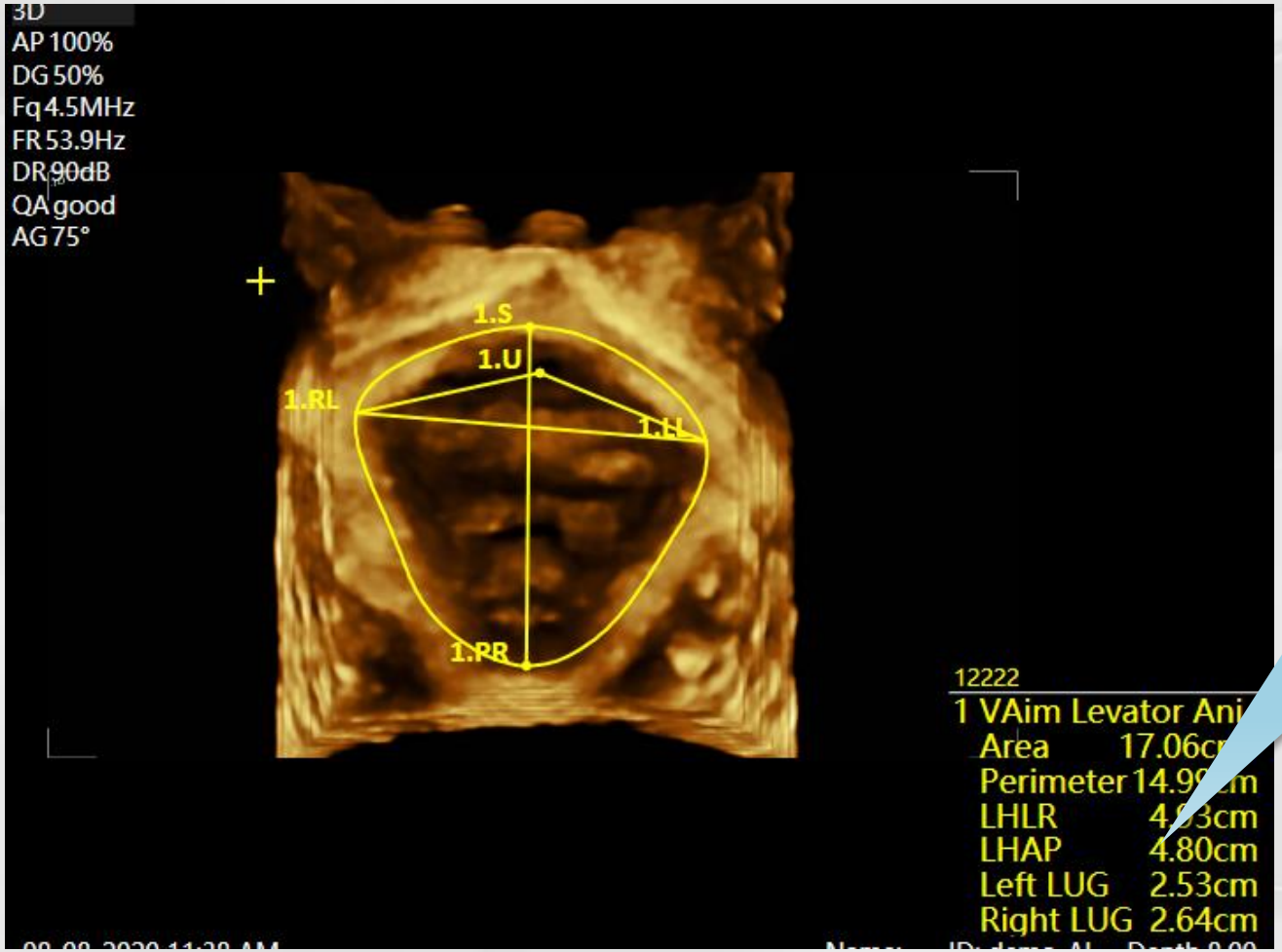
GYN Feature: Vaim Pelvic-2D

✓ “Ant. Pelvic (Rest)” and “Ant. Pelvic (Valsalva)” measurement in 2D Mode, by one touch.



GYN Feature: Vaim Pelvic-3D

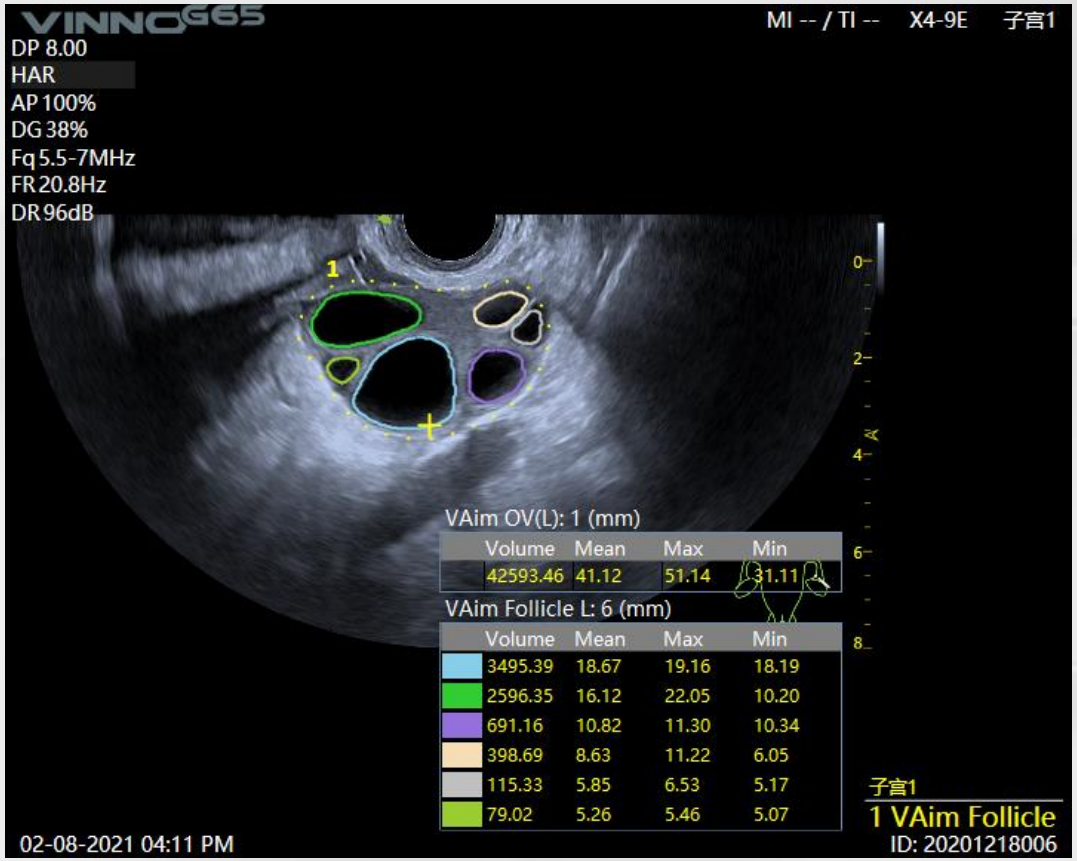
✓ “VAim Levator Ani" measurement in 3D/4D mode, by one touch.

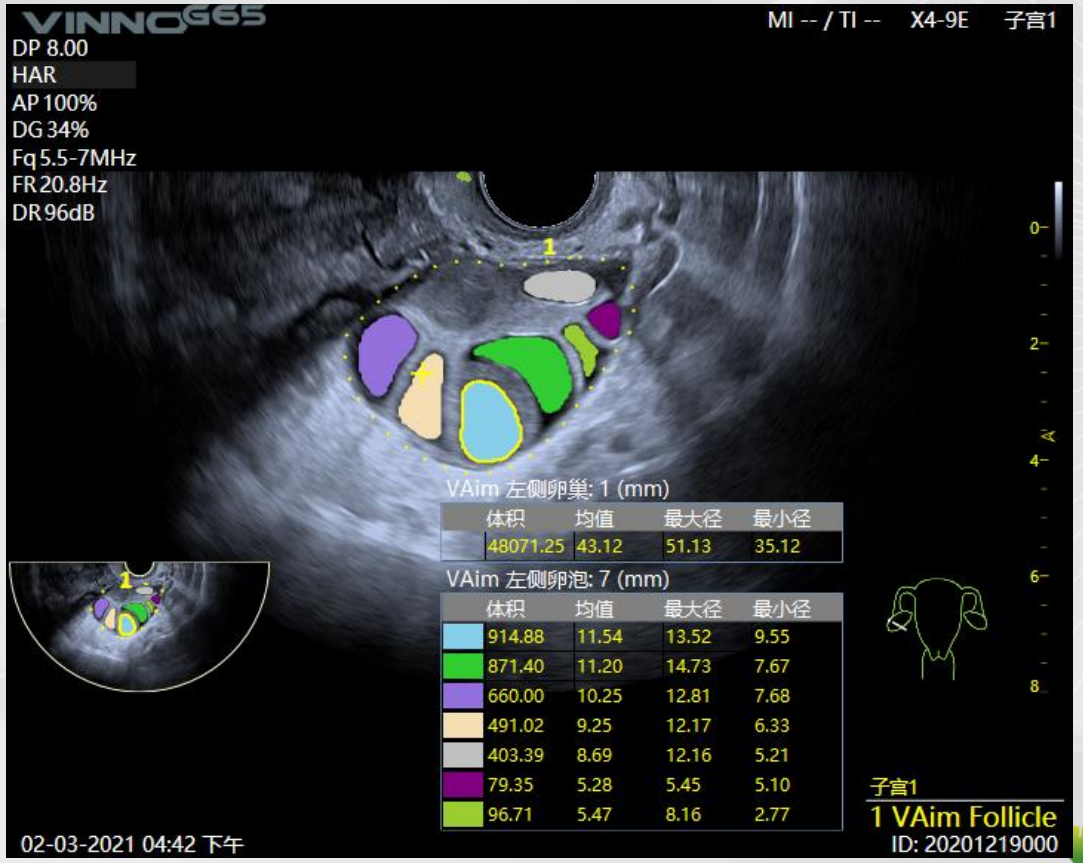


1 VAim Levator Ani
Area 17.06cm²
Perimeter 14.99cm
LHLR 4.93cm
LHAP 4.80cm
Left LUG 2.53cm
Right LUG 2.64cm

GYN Feature: Vaim Follicle

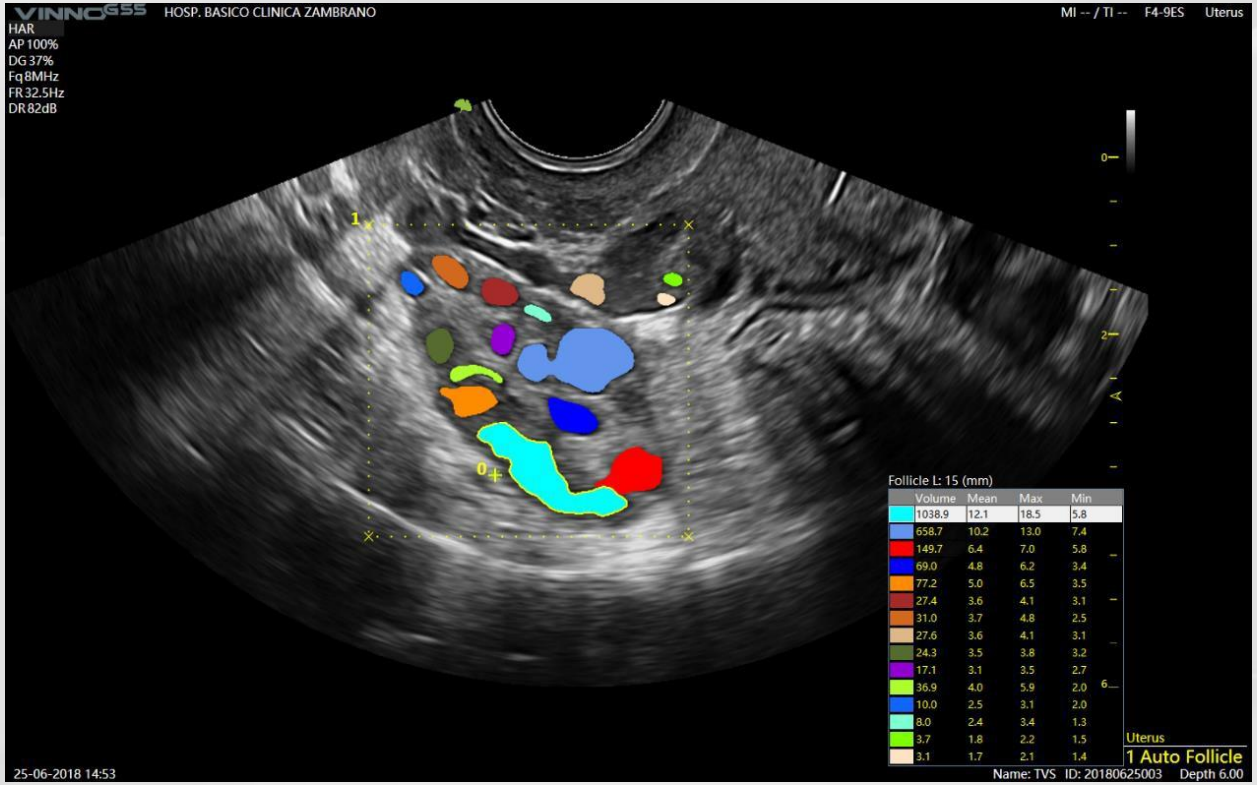
- ✓ An advanced tool for counting ovarian antral follicles.
- ✓ One touch automatically identifies all the follicles in the image frame with different colors and calculates the number of follicle and displays the diameters.





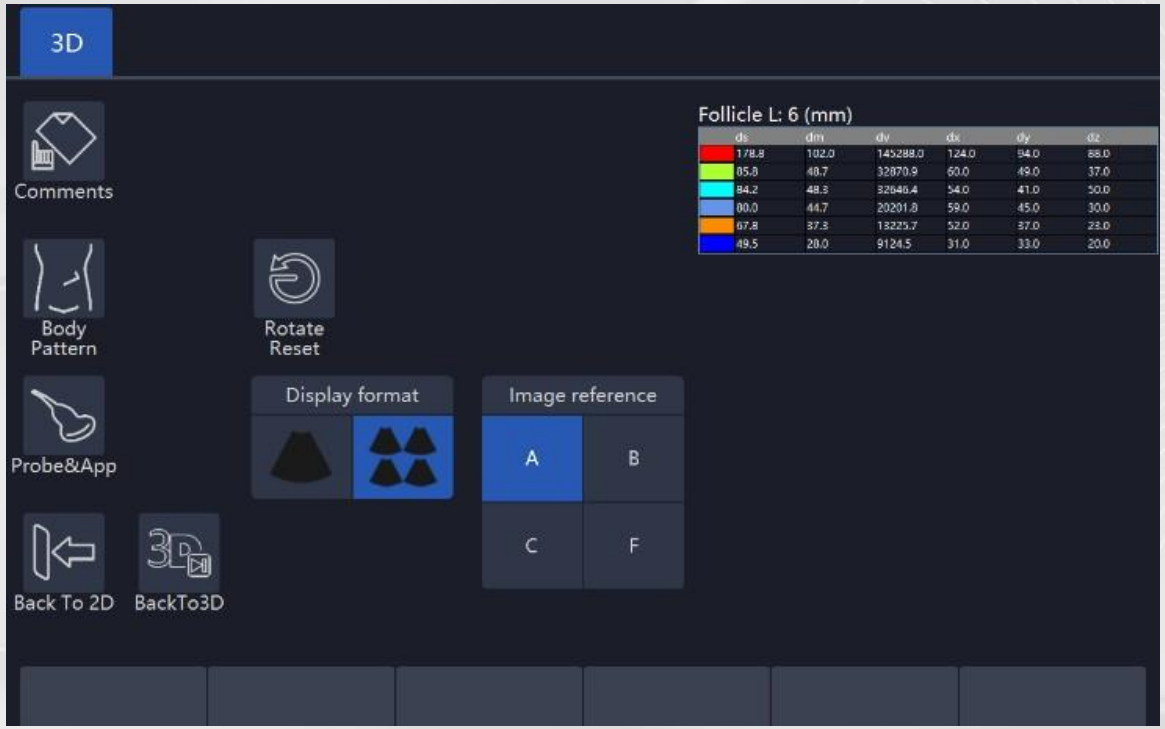
GYN Feature: Auto Follicle-2D

- ✓ The system will identify the follicle after drawing ROI, and calculate the size of each follicle that the system has identified, showing in different color. And it can be adjustable.
- ✓ It would help doctor to know the growth of each follicle quickly.



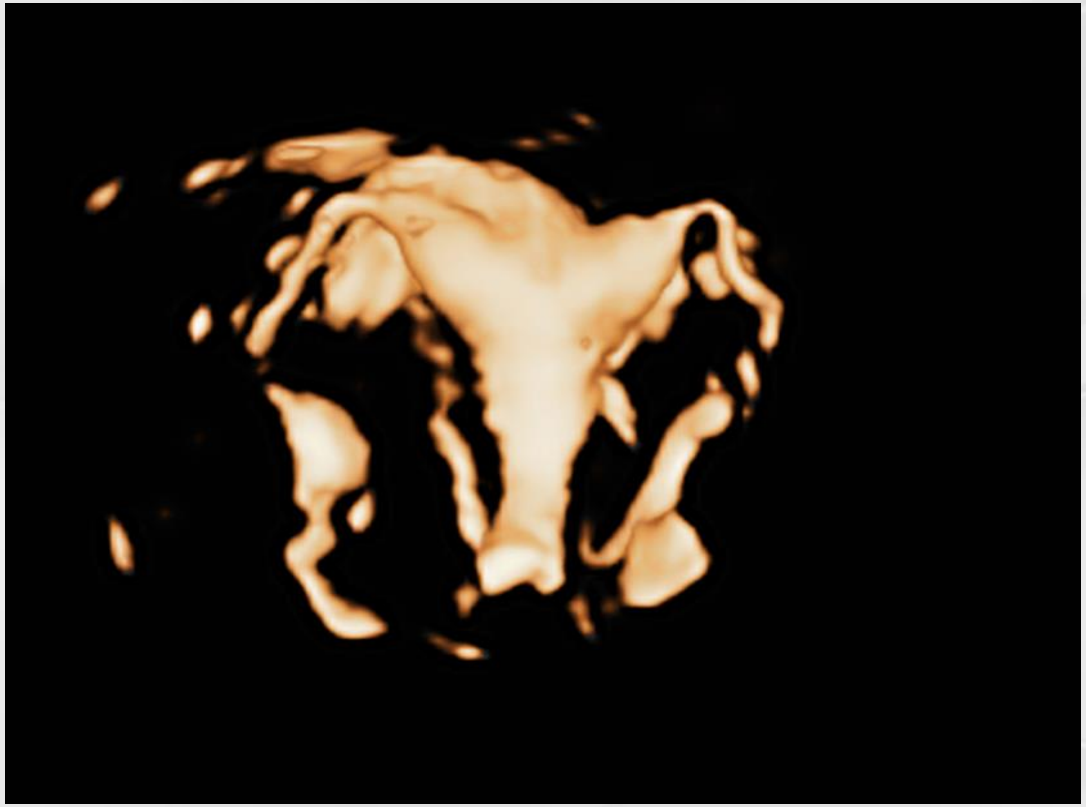
GYN Feature: Auto Follicle-3D

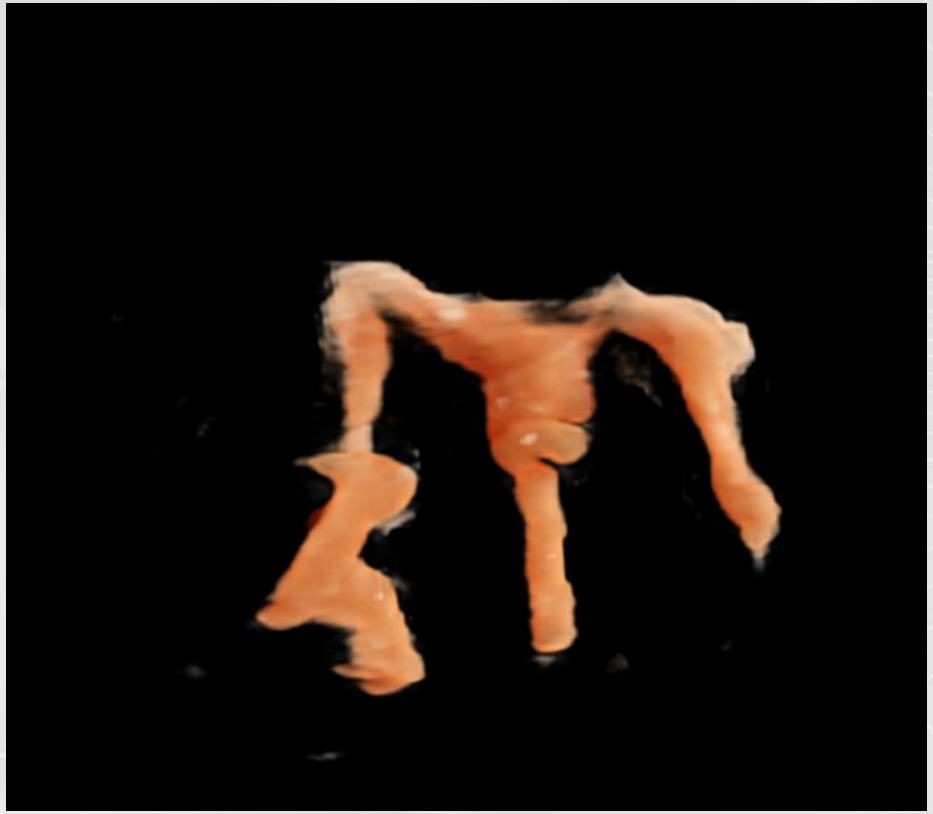
- ✓ The system will identify the follicle automatically after get 3D follicle image, and calculate the size of each follicle that the system has identified, showing in different color.
- ✓ It would help doctor to know the growth of each follicle quickly.



GYN Feature: 4D HSG (Hysterosalpingography)

- ✓ Contrast agent injection into the fallopian tubes in 4D imaging will show any occlusion which prevents follicles move from ovaries to uterus.





Cardiac

- ✓ Strain image
- ✓ Stress Echo
- ✓ Auto EF
- ✓ Mutil Angle M mode
- ✓ Mutil line M mode
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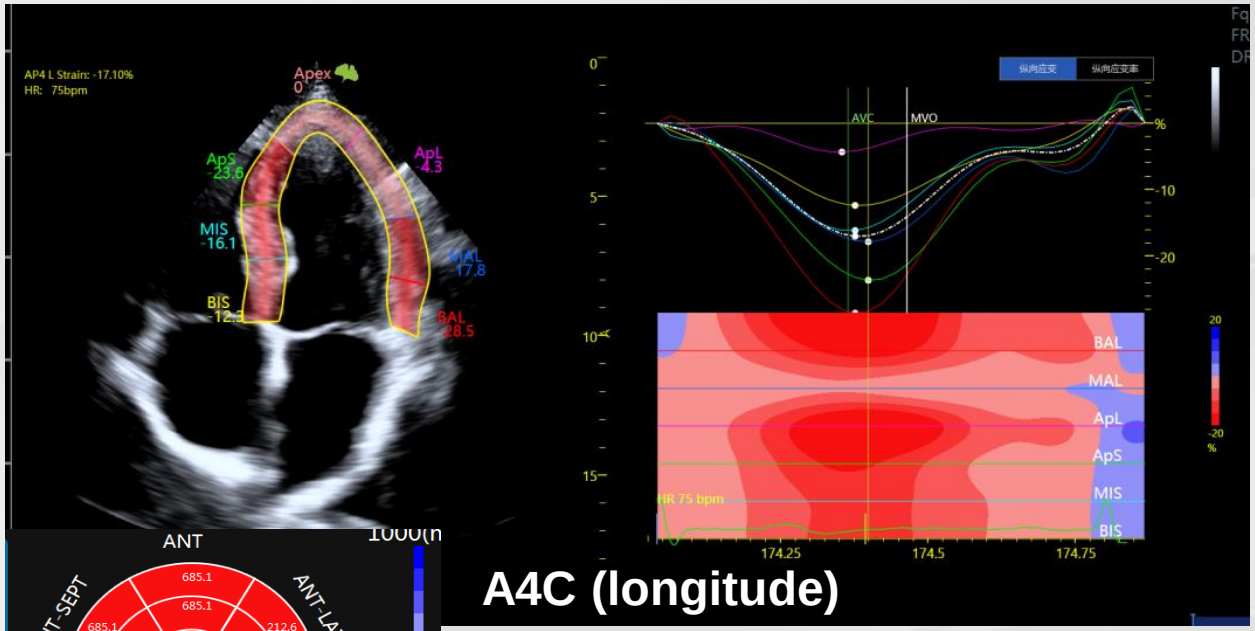
Vascular

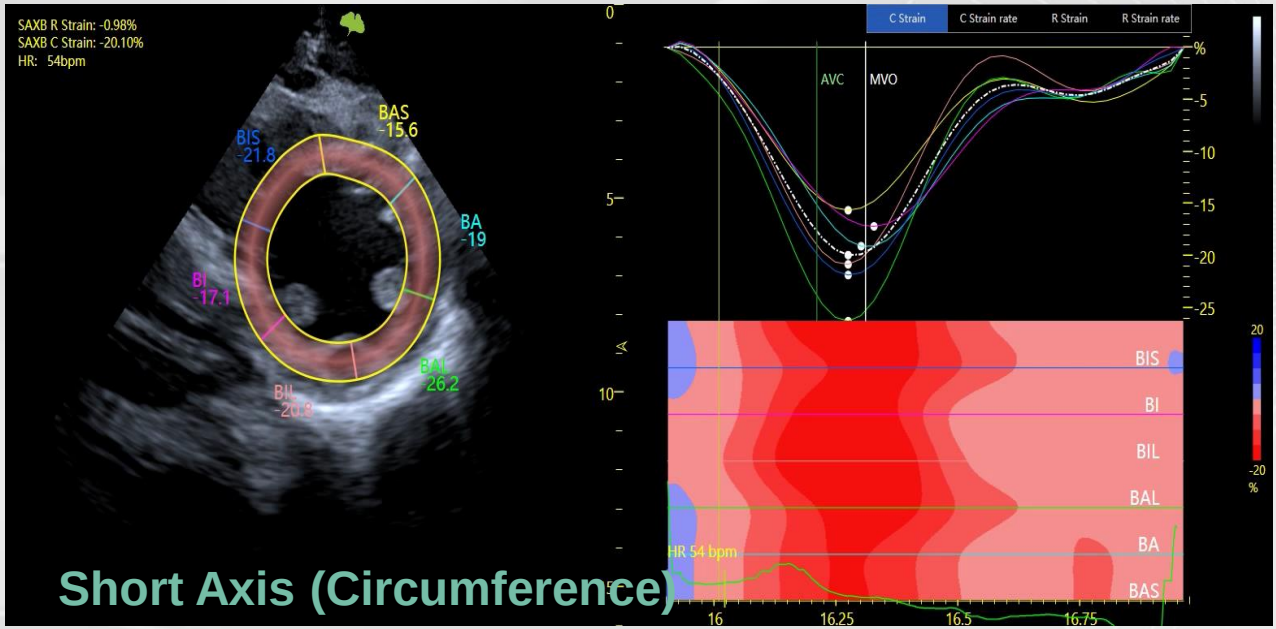
- ✓ Auto IMT
- ✓ Live IMT
- ✓ AMAS
- ✓ PWV

Cardiac Feature: Strain image

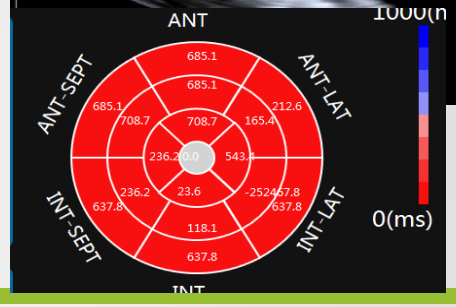
- ✓ 2D speckle tracking helps in comprehensive assessment of myocardial function in wide spectrum of potential clinical applications.
- ✓ Strain imaging describes the strain curve to underline any myocardial regions either in the same or various images, which can differentiate between active and passive movement of myocardial segments, to quantify intraventricular dys-synchrony and to evaluate components of myocardial function.



A4C (longitude)



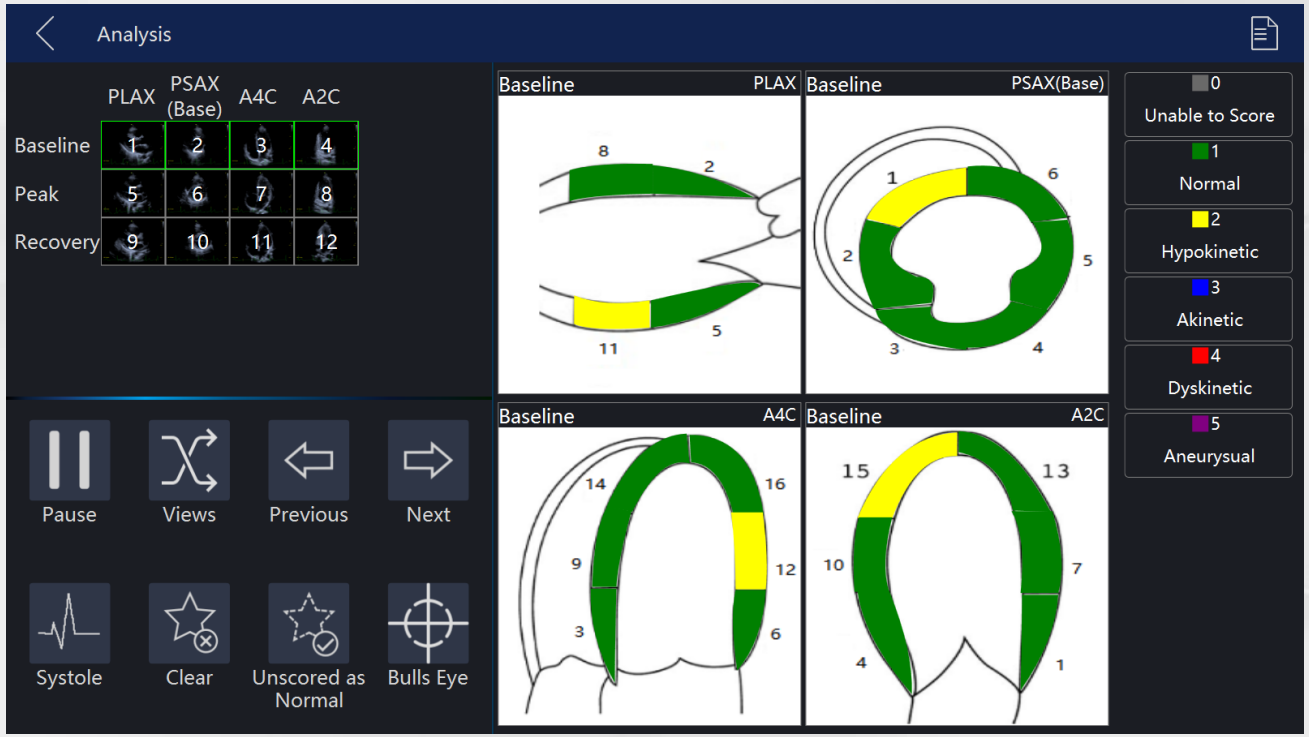
Short Axis (Circumference)

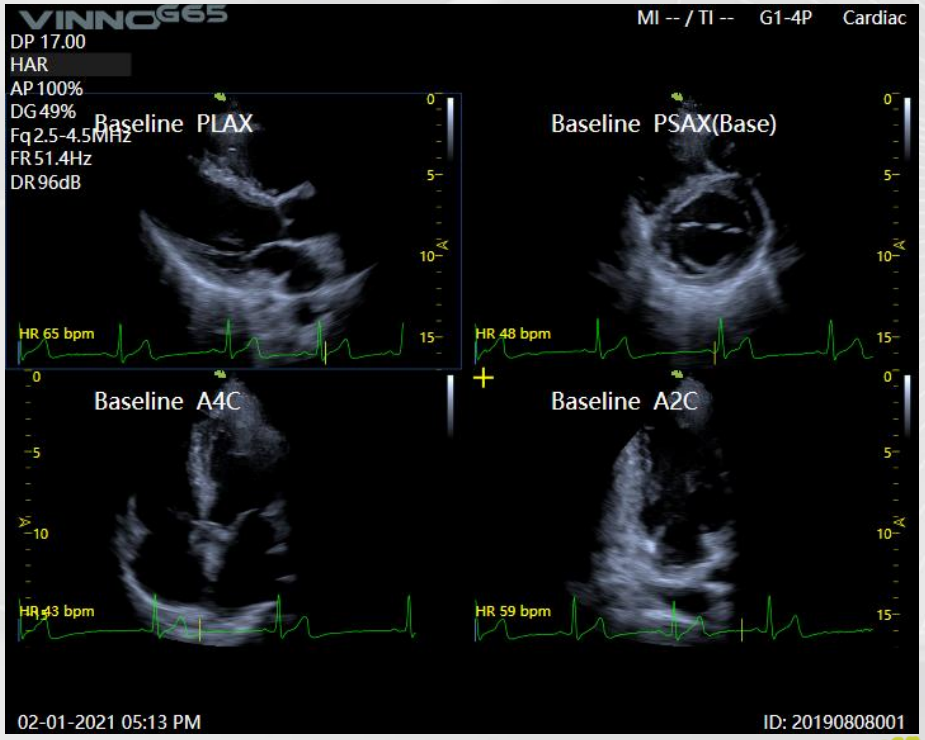


Bull Eye (BE)

Cardiac Feature: Stress Echo

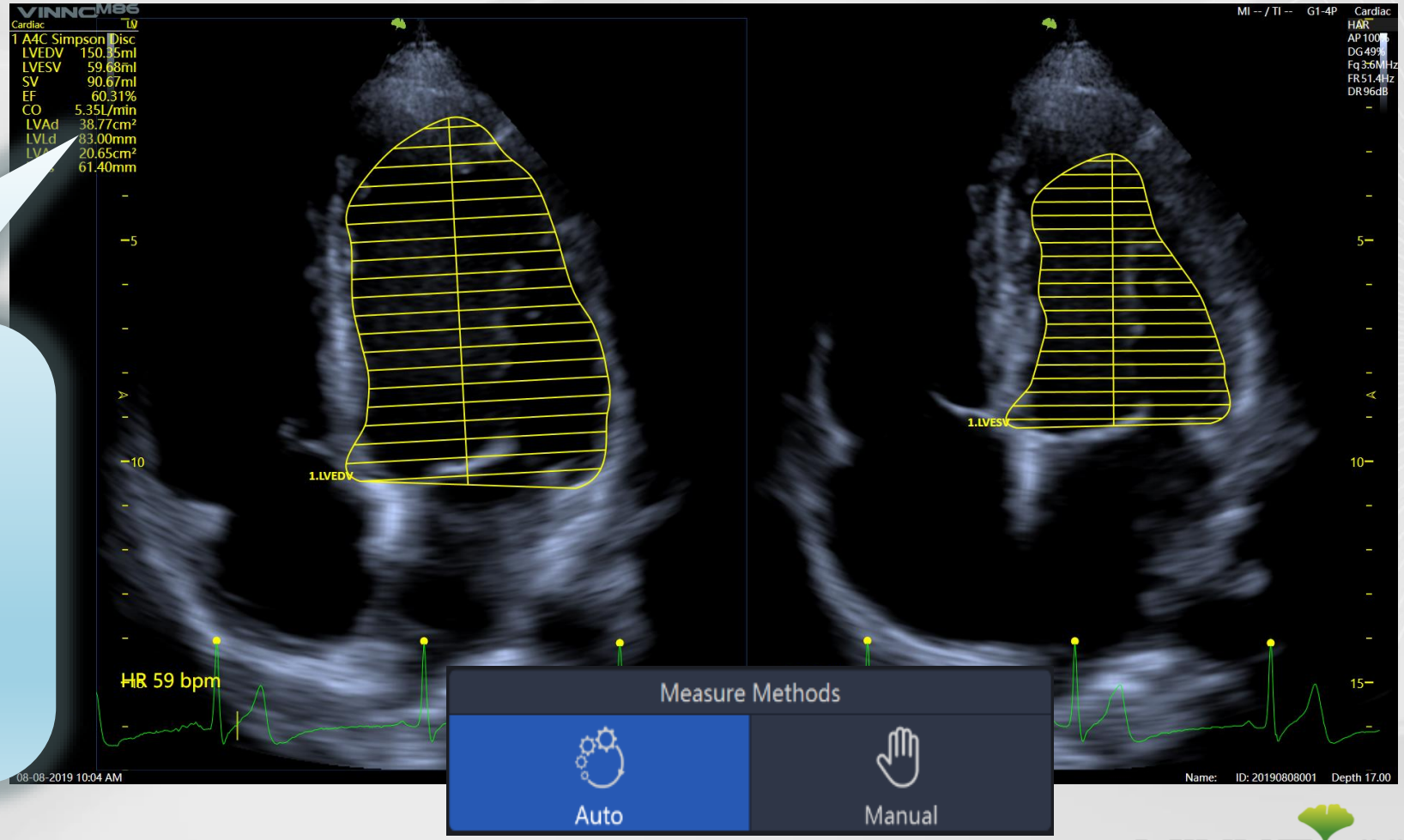
- ✓ Stress Echocardiography is a dynamic evaluation of myocardial structures and its function under an induced stress of the heart.
- ✓ 12 templates (max 8 stages * 6 views).
- ✓ User programmable views and stages





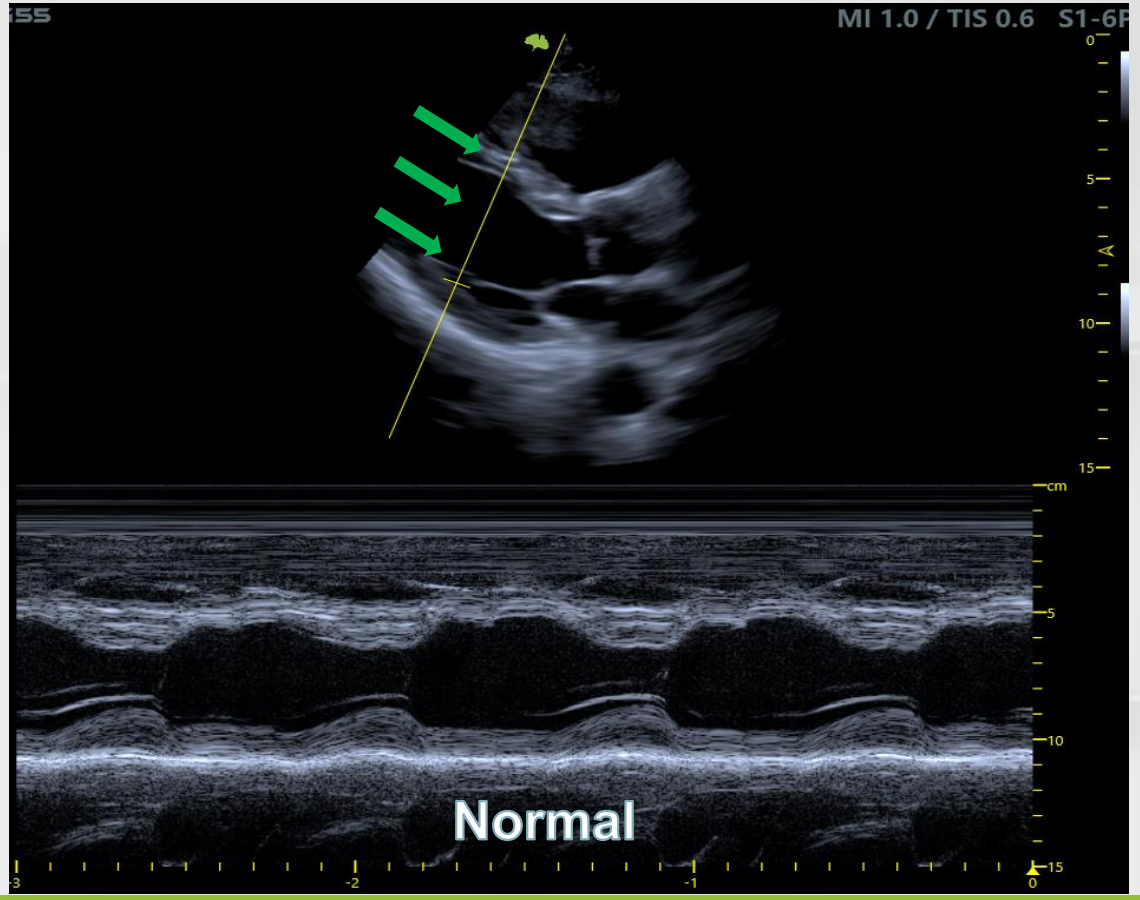
Cardiac Feature: Auto EF

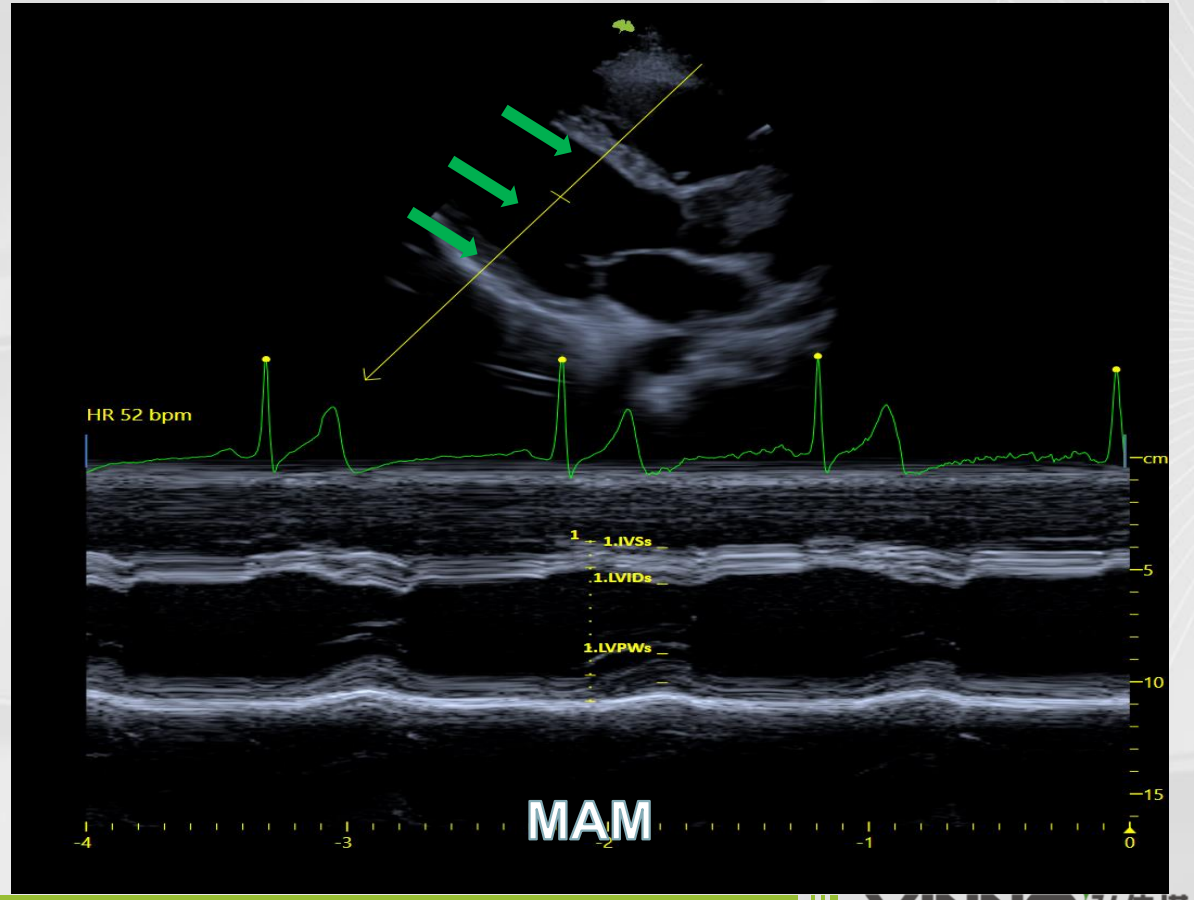
- ✓ After fixing 3 points of LV (2 at base of MV and 1 at apex), the system will identify and trace the border of LV endocardium(can be edited), calculate the EF and other results.



Cardiac Feature: Mutil Angle M mode

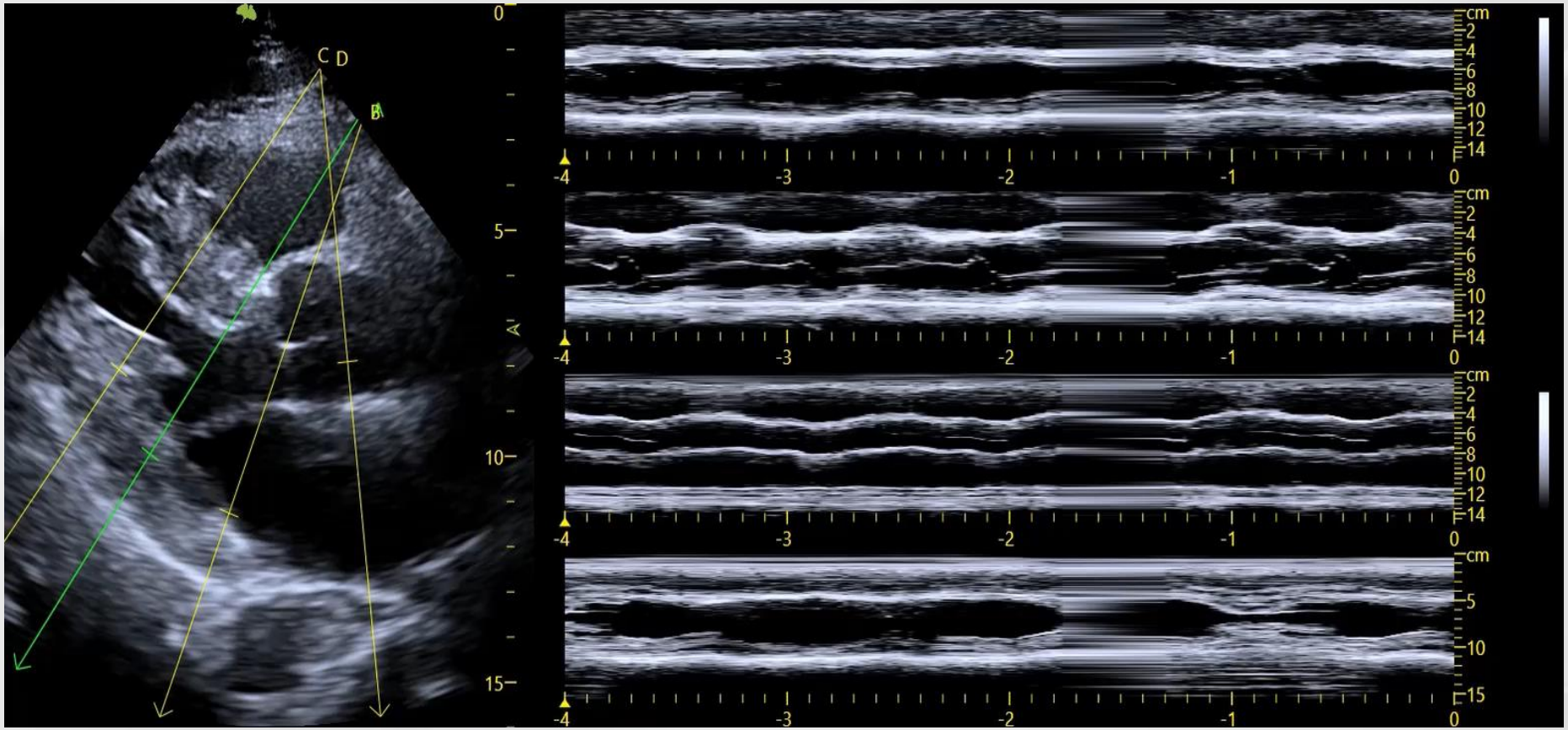
- ✓ It would allow M line to move and rotate.
- ✓ To make M line vertical with ventricle wall, to get a more accurate result for EF.
- ✓ Getting more motion information from the heart.





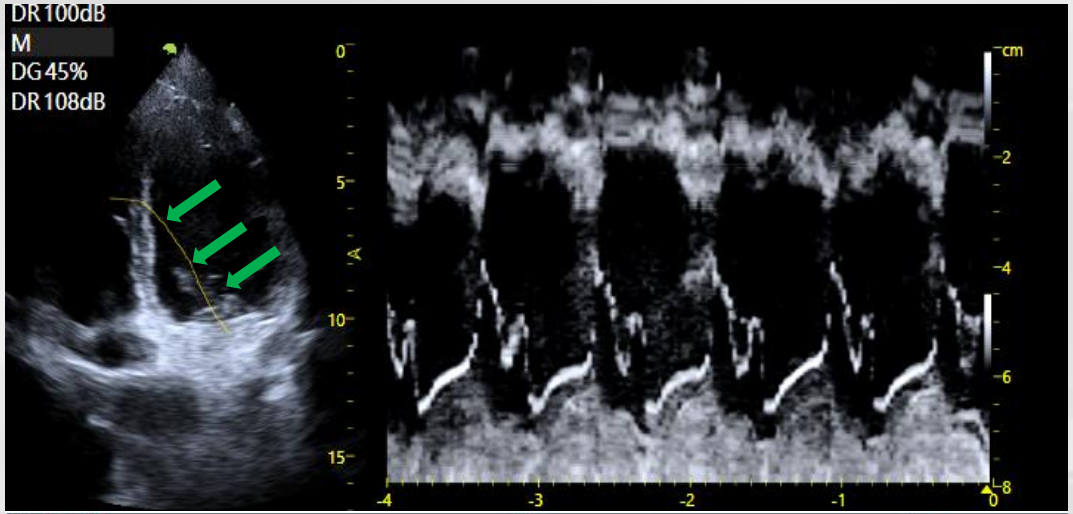
Cardiac Feature: Mutil line M mode

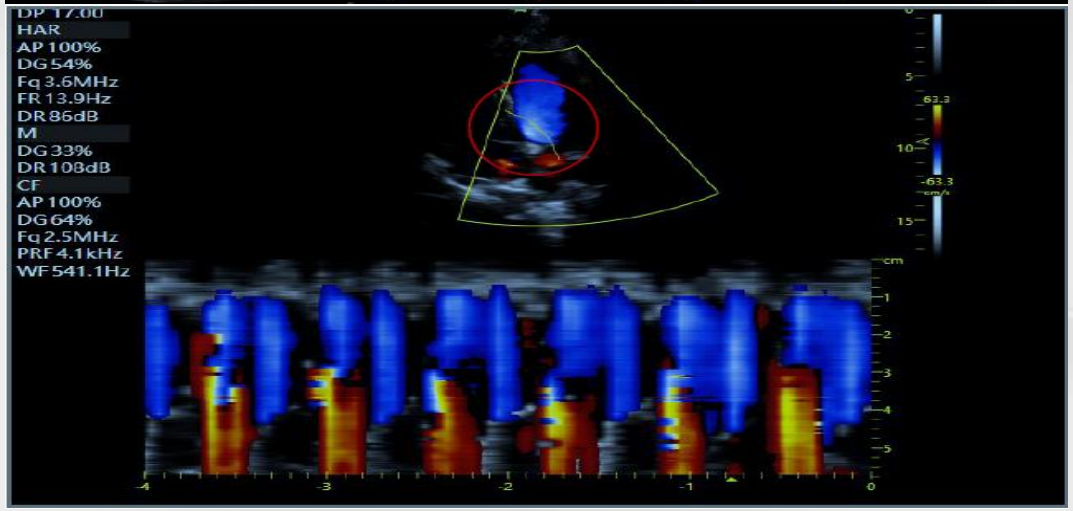
- ✓ Up to 4 sample lines, sample from any angle.
- ✓ Provide more accurate information.

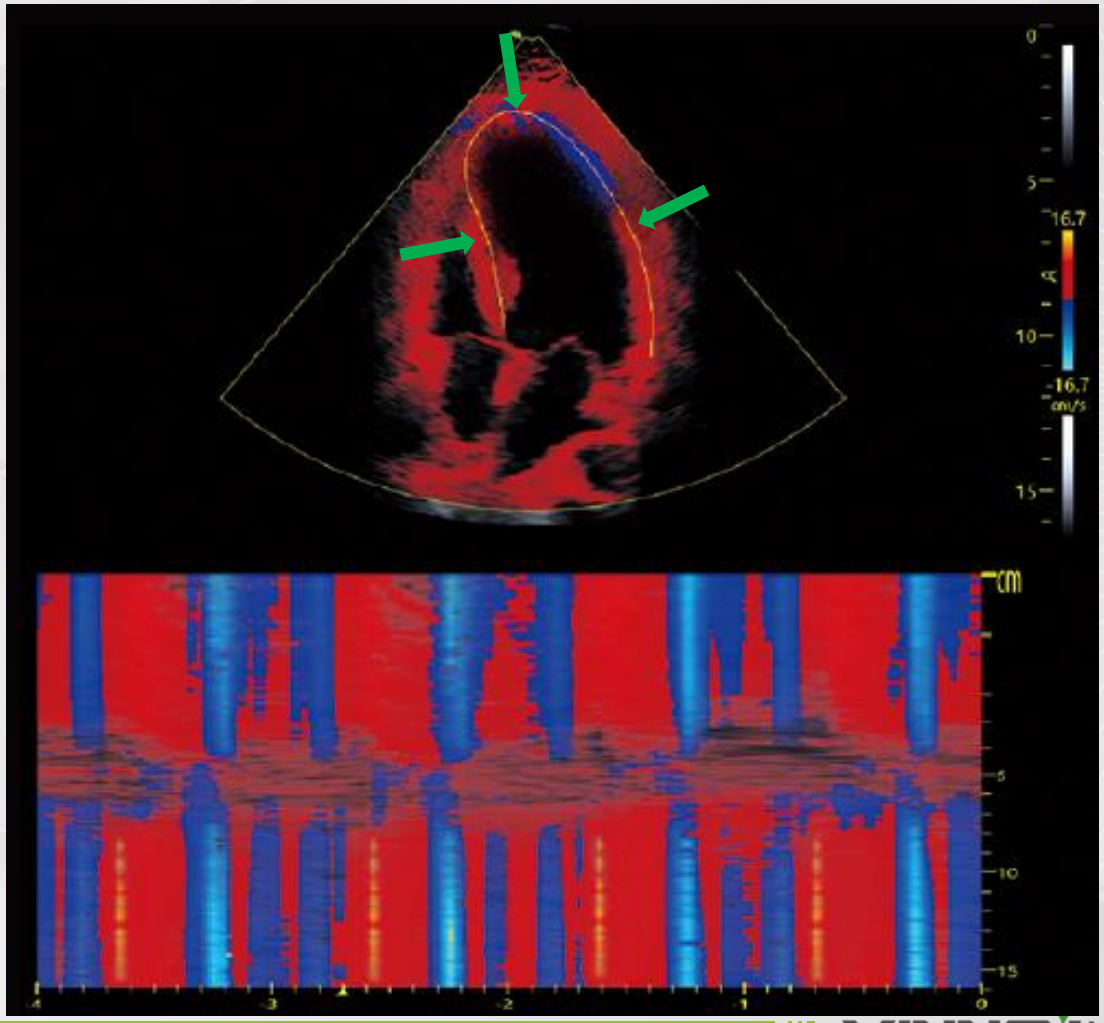


Cardiac Feature: Curved M mode

✓ Draw the route of the sample line freely and obtain the corresponding anatomical M-mode(2D/CF/TVI).

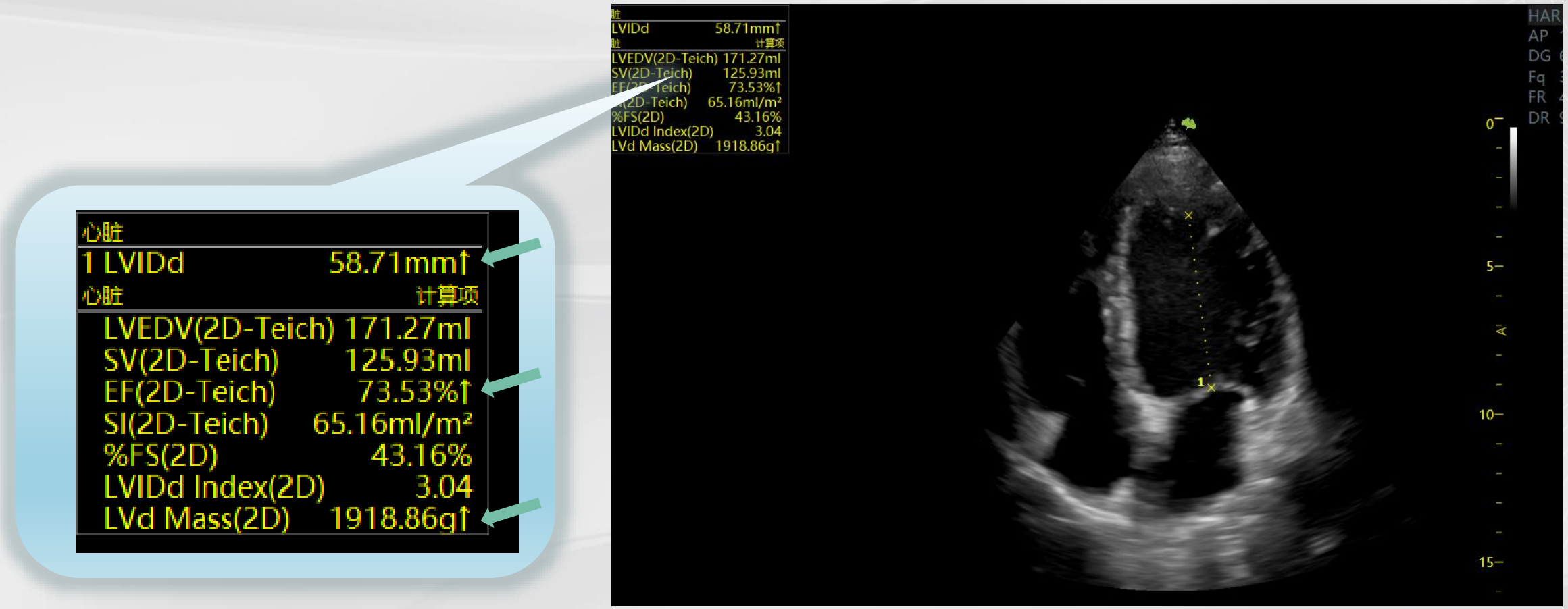






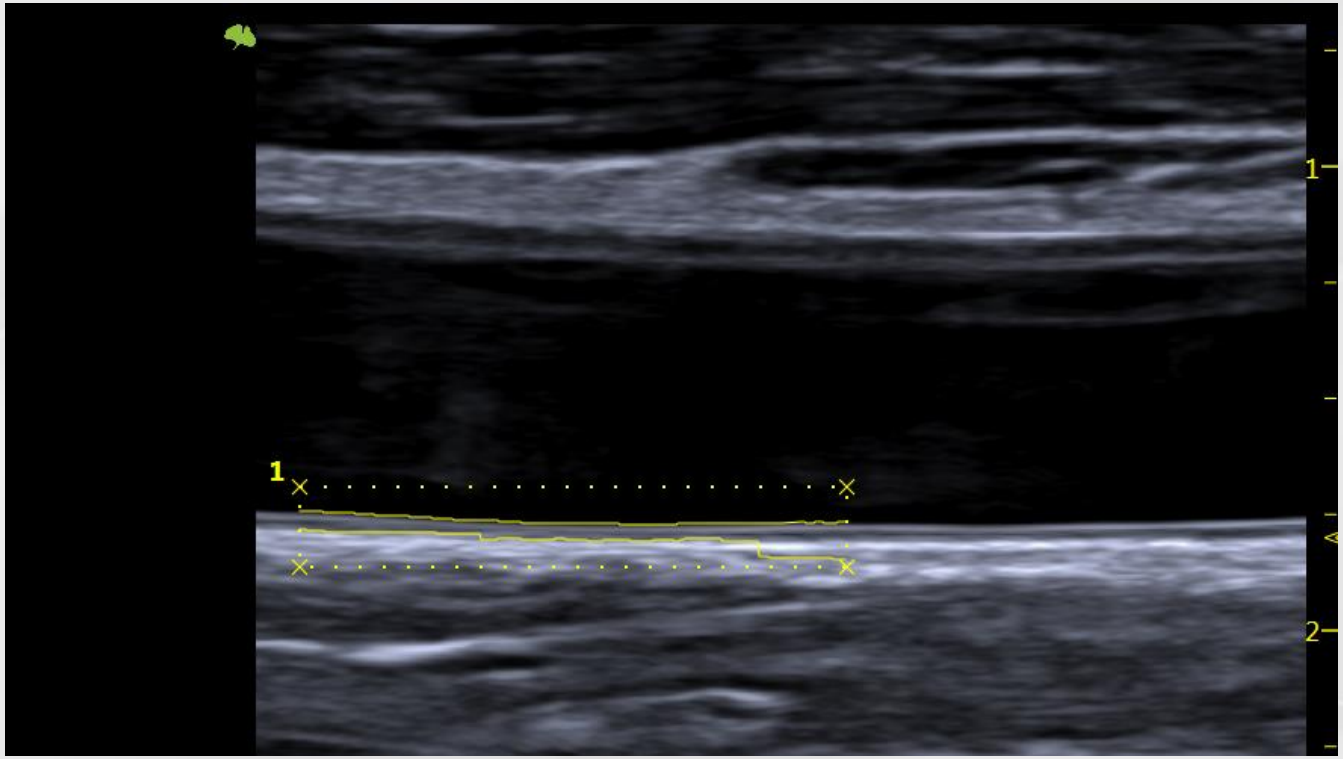
Cardiac Feature: vCQ

✓ "ASE_2015" and “WASE_2020” Normal Range table for Human Cardiac. This feature can be used in which machine supports for vCQ.



Vascular Feature: Auto IMT

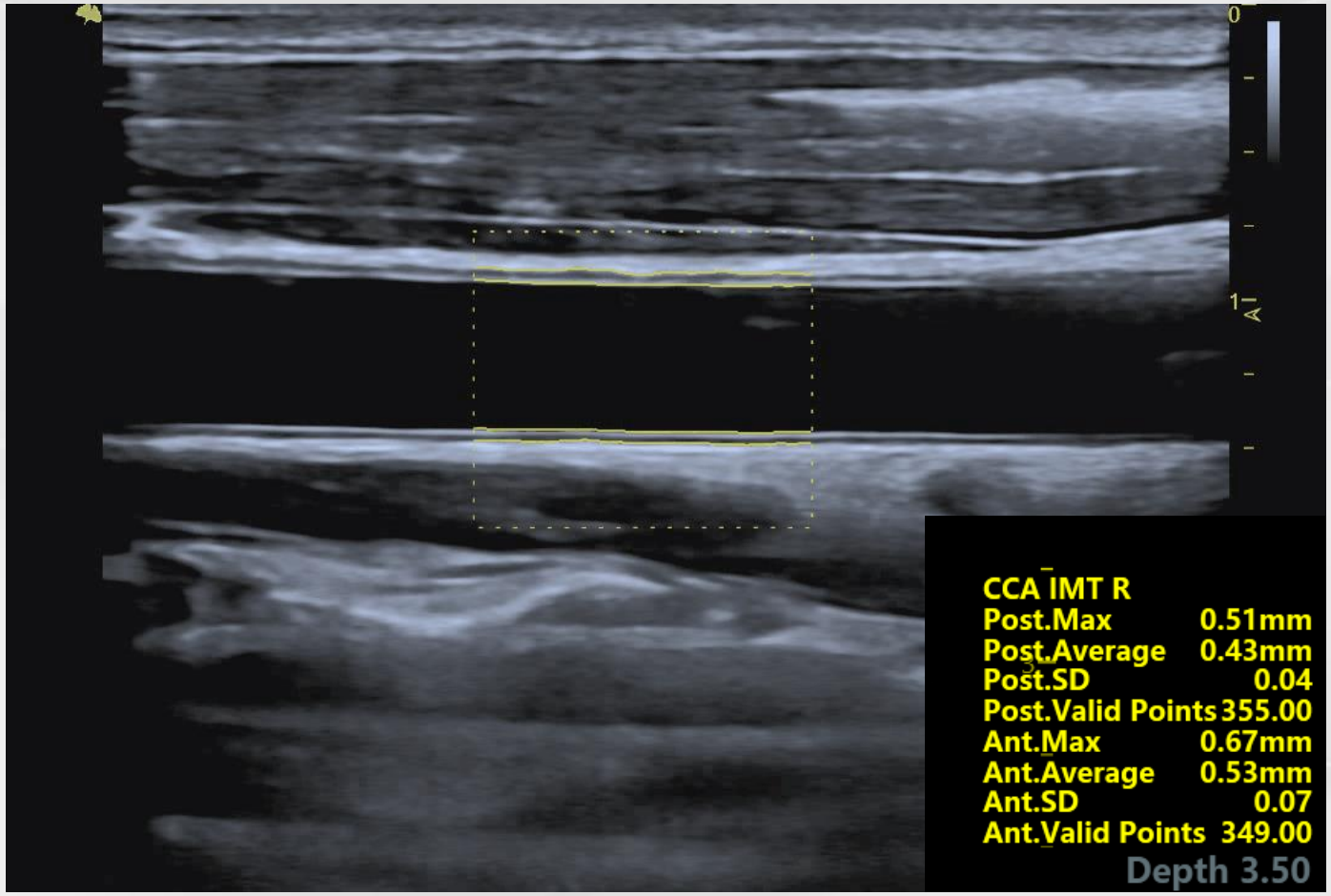
- ✓ Calculating the IMT parameters automatically after scanning by drawing ROI.
- ✓ Not only on one wall, but both walls(anti.& post.) as well.

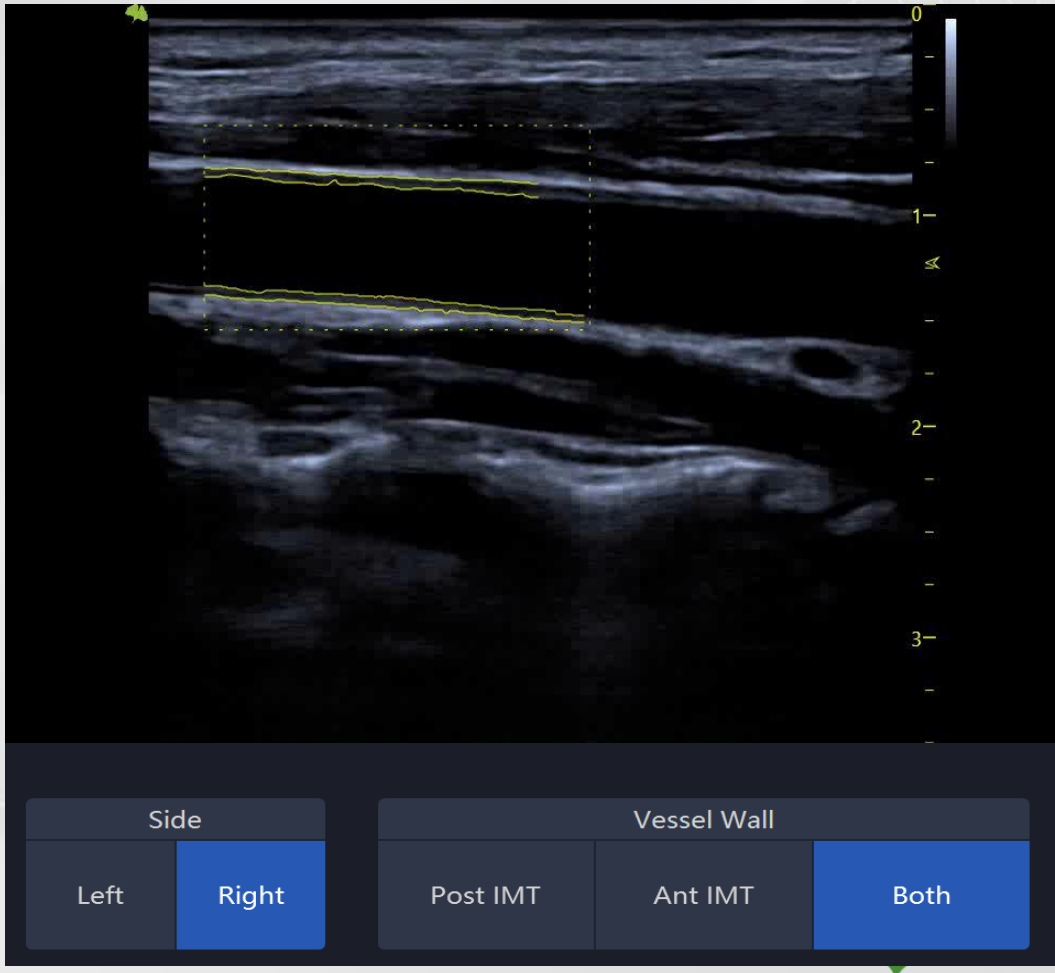


CAROTID	
1 Post.CCA IMT R	
Max	0.83mm
Average	0.43mm
SD	0.14
Valid Points	344.00
Measure Length	1.18cm
ROI Length	1.18cm

Vascular Feature: Live IMT

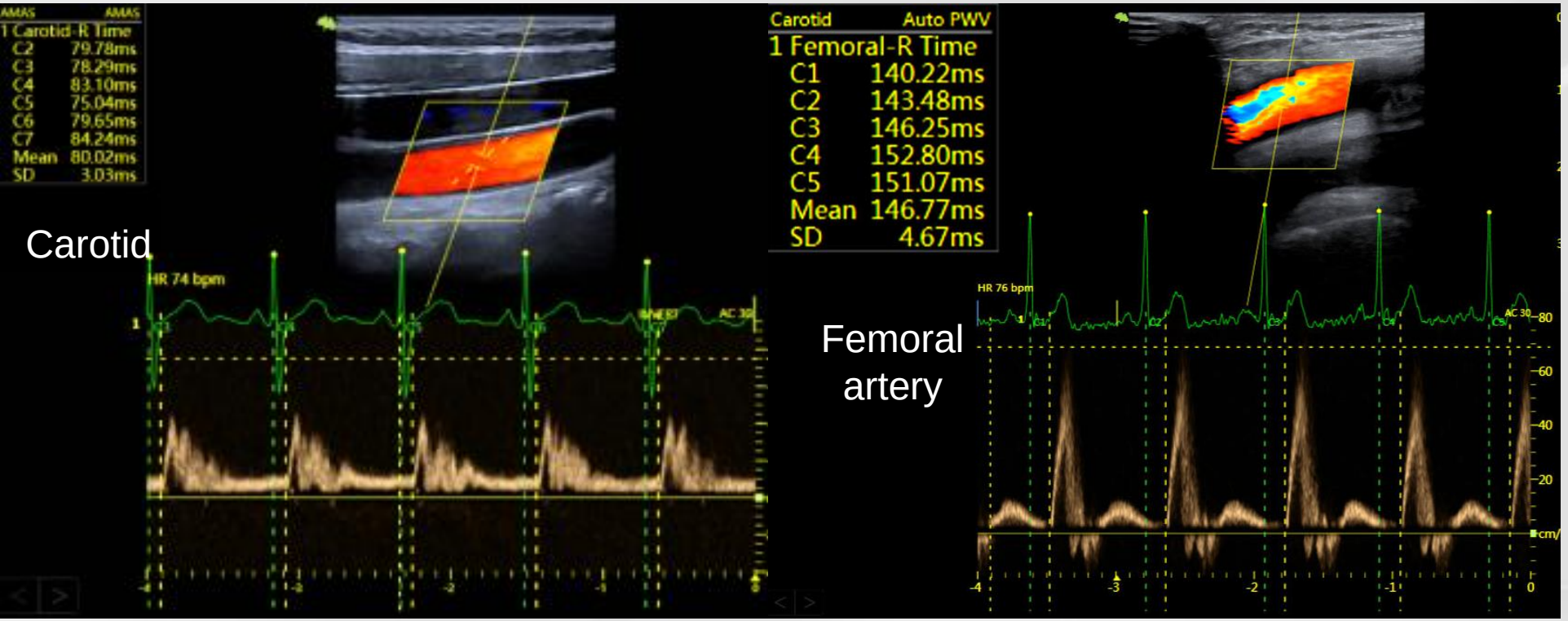
- ✓ During live-scanning Live IMT automatically opens a ROI (region of interest) and calculates the IMT parameters.

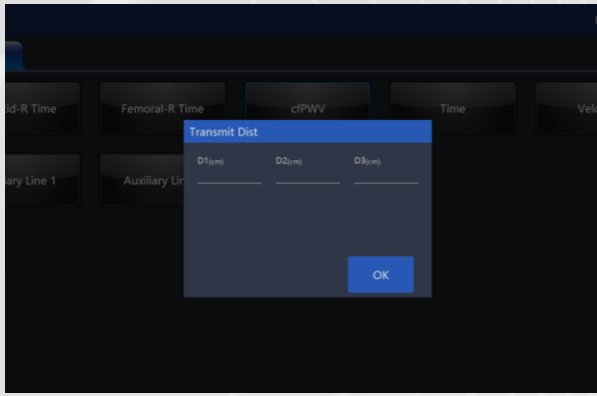




Vascular Feature: AMAS

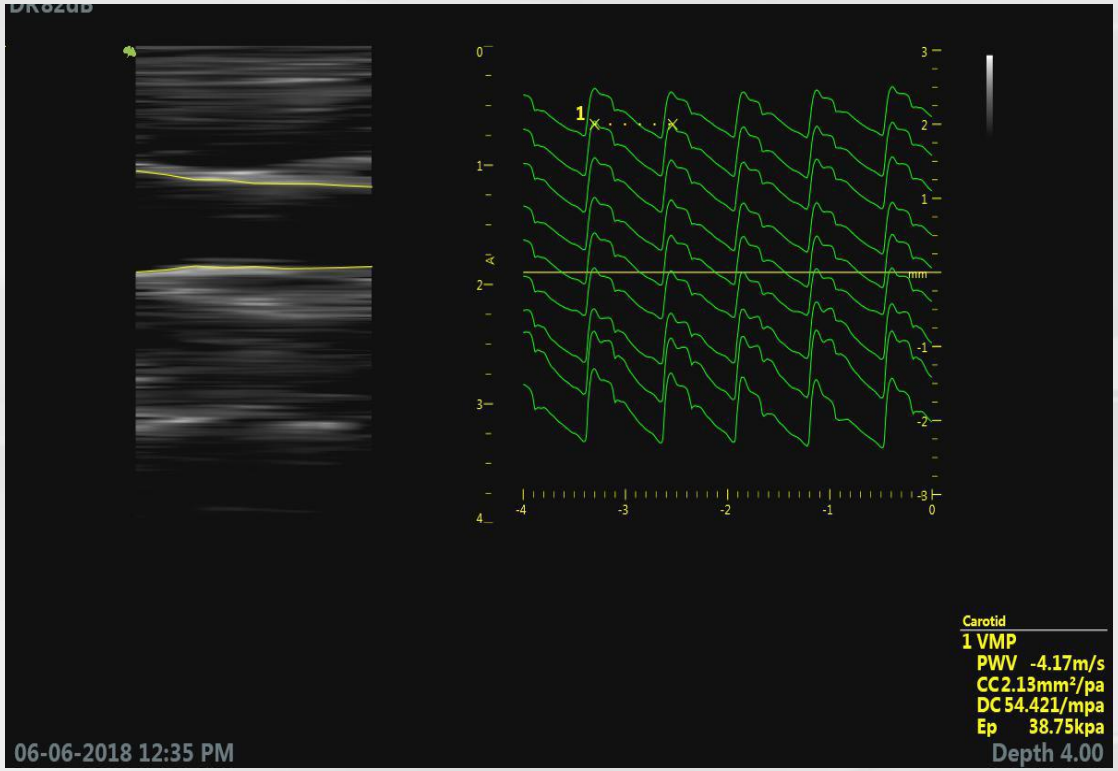
- ✓ AMAS auto-calculates the time between the ECG R-wave and the onset of corresponding PW Doppler Spektrum of Carotid and Femoral artery. Type the distance between Carotid and Femoral artery to automatically calculate cf Pulse Wave Velocity.

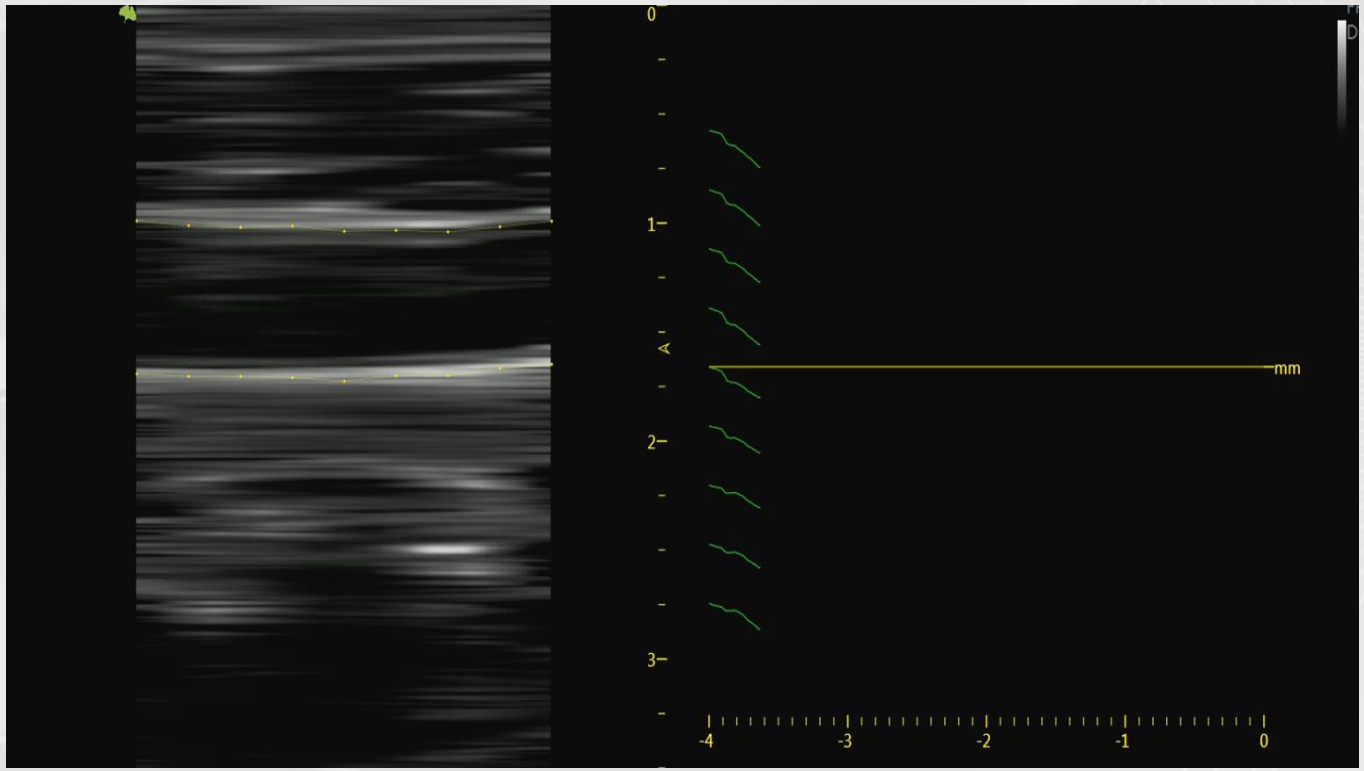




Vascular Feature: PWV

- ✓ PWV, early assessment of vascular anomalies and quantitative analysis of vascular elasticity, a screening method for Atherosclerosis.



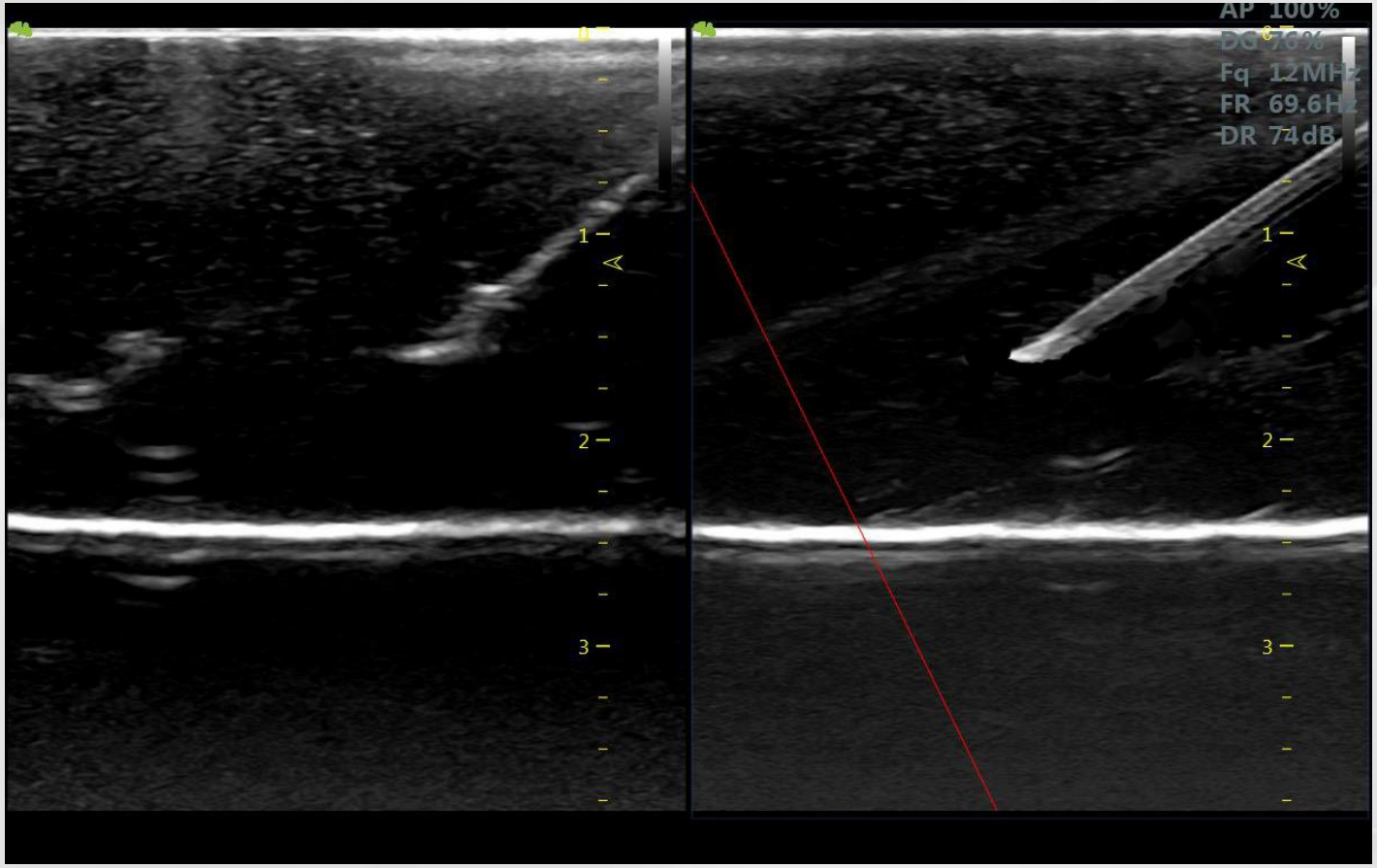


Superficial

- ✓ NeedlEnhancement
- ✓ Vaid for breast
- ✓ Vaim Hip
- ✓ Panoramic View
- ✓ V Guide
- ✓ Elastography(Strain method)
- ✓ Free 3D

Superficial Feature: NeedlEnhancement

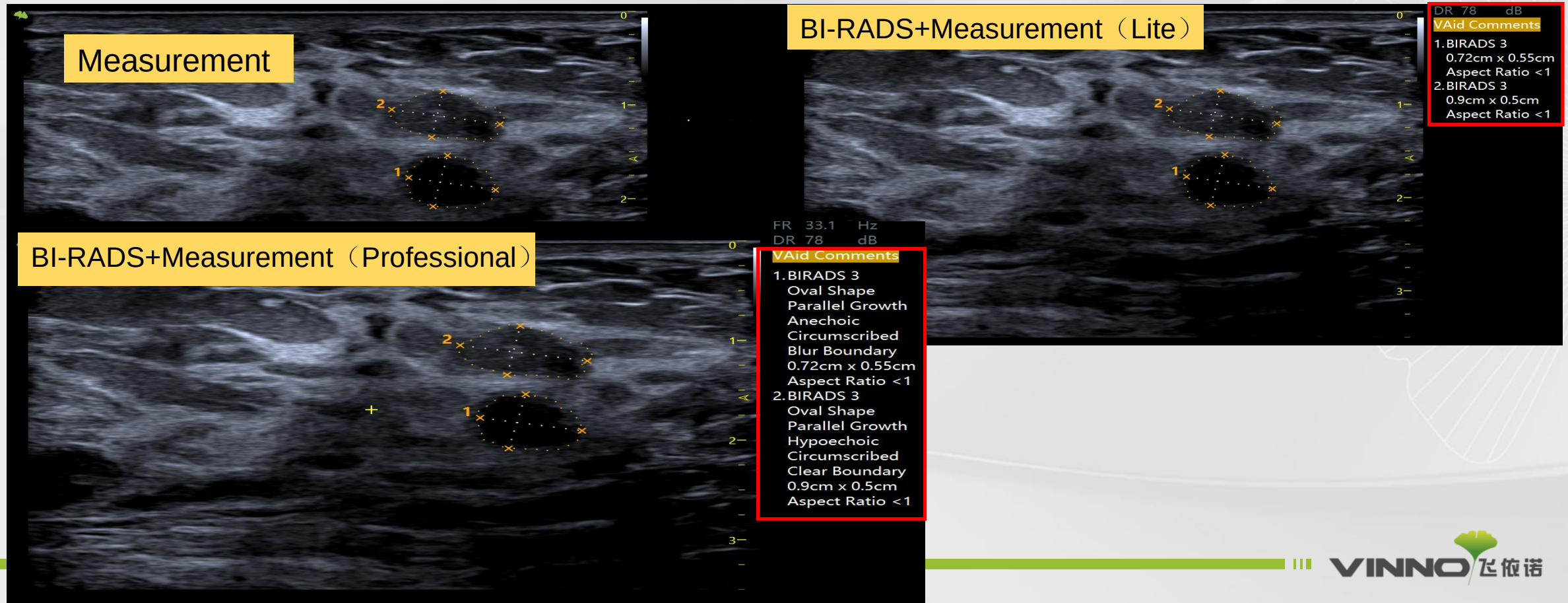
✓ Needle visualization to help improve the speed and accuracy of image guided procedures.



OFF ON

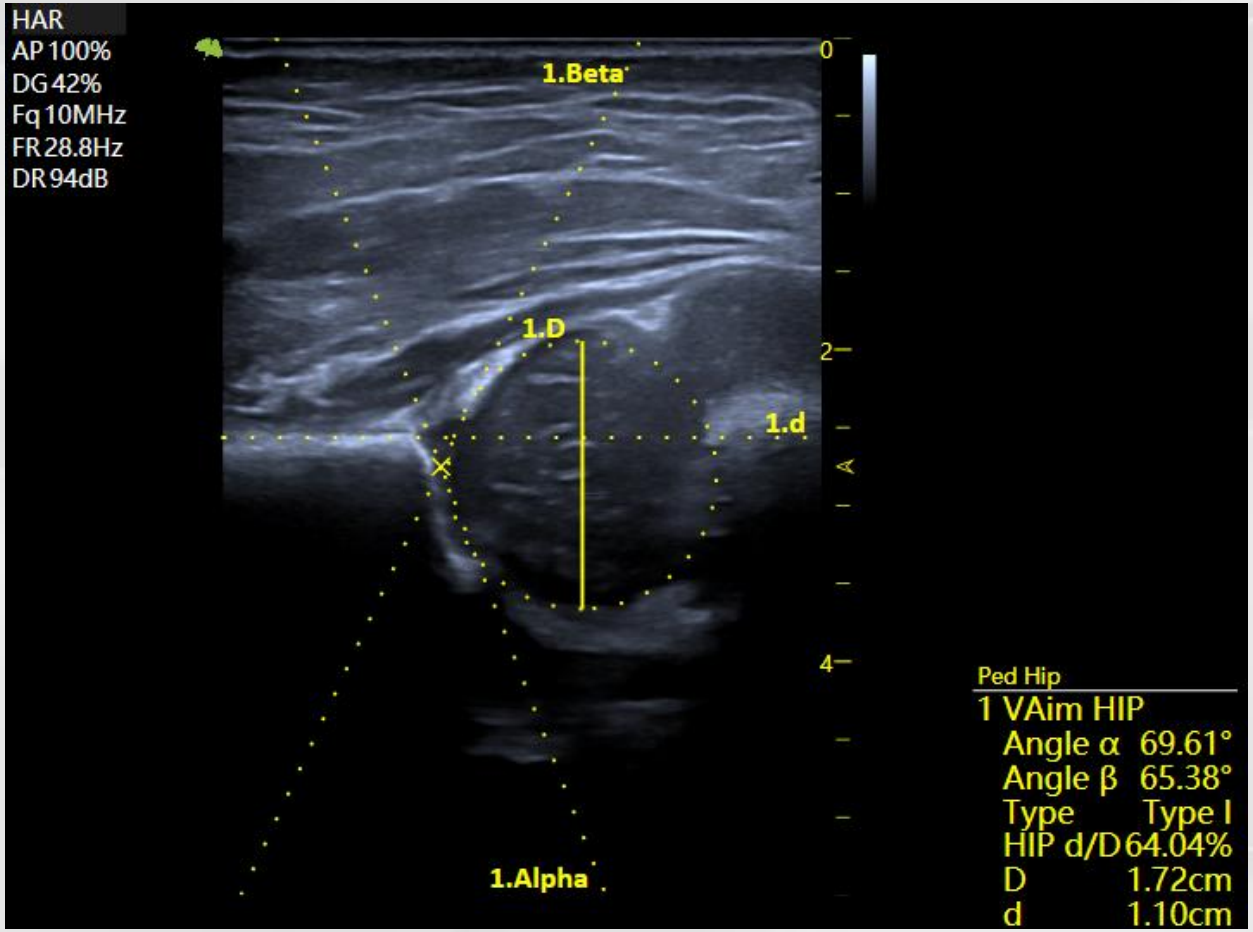
Superficial Feature: Vaid for breast

- ✓ VAid is an AI powered, innovative tool for breast lesion detection in real-time or on stored images (static & cine).
- ✓ “Diagnosis”comment display is user-selectable.Automatically detects and assists by assigning a probable BI-RADS category based on the captured image characteristics.



Superficial Feature: Vaim Hip

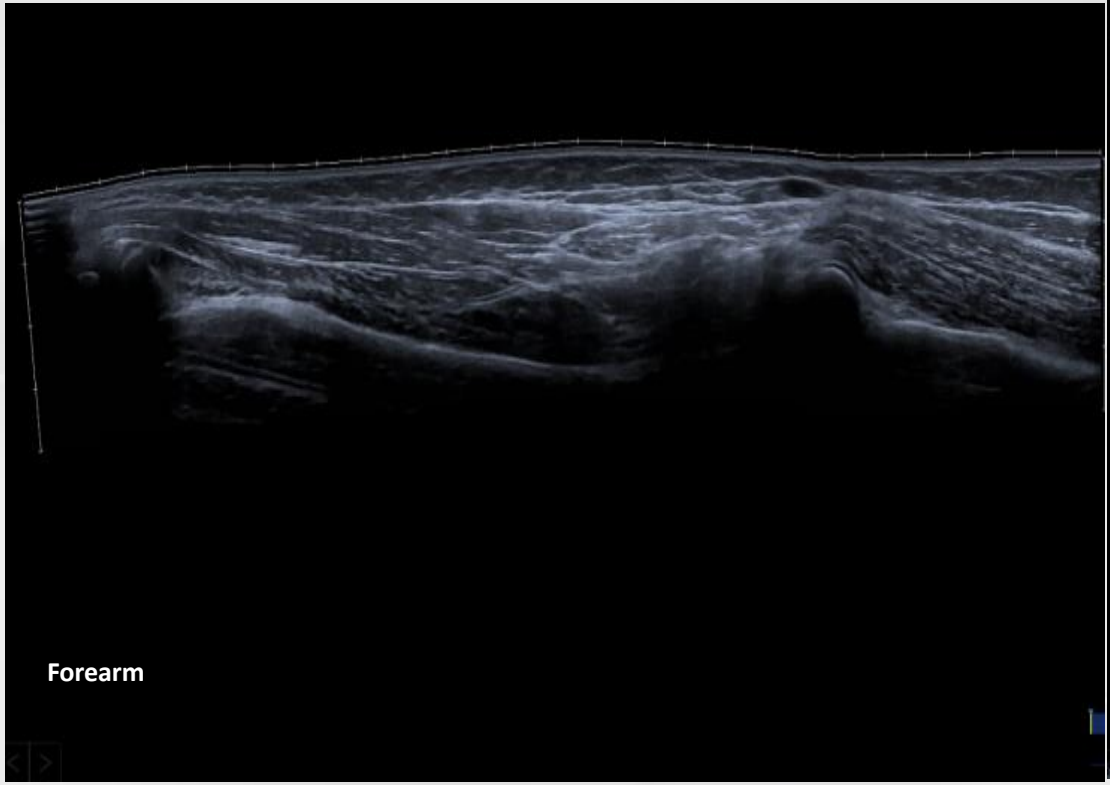
✓ Assessment of DDH (Developmental Dysplasia of Hip) with one simple touch.



✓ Hip dysplasia is a common disease in pediatrics and if the patient is not treated on time, it can easily lead to claudication in adulthood. So, the earlier the disease is detected, the easier it is to be cured.

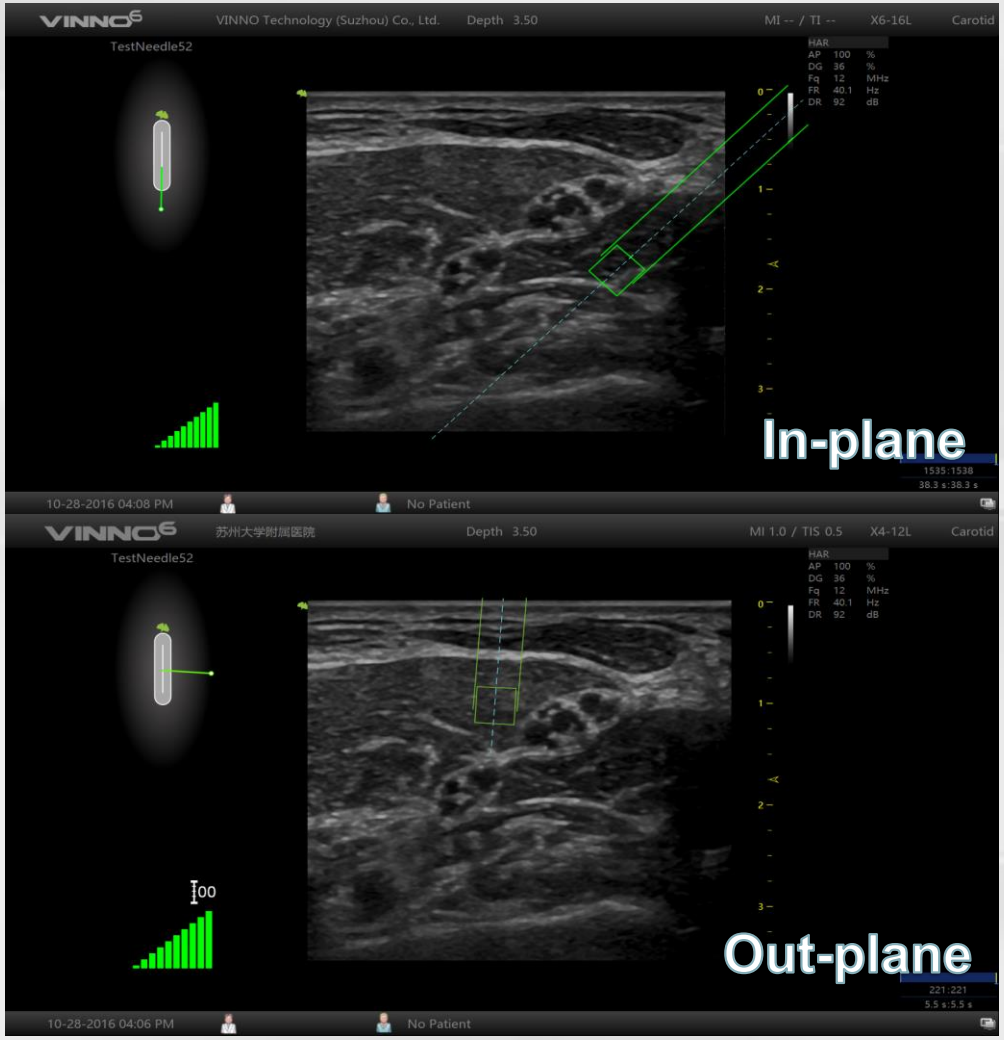
Superficial Feature: Panoramic View

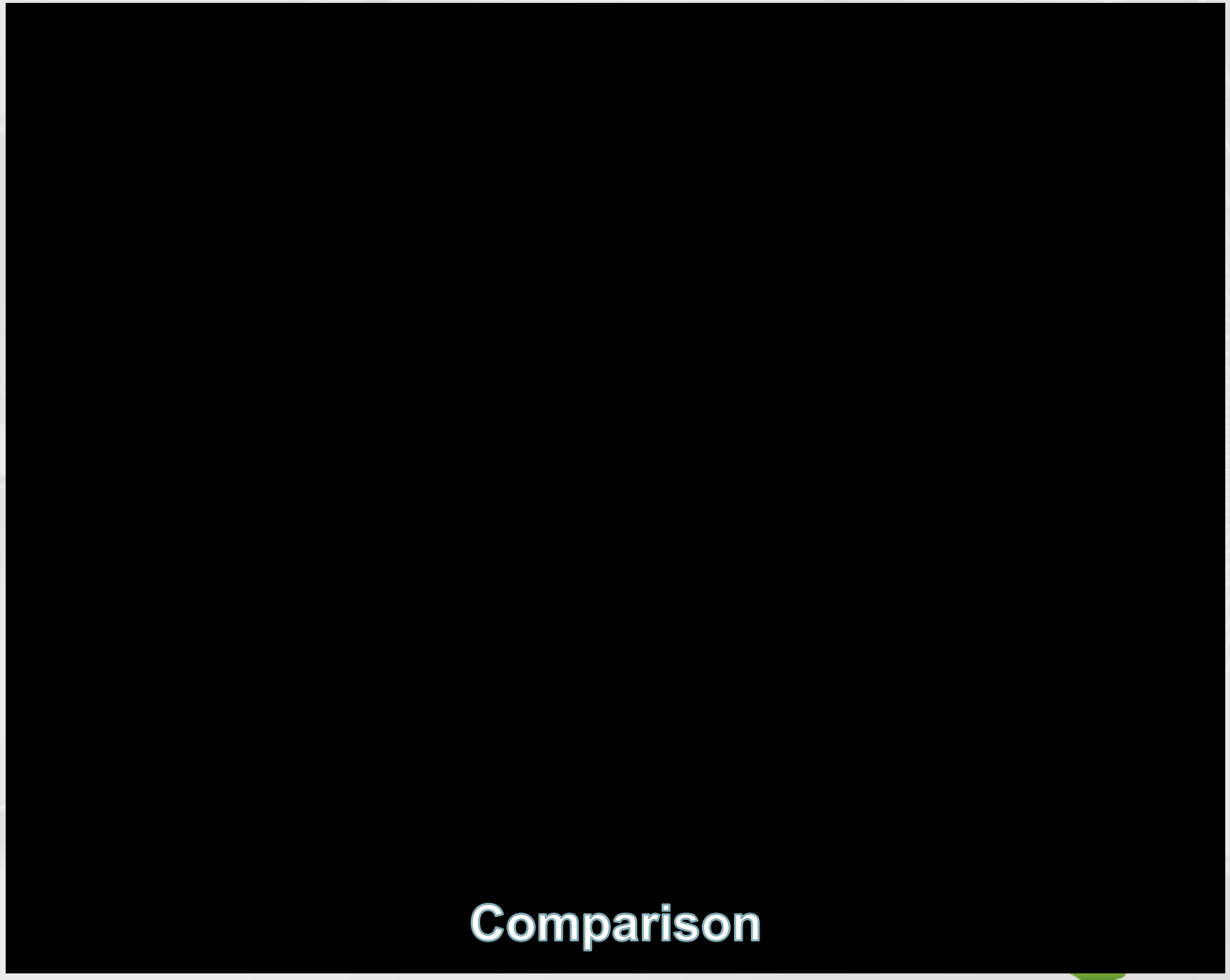
- ✓ Getting a whole view of organs, to know the whole structure and relationship of different tissue.



Superficial Feature: V Guide

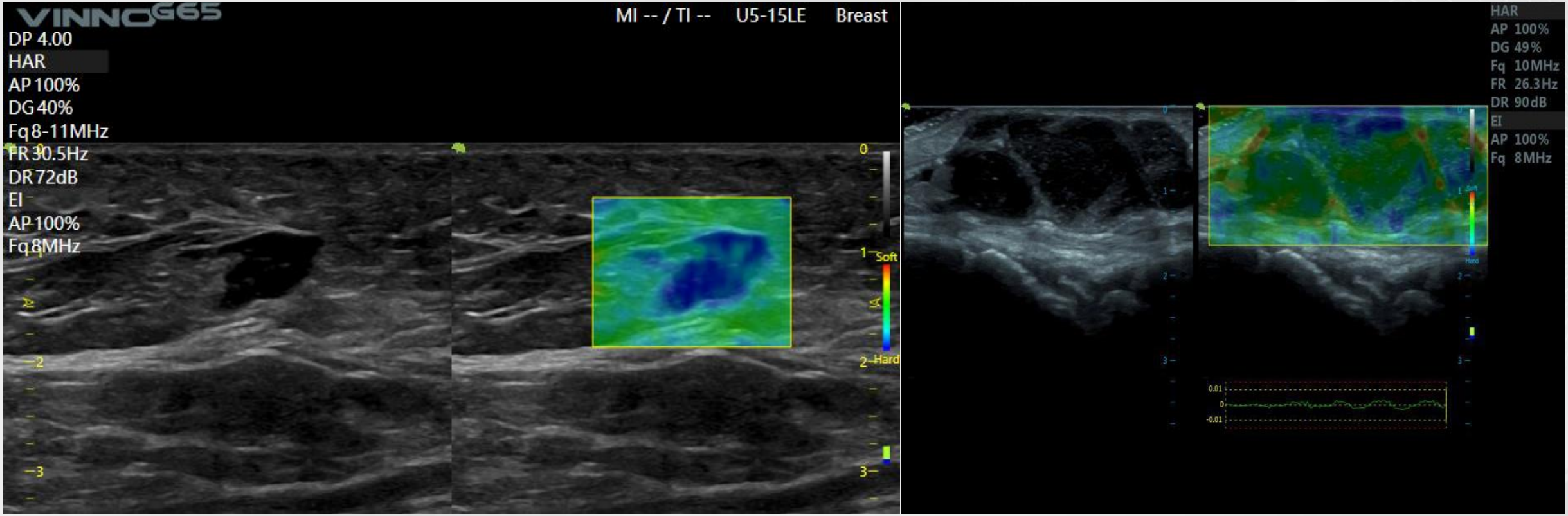
✓ Make biopsy simple, visible & accurate with VINNO' unique VGuide technology.





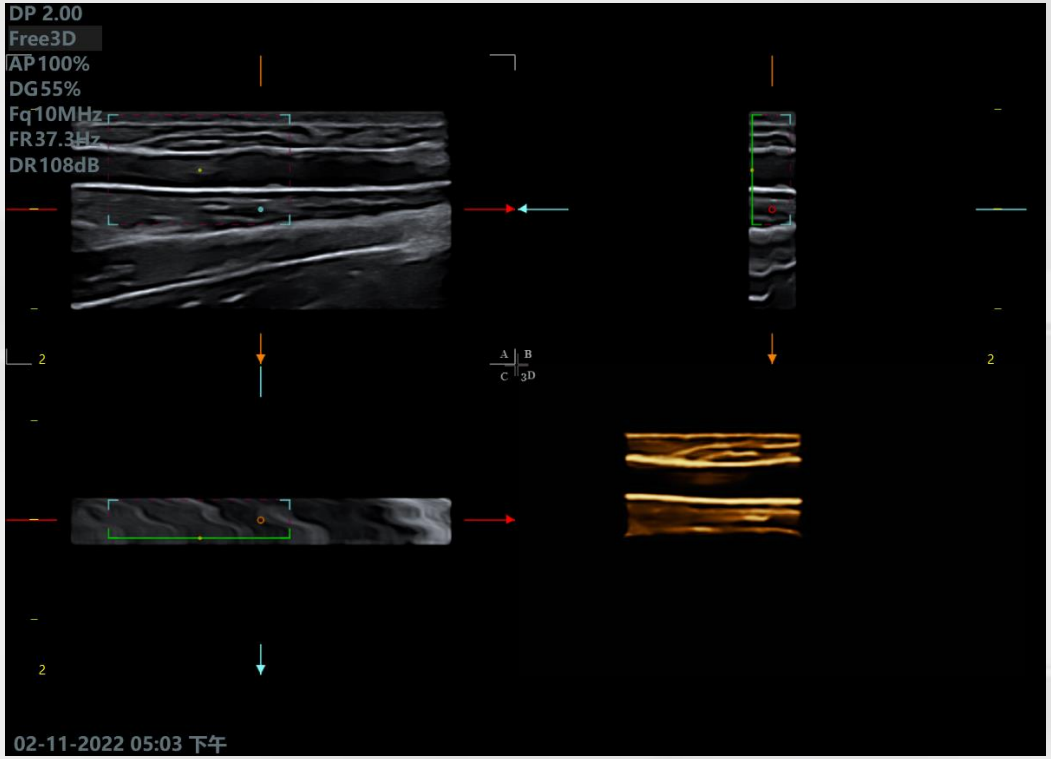
Superficial Feature: Elastography(Strain method)

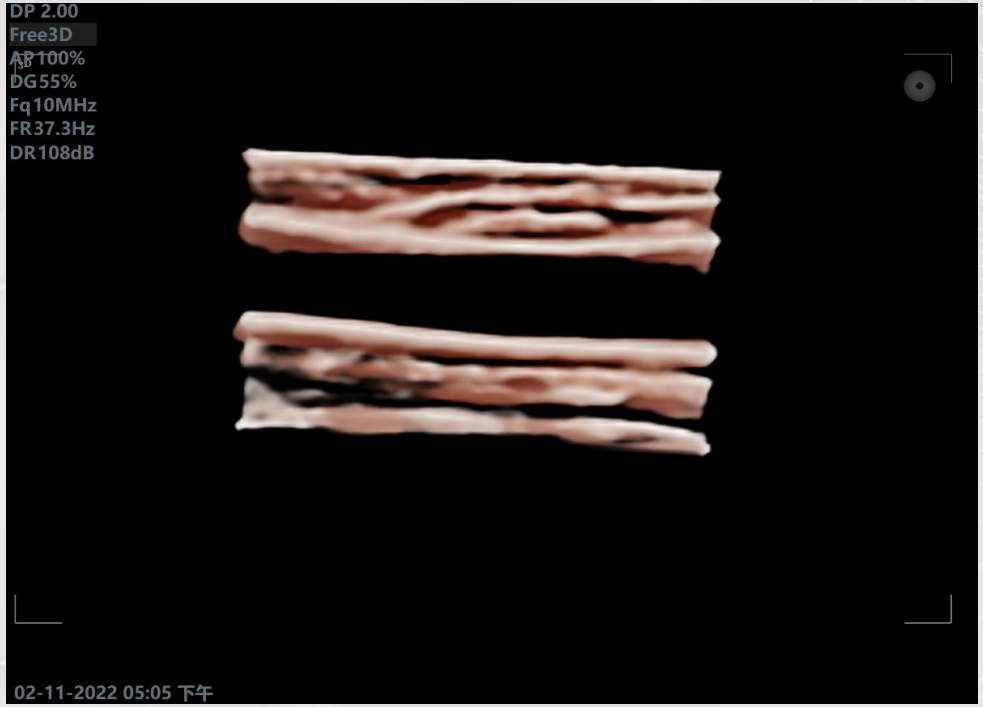
- ✓ Elastography is an imaging technique to measure the stiffness of tissues.
- ✓ Images are acquired before and after soft compression of tissues and the displacement is evaluated to indicate the strain and strain ratio.



Superficial Feature: Free 3D

- ✓ Get a “3D image” by normal linear probe, which keeps moving when scanning, with a fixed plane.



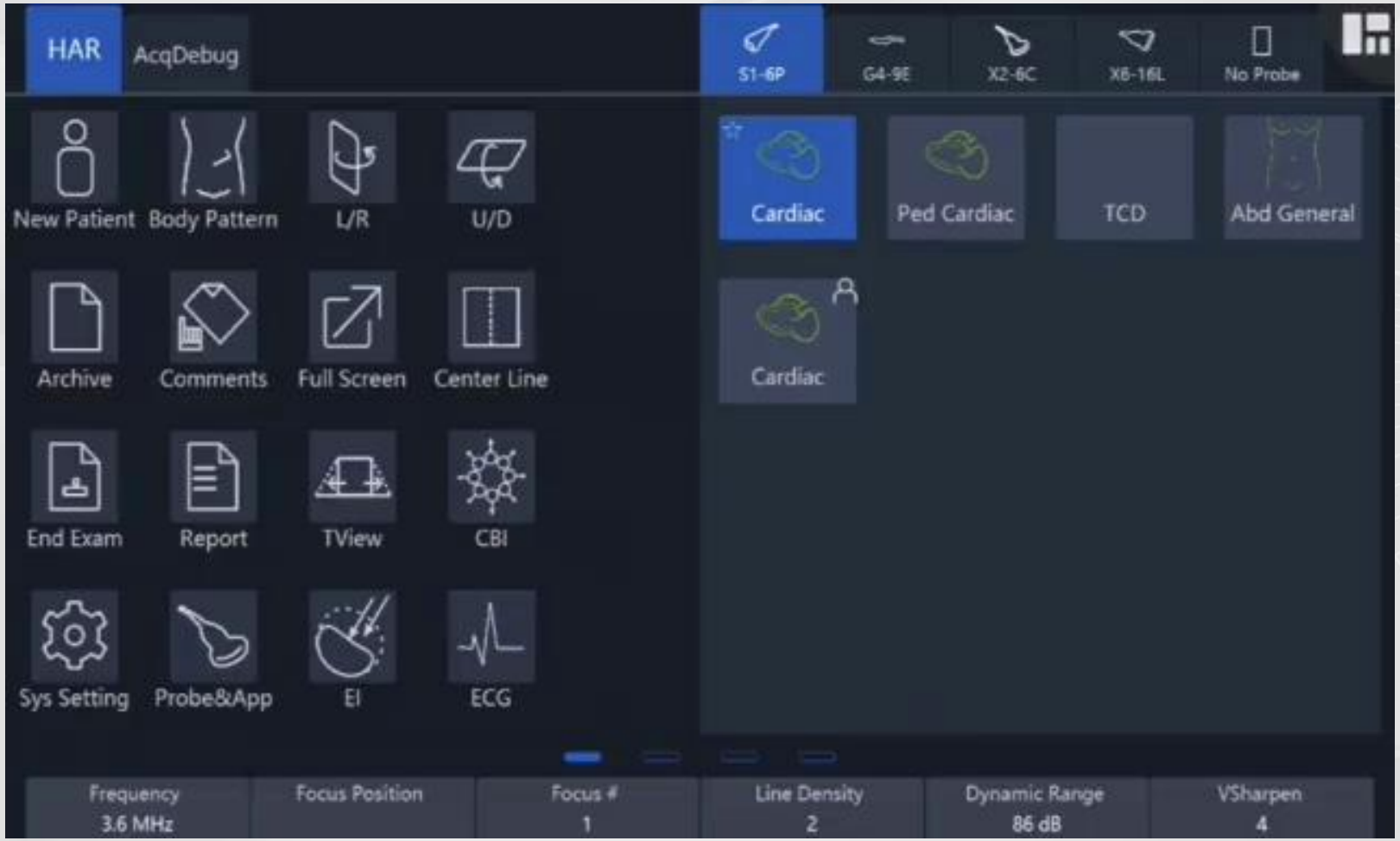


General Features

- ✓ Customized UI
- ✓ V Work
- ✓ V Report
- ✓ Finger Draw Comments
- ✓ Wireless (Bluetooth/WiFi)
- ✓ Tutorials

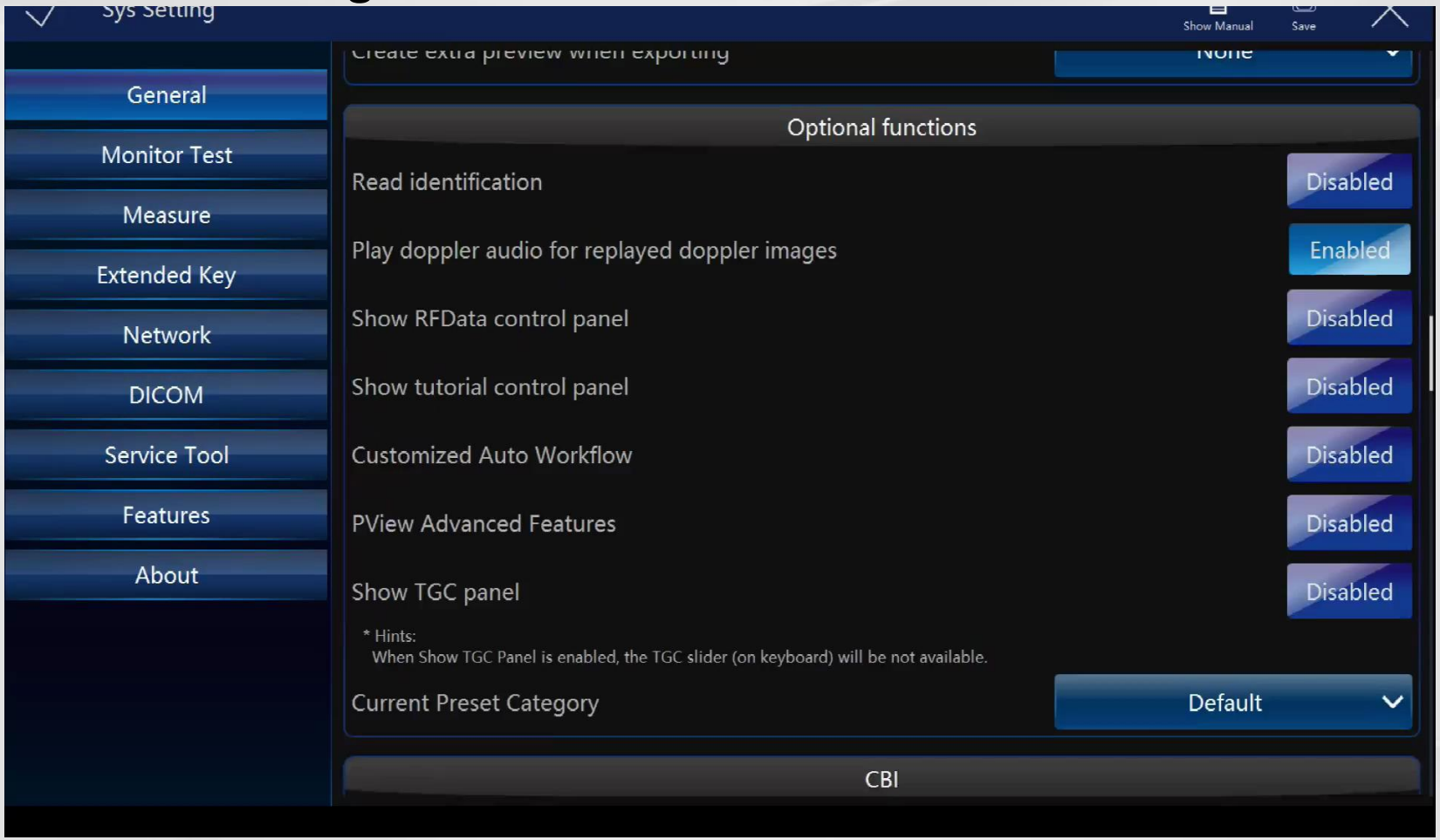
General Features: Customized UI

- ✓ Allow users to change the position of buttons on the touch screen.
- ✓ The size of “Probe & App” UI window is adjustable.



General Features: V Work

✓ VWorks enables users to configure workflows for every application scenario. This leads to easy and effective adherence to a department protocol and saves operation time to a great extent.



General Features: V Report

✓ VReport allows customers to design and import the report templates, add custom measurements, report contents and auto generate annotation list.

✓VReport is a customer-centric tool to design report templates that allows users to:

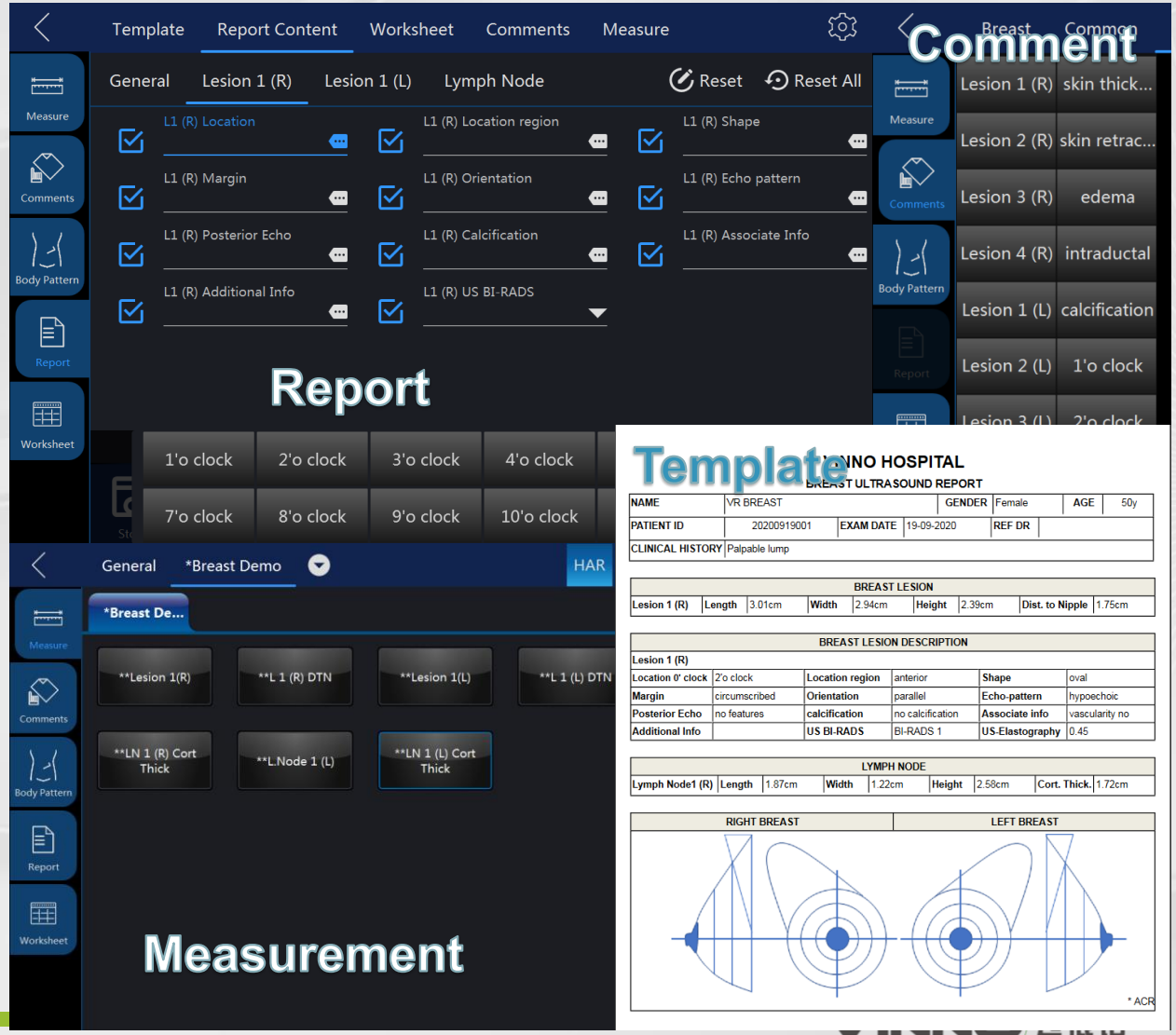
--Design the layout (arrangement of the measured items).

--Add new measurement items/calculations.

--Auto generates comment list based on the measurement items in the template.

--Add descriptions : touch to choose, fully utilising touch screen.

--Greatly improves the workflow : measure → comment →report.



General Features: Finger Draw Comments

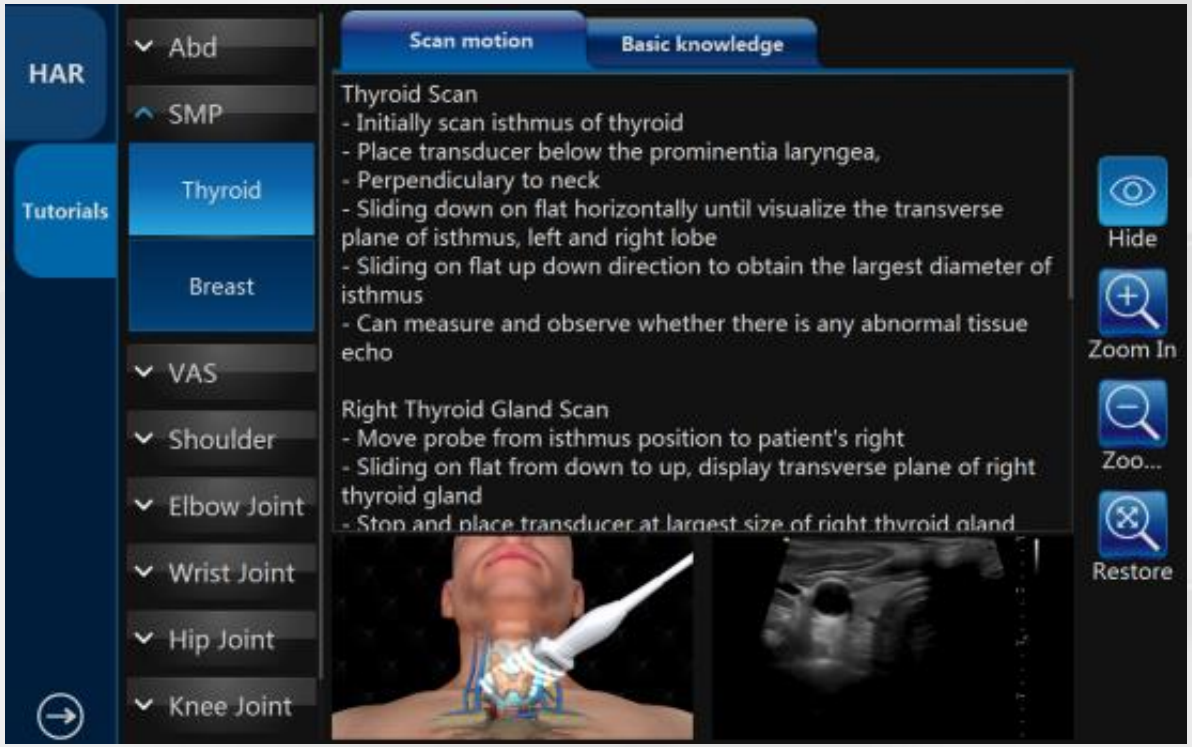
- ✓ Support to draw comments by finger.
- ✓ User can adjust the mark color, line thickness and transparency.
- ✓ A helpful feature for remote diagnosis or online training.

General Features: Wireless (Bluetooth/WiFi)

- ✓ Images and cineloops will be sent to moble device easily via bluetooth, and US system would send E-mail to others if they are far away from each other.

General Features: Tutorials

- ✓ Up to 68 anatomical parts, with vivid scanning animation and real-time scanning plane, supplemented by basic clinical knowledge, the tutorials can greatly increase your confidence in the initial learning process.



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