SIMUT

Zino C4 Ultrasound Systems

High-resolution image quality will help you make a more accurate diagnosis

www.simut.ir/products/us/zino

Zino C4

Product Segmentation

General Imaging

Our daily innovations in the field of general imaging provide the best solutions for a wide range of patient care and full applications from abdominal to endocrinology. We always aim to offer the highest efficiency for our users by having modern technology as well as the use of artificial intelligence (AI) networks through an exceptional image quality and advanced quantification to provide precise information for our customers in order to make the diagnosis experience way more confident.

OB/GYN

An ultrasound machine has become a primary diagnostic tool for Obstetricians and gynecologists. Easy calculations, a variety of smart measurements using deep learning methods and Artificial Intelligence (AI), common measurements and specific reports of women's health care, excellent 2D image quality, specialized automatic measurements, and being able to provide other types of scans such as 4D, Elastography or Doppler are what the ultrasound health-care machines of our brand offer.

Cardiovascular

SIMUT ultrasound systems are all equipped with comprehensive cardiac and vascular packages by the applications and transducers. intelligence analyzes for diagnosis, especially by Artificial Intelligence (AI) with a particular focus on early and fast automatic detection without any clicking, outstanding functionality and performance, highest accurate diagnostic, fluent workflow, and preventive quality of healthcare protocols.

Point of Care

SIMUT family has offered an ultrasound system in the point-of-care group which is extremely convenient to transfer with high ergonomic standards, intuitive design to improve clinical outcomes, enhance patient care, increase staff satisfaction and reduce costs. ZINO is a powerful system with smart applications, transducers, intelligent performance and function, automatic measurements, quite powerful with longevity, and satisfies your expectations from a unique and modern system.

Accredit your diagnosis with a high image-resolution, various applications beyond your expectations

The new stage of a simplified workflow

The unique design and superior control panel of the new generation "ZINO" is useful for long-term use and gives users full control for scanning patients. The location of the trackball-centered buttons is adjusted according to the physician's anatomy and ergonomics. Measurement packages are carefully set to presets to reduce measurement time more conveniently. The ergonomic design of the device leads to reducing the scanning pressure, simplifying the work cycle, reducing the analysis time and ultimately reducing the examination time and patient comfort.

A wide range of probes with different frequencies and specialized applications for use in the diagnostic spectrum based on single-crystal piezoelectric technology with the ability to support single crystal piezoelectric transducers to produce ultrasound waves with high sensitivity and a wide spectrum that leads to an increase in image quality. The use and support of various operational capabilities (preset programs) improve the reliability of diagnosis and increase as well as provide research opportunities. Visual quality improvement methods are part of the image-degrading elements that hinder the production of the "proper image" and can be reduced by using the latest technologies and unlimited adjustment range.

Technology (Inverse Tissue Harmonic Imaging) which by expanding the harmonic frequency range increases transudation and improves spatial resolution in-depth and the entire image. The high-resolution B-mode image is compatible with reality without reconstruction and software manipulation and increases the sensitivity and accuracy in the segmentation of especially obese patients using focus technology, which leads to an increase in the power of distinguishing two points in penetration.

With the Anatomical free-angle M mode, you can view the image on any optional plane at any angle. TDI (Tissue Doppler Imaging) Color Doppler tissue analysis (TD) is an echocardiographic technique that uses Doppler to measure the heart rate and other structures.

The flow pulsation (VP/VE) ability marks the image pulsation vascular with artery and vein differentiation. Also, Dynamic flow can also be used to observe veins and small capillaries. An option called "Mix" is available to physicians to separate arteries and veins for better diagnosis.

#1 User in mind specifications

The new DF-Detective Flow technology comes with advantages such as no angle dependence, it provides very high sensitivity for detecting peripheral arteries as well as a higher frame rate when imaging blood flow. It significantly increases the clarity and color in the microvascular in both directive and indirect ways. The new method of auto-optimizing image editing allows us to achieve the best image brightness for each patient in the shortest time.

Ability to support powerful and unique RTE technology that allows us to perform elastography in various organs, including the breast, thyroid, and liver, as well as the uterus in a much easier way than before. IVN feature can be used to detect the needle inside the tissue when performing invasive needle operations with the device and by highlighting it, the doctor can help in bringing the needle to the desired position. In addition, the needle biopsy guideline can be adjusted even for the smallest angles, which ensures the ease of work of the user.

The influence of ultrasound in Thyroid disease diagnosis, follow-up, and guided biopsy is so critical. To arrange Thyroid tumors automatically, some procedures have been done. For classifying benign and malignant lesions, we are working on a strong image understanding system, according to the thyroid's grade score.

Examination efficiency by intuitive operation

ZINO series is designed as it can be turned off quickly and restarted for scanning in a matter of seconds. This is accomplished by allowing a processor and/or memory within the system to remain active in the system, whenever it is "turned off." When the system is turned off the state of the system is minimally preserved in either volatile or non-volatile memory. So, that the system can quickly restart without having to sequence through an entire boot-up procedure.

The system structure allows five different users to change the scanning and visualization parameters. You can change the settings of the current user by calling the settings interface with the "Settings" section. The Hibernate mode is very similar to sleep, but instead of saving your open documents and running applications in your RAM, it saves them in your hard disk. It allows your system to turn off completely, which means once your system is in Hibernate mode, it uses zero power. Use hibernation when you know that you won't use your system for an extended period.
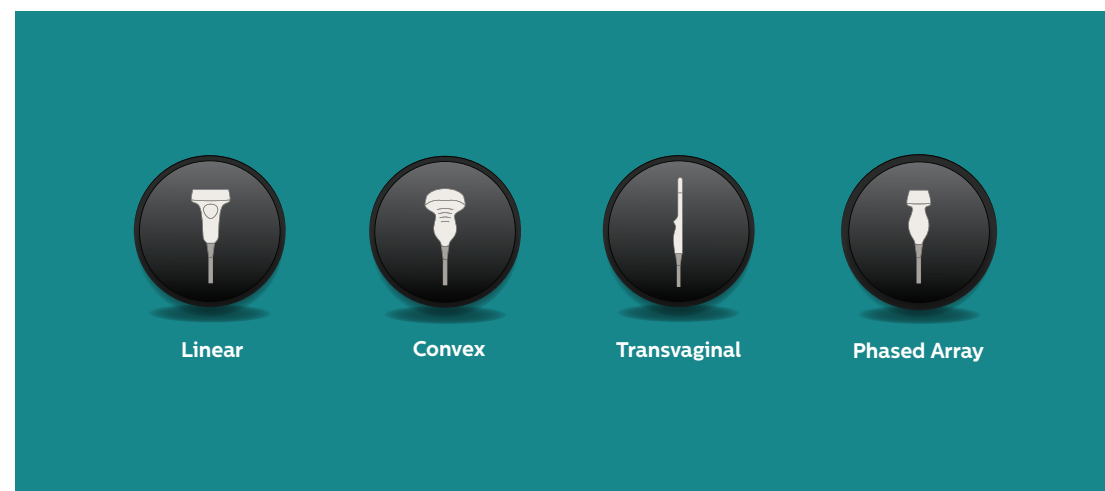
Linear   **Convex**   **Transvaginal**   **Phased Array**

Advanced modalities

Digital wide-band multi-frequency scanning
Multi-angle compound imaging
Second harmonic (2H)
Inverse harmonic (InvH)
Availability of improving image filters
Automatic optimization of echo images

B-mode (2B, 4B)

M-mode:
M-anatomic mode
Color M-mode
Tissue Doppler M-mode

Color mapping of:
Blood flow velocity
Blood flow power
Tissue movement
Dynamic flow

Blood flow velocity measurement:
PW mode
CW mode
PD mode

3D/4D-mode

Tissue movement velocity measurement:
PWTD-mode

Vessel's wall stiffness measurement:
Possibility of early diagnosis of atherosclerosis.

Shear Wave Elastography and Elastometry:
Quantitative estimation of tissue stiffness, including high accuracy in determining of the liver fibrosis stage.

Compression Elastography:
High-quality visualization of tissues with different stiffness and quantitative estimation of stiffness.

Fatty liver disease:
Steatosis measurement by attenuation coefficient (AC) analysis Convex, Linear, Transvaginal, Phased Array
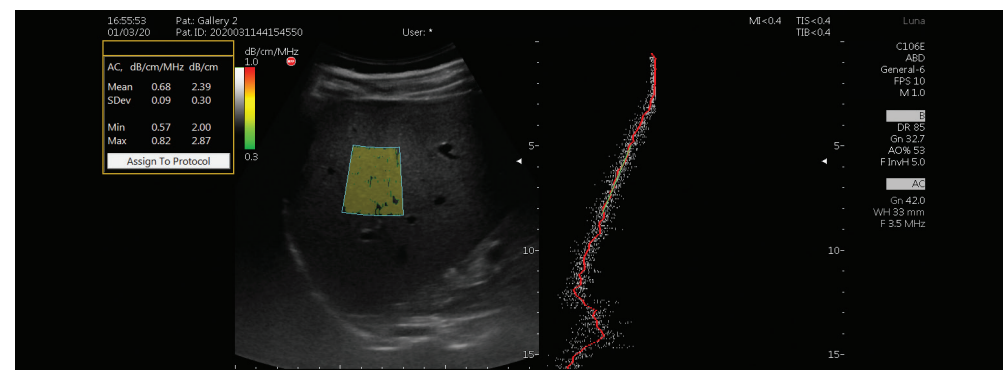
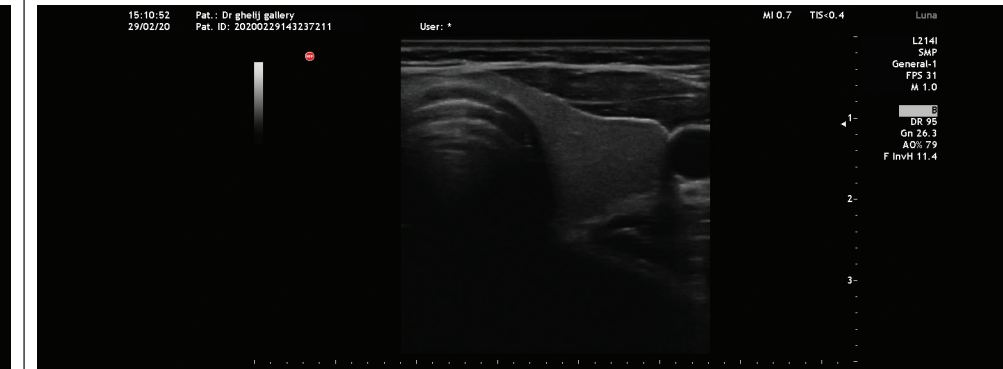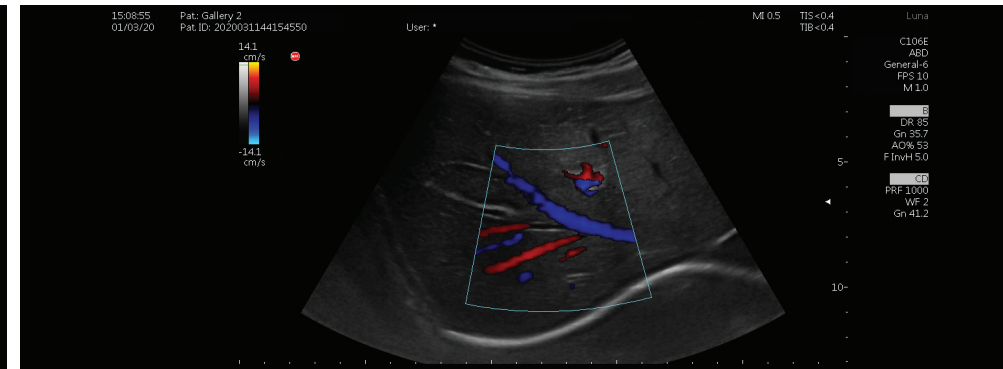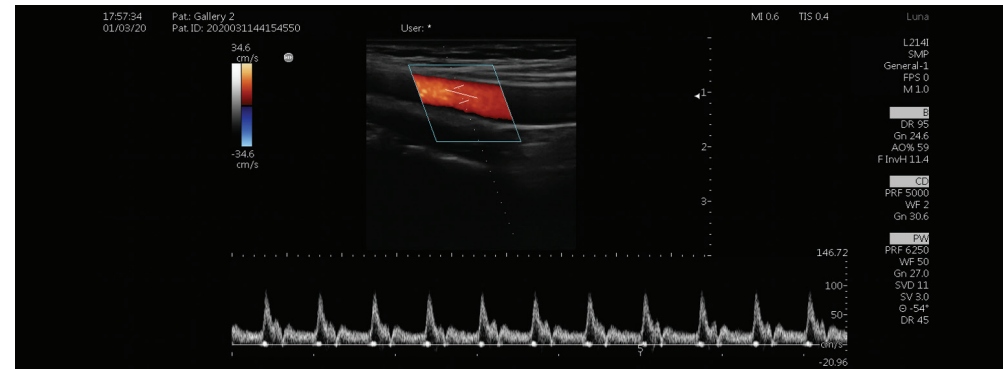# State-of-the-art High-Tech Platform & Design

rear
view

side
view

front
view
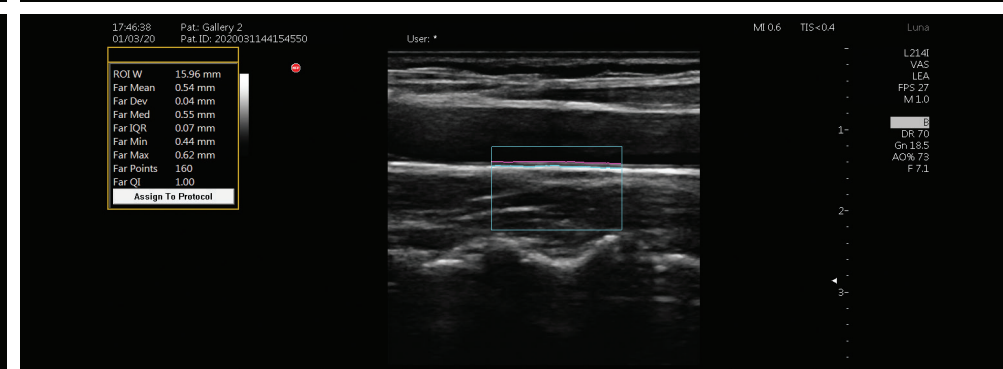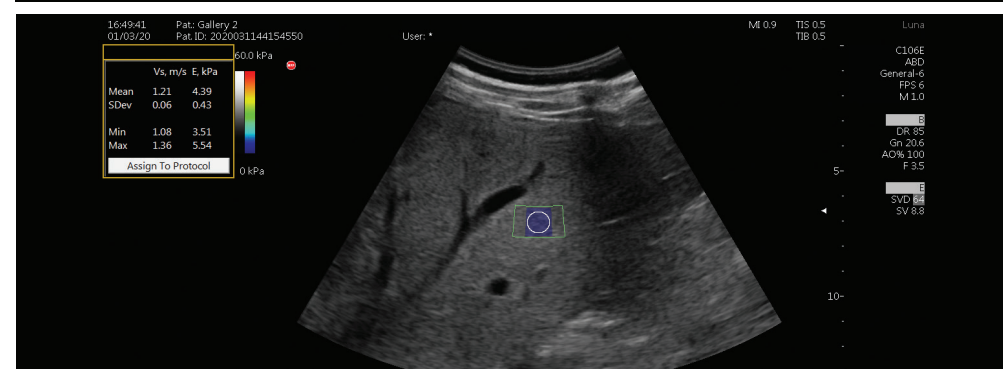
Superb **Image Quality** & Enhanced **Workflow Courtesy**

ZINO provides various applications and presets, which encompasses general advanced ultrasound imaging. You will be able to optimize and adjust your favorite image as you wish. Due to providing a wide range of setup tools in all ultrasound modes, you will be able to create any kind of real-time imaging if you like.

A perfect image contains advantageous information about tissue properties, has a high signal-to-noise ratio, does not suffer from an artifact, has equal image characteristics throughout the imaging section, permits you to easily trace the structures of body organs, and has a great resolution (in terms of spatial, lateral, axial, contrast and temporal resolution).

ZINO ultrasound system is all about balance. You have superb image quality, accurate diagnostic information, a simplified yet intuitive user interface, and easy access to the critical features at your hand.

Award winning ergonomic design along with hand-centered control panel

Easily maneuver ZINO around beds and exam tables. For portability and durability, The ZINO monitor rotates easily in any direction you want. The modular design and removable engine provide easy service support for individual components.

ZINO ultrasounds with mechanical control panel come in a variety of designs – based on next-generation technology and customer voice guidance from ultrasounds around the world. Without any problems with heritage products, we had the freedom to offer a completely new ultrasound solution with features that change the way you work.

With ZINO ultrasounds, unprecedented ergonomics begin with a modern control panel. Primary controls have tactile feedback from traditional keys, which can be adjusted with the possibility of mechanical controls. But this is only for beginners: This system has a quite special design for navigating in crowded places, and it is fully adjustable, so it can be placed in all scanning positions, greatly reducing stress and fatigue.

Monitor

ZINO has adopted the highest 19" High-resolution monitor providing clear clinical images and optimum image display wider viewing angle featured by IPS technology to prevent the undistorted images.

Service Panel

The 1-axis arm is used for the monitor height up/down mechanism and easily adjusts the height of the monitor by raising and lowering it.

Easy Movement

Silent casters, universal brakes, multi-directional movement without obstacles. The steel plate base is equipped with high-quality brakes.

Control panel

controls have tactile feedback from traditional keys, which can be adjusted with the possibility of mechanical encoders.

Transducers

There are two options for the transducers of ZINO device, the first comes with two probe outputs and the other with four probe outputs which can be selected based on the customer's order.

Dedicated foot-rest area improves comfort while scanning.

Arm Monitor

The monitor allows you to do tilt, swivel and rotation.

Cable Gatherer

There is a basket on the back of the ZINO series, so you can use it to put various objects such as the ultrasound printer papers, gels and probes.

Handy storage bins hold procedure essentials

Artificial Intelligence [AI]

The potential to change the face of medical imaging is by two cutting edge technology that are Artificial Intelligence (AI) and Augmented Reality (AR). These technologies have revolutionized image interpretation and visualization. Machine Learning algorithms can learn to see patterns similar to the way doctors see them, hence, they can support diagnosing procedure. On the other hand, AR makes a great promotion in the methods of displaying medical images for learners and surgeons.

At MFP, we provide intelligent solutions that help people to improve their healthy lifestyles, and increases the efficiency of medical imaging systems by using AI and AR. We aim to become the most influential company in the region by the year 2025. Regarding the growing nature of our projects, hard-working, intelligent people are always welcome to join us.

Auto IMT

The carotid intima-media thickness test (CIMT) is a measure used to diagnose the extent of carotid atherosclerotic vascular disease. The test measures the thickness of the inner two layers of the carotid artery—intima intima and media—and alerts physicians to any thickening when patients are still asymptomatic. We have proposed a novel real-time system for automatic IMT measurement in our ultrasound machines.

Fetal Biometry Measurement

The fetal ultrasound analysis encounters several challenges, including speckle, limited soft-tissue contrast, and difficulty in the presence of low amniotic fluid. We proposed a reliable system based on deep learning for automatic segmentation and measurement of fetal anatomical structures to automatically achieve fetal biometry parameters (i.e., BPD, HC, AC, and FL), gestational weight, fetal foot length, and CRL.

Breast Tumor Analysis

Ultrasound plays an essential role in breast disease diagnosis, follow-up, and guided biopsy. Several efforts have been performed to classify breast tumors automatically. At MFP, we are developing a powerful image understanding system for classifying benign and malignant lesions.

Kidney Ultrasound Analysis

Several measurements are performed with abdominal sonography. One of the most important measurements is kidney anatomical measurements, including kidney length, width, depth, volume, and parenchyma length. These measurements are calculated automatically using an intelligent system at the MFP system.

Cardiac Echo Quantification

Quantifying the cardiovascular system's global and regional functional parameters is a time-consuming and tedious task. We are developing an intelligent heart analysis system to extract chamber volumes, LV and LA ejection fraction (EF), RV fractional area change (FAC), strain analysis, etc., from echocardiography sequences.

E-AS

Evaluation of the rigid-elastic properties of the vascular wall of the arteries and measurement of some parameters (such as Minimum vessel diameter per heart cycle, Changes in vessel diameter per cardiac cycle, Arterial tension index, Arterial stiffness index, Modulus of elasticity, Single-point pulse wave speed, and Growth Index) is a helpful tool for vessel analysis. We have provided these parameters in our ultrasound machines.

Artificial Intelligence (AI) Clinical Images
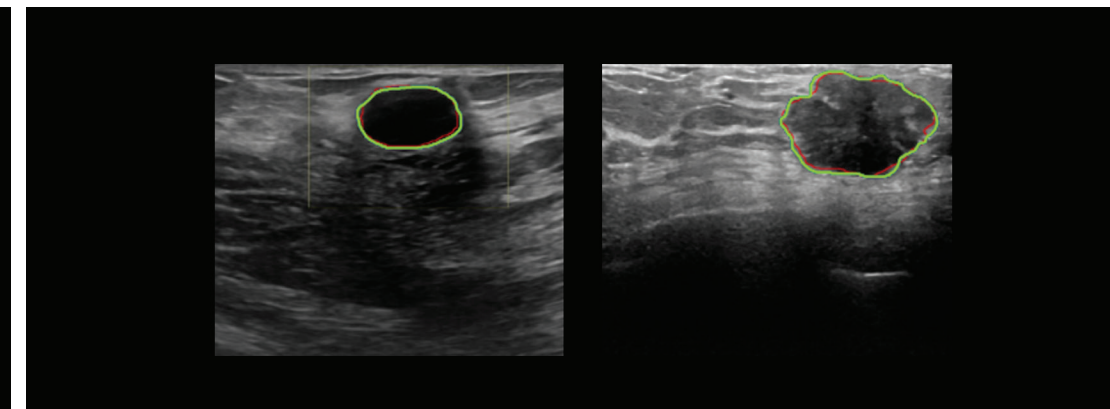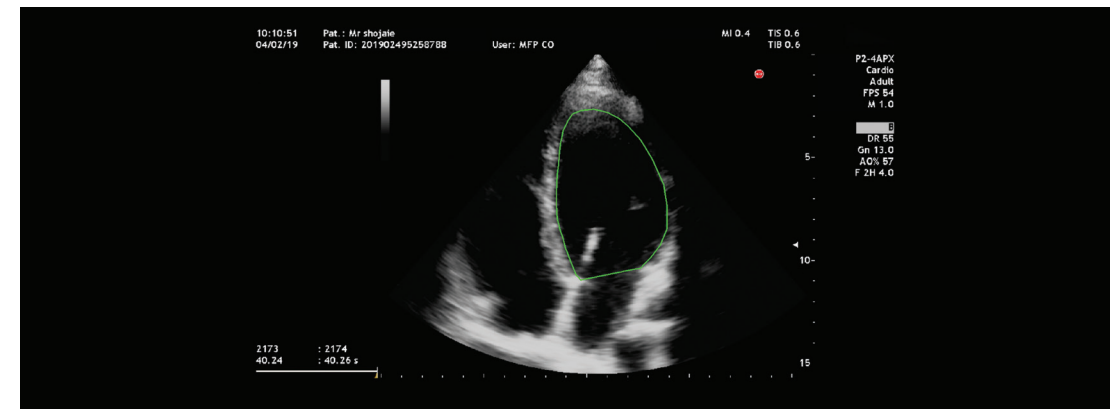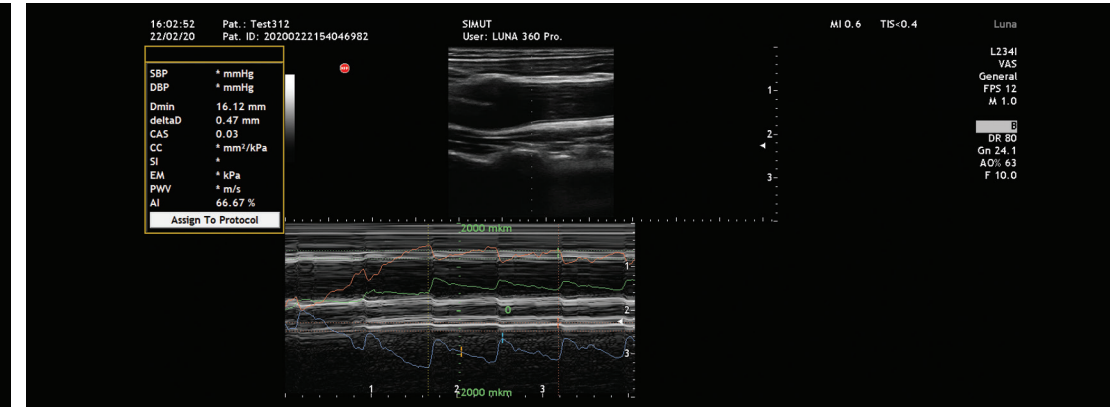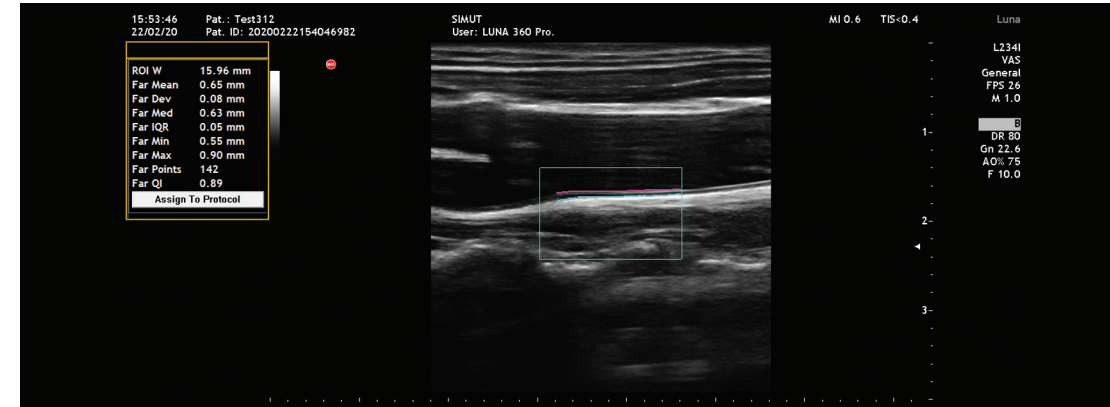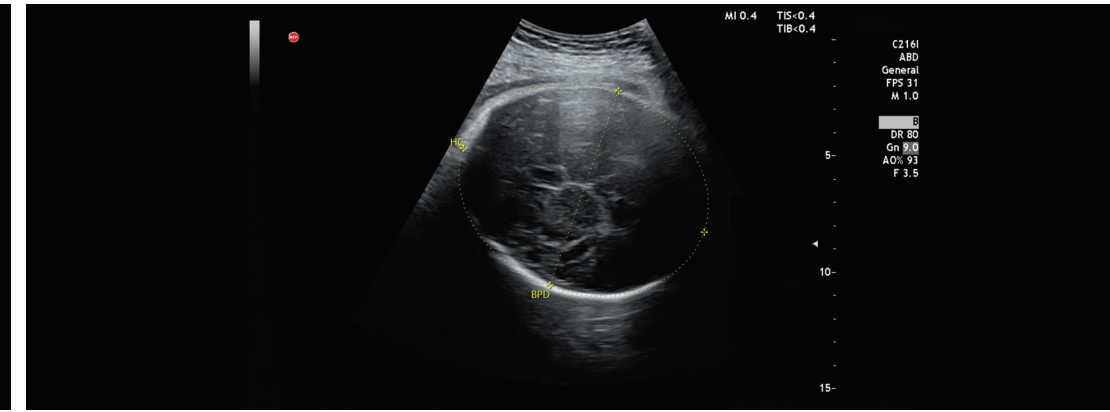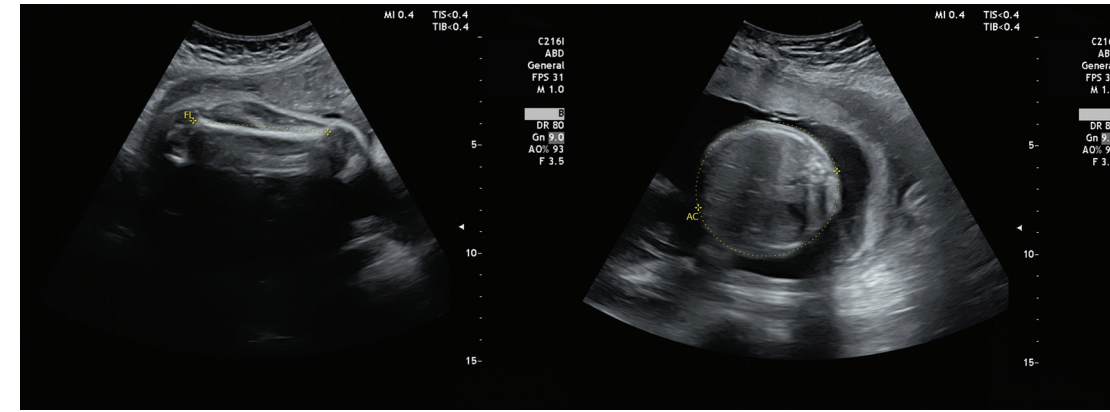
Dealer Information

MFP [a.k.a Med Fanavaran Plus Co.] SIMUT ™