Ensuring Better User Experience

By integrating technological aesthetics into ergonomic product design, the Resona A20 offers clinical experts high-definition image displays and a more convenient and efficient scanning experience for clinical diagnosis. Additionally, the power solution supporting battery scanning and an electronic motor expands the clinical application scenarios of ultrasound diagnosis.

27 inches HD Monitor

- HD Resolution
- Rich Grayscale Display
- Wide Viewing Angle

Touch Bar

- Quick Exam Mode Switch
- Multi Functional Display

Cable Management

- Host Cover
- 5 Active Transducer Docking
- Anti-tangle design

MAX Touch Screen

- HD Resolution
- High Sensitivity Touch Panel
- Wide Range Angle Adjustment

Electrically Controlled Floating Panel

- Large Floating Range
- Flexible Positioning
- Simplicity Design

Power Solution

- 1 hour Battery Scanning
- Electrical Walking Assistant

Resona A20
Premium Ultrasound System for Radiology

Reveal What Matters

Acoustic
Intelligence
Technology

www.mindray.com

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mindray
healthcare within reach

Reveal What Matters

By revealing the unseen, we empower you to embark on a transformative journey of discovery and understanding, enabling a deeper comprehension of human body and the world around us.
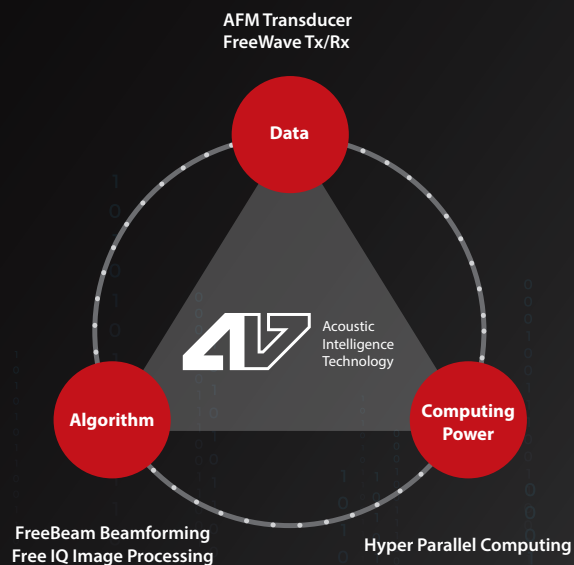
Driven by this mission, Mindray is about to release the premium ultrasound system - Resona A20. Powered by the Acoustic Intelligence Technology platform, it has pushed ultrasound imaging performance to a new level, helping clinical experts to achieve accurate diagnosis and academic exploration. Together, we can explore new horizons and push the boundaries of medical knowledge.

AIT Platform
Acoustic Intelligence Technology

The AIT Platform has achieved significant advancements in acoustic and electrical data, imaging algorithms, and system computing power. High-quality acoustic and electrical data are ensured by the AFM Transducer and FreeWave Tx/Rx Technology. Additionally, FreeBeam Beamforming and FreeIQ Intelligent Image Processing technology are dedicated to faithfully revealing tissue details.

AFM Transducer
FreeWave Tx/Rx

Data

Acoustic Intelligence Technology

Algorithm

Computing Power

FreeBeam Beamforming
Free IQ Image Processing

Hyper Parallel Computing

AFM Transducer Technology

Acoustic Boost Technology

Acoustic Boost Technology

Single Crystal

>50%

- Echo intensity increased by over 50%

Free Band Technology

Frequency

- More application coverage
- Enhanced harmonic image quality

Matrix Thin Slice Technology

- Enhanced near-field resolution
- Improved uniformity
- Increased penetration in the far field
- Reduced volume artifacts

FreeWave Tx/Rx Technology

Arbitrary Wave Generator

3 levels   5 levels   Arbitrary Wave

LVM Sampling

Traditional Receive Sampling   FreeWave Receive Sampling

Hyper Parallel Computing

- Multi-core CPU
- Hyper Parallel Computing Units
- High Speed Data Transmission Channel

FreeIQ Processing Technology

Intelligent Pixel Compounding

Patient algorithms ensure the alignment of image pixels from different angles.

Intelligent Image Enhancement

| Extraction of various feature dimension layers | Targeted processing for each layer | Enhanced organizational characteristics across multiple dimensions |

FreeBeam Beamforming Technology

FreeBeam
Fixed Window
Unweighted

Side Lobe Reduction
Improve image contrast

Main Lobe narrowing
Improve spatial resolution

Sound Field Map

Sound Field Map

Sound Field Map

ZST⁺ Unweighted

ZST⁺ Fixed Window

FreeBeam Adaptive Beamforming

Precise Imaging Diagnosis

Based on the AIT platform, Resona A20 provides clinicians with superior ultrasound imaging clarity for difficult clinical disease diagnosis. HD Scope⁺ is based on the innovative adaptive beamforming technology, which further reveals the tiny details of lesions with powerful ultrasound diagnostic capabilities.
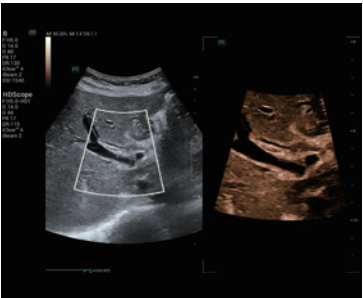
AFM Transducers

Mindray's next-generation transducers incorporate advanced technologies to enhance energy conversion efficiency, provide ultra-wideband coverage, and improve acoustic focusing capabilities, ensuring precise clinical diagnoses.

HD Scope⁺

Powered by FreeBeam beamforming technology from the AIT platform, HD Scope⁺ can extract more effective echo information. Depending on specific clinical needs, target-focused image enhancement is achieved using FreeIQ processing technology. HD Scope⁺ and B-mode provide dual live imaging, revealing intricate details of lesions for deeper clinical insights.

Liver Cholangiocarcinoma
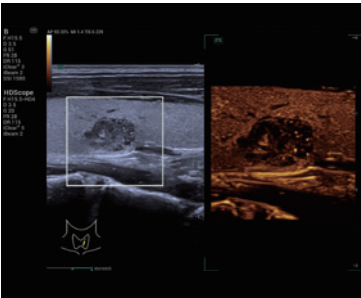
Thyroid Nodule
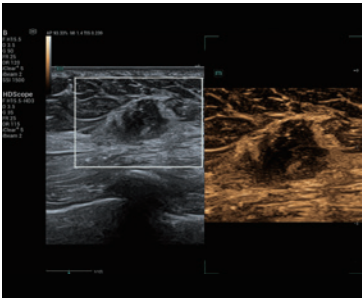
Breast Lesion

Ultra High Frequency Imaging

Resona A20's 18MHz, 24MHz and 33MHz transducers with AFM Transducer Technology are able to provide intricate details and definition of lesions for a wide range of applications.
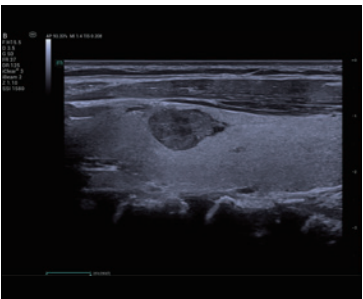
Thyroid Nodule LM18-5WU
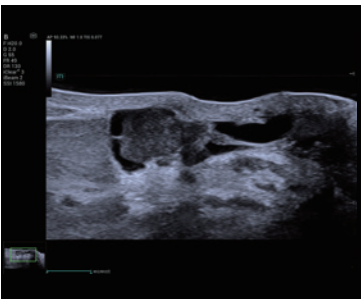
Breast Papilloma LM24-6WU

Median Nerve L33-8U

Advanced Imaging Technology

Advancements in ultrasound technology have transformed diagnostic capabilities from qualitative to quantitative analysis. Mindray's multi-parametric ultrasound solution integrates various imaging technologies, empowering clinicians with comprehensive tools. This innovation elevates clinical assessments from single parameter evaluations to multi-parameter analyses, ensuring more objective and accurate diagnoses.

UMA

The newly upgraded UMA captures minute low-speed blood flow with high sensitivity, high spatial resolution, and excellent motion artifact control. This enhancement has the potential to significantly improve diagnostic efficiency for organ perfusion evaluation and tumor research.

High sensitivity

High resolution

Better motion artifacts control
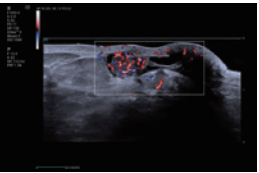
Breast Ductal Papilloma UMA

Renal artery UMA

Sound Touch Elastography

STE pushes the boundaries of image performance. With multiple quality control and intelligent tools, it intuitively and quantitatively evaluates tissue stiffness, making it highly effective for liver fibrosis and breast tumor assessments.

Superior imaging performance

Multiple quality control tools

Smart tools
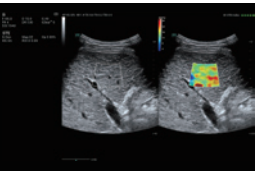
Liver Cirrhosis STE

HiFR CEUS

HiFR CEUS offers ultra-fast imaging compared to traditional methods. By capturing detailed perfusion in the arterial phase, it enhances tumor diagnosis and the study of perfusion morphology.

6-8 times faster CEUS

More clear perfusion details in the arterial phase

Study on perfusion morphology of tumors
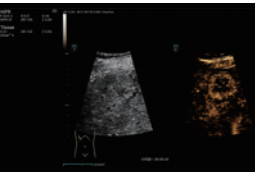
HCC HiFR CEUS

M Reference

M Reference is a multi-parametric combined analysis tool that enables real-time, same-slice, and same-screen MPUS diagnosis. Unlike traditional single ultrasound imaging, it offers multi-dimensional diagnostic information and quantitative evaluation indicators for diseases.

Multi-parametric combined analysis

Multi-parametric quantification tools

Real-time, one-screen assessments
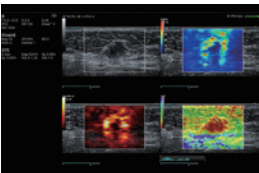
Multi-parametric combined analysis
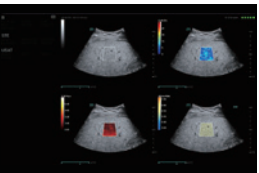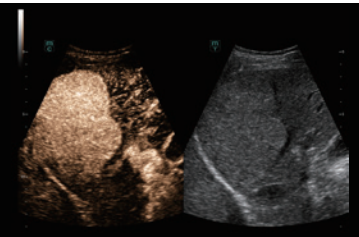
Multi-parametric quantification tools

Innovative Clinical Research

Equipped with a wide range of innovative imaging technologies, the Resona A20 supports clinicians in cutting-edge clinical research. Super Resolution CEUS (SR CEUS) reveals blood perfusion details at the micron level, aiding clinicians in the exploration of early microcirculatory changes in lesions. Additionally, STVi shear wave viscoelastography, a novel technique for assessing tissue viscosity, demonstrates great potential for studies on chronic liver diseases and tumors.

Super Resolution CEUS
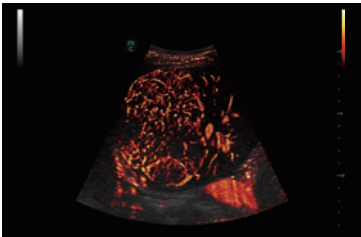
Powered by the AIT platform, the Resona A20 delivers an all-in-one integrated solution for super-resolution imaging, a capability previously difficult to achieve. SR CEUS reveals the intricate microcirculation details of lesions at the micron level, aiding in microcirculatory perfusion studies in oncology.

| Micron level resolution | Microvascular detection capabilities | Quantification tools |
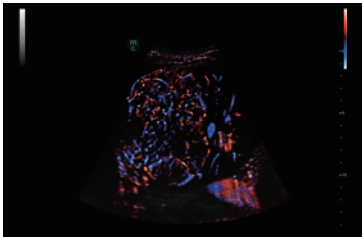
Focal Nodular Hyperplasia
UWN⁺ CEUS

Focal Nodular Hyperplasia
Blood Flow Density Map

Focal Nodular Hyperplasia
Blood Flow Density Direction Map

STVi
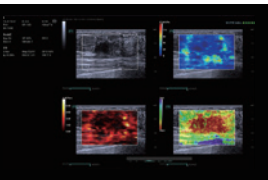
STVi enables the quantitative evaluation of tissue viscosity and provides real-time multi-parameter imaging, offering a more comprehensive approach to imaging diagnosis and quantitative analysis of chronic liver diseases, breast lesions, and other conditions.

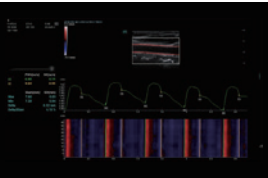| Dual quantitative coefficients | Multiple quantification tools |
| Chronic liver disease assessment | Breast tumor assessment |
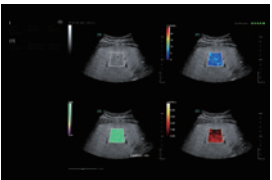
Breast Lesion
STVi

Liver Fibrosis
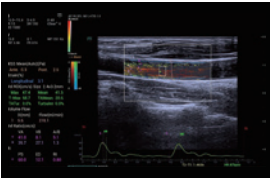STVi

Quantitative Vascular Analysis Tools

The Resona A20 introduces a new generation of vascular quantitative analysis tools, featuring RF-data-based vascular pulse wave velocity and wall shear stress analysis. These advancements aid in the assessment of arterial vascular sclerosis.

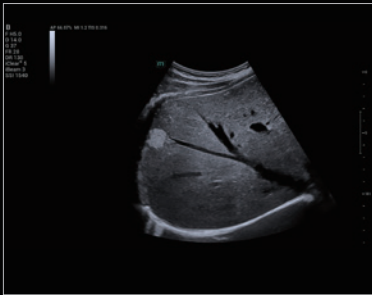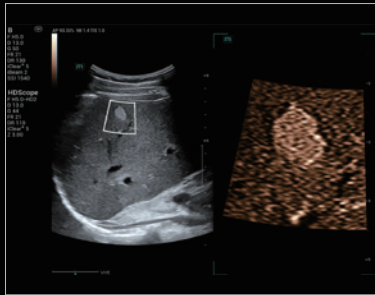| Holo-PWV | V Flow and wall shear stress analysis |

Carotid Artery
Holo-PWV
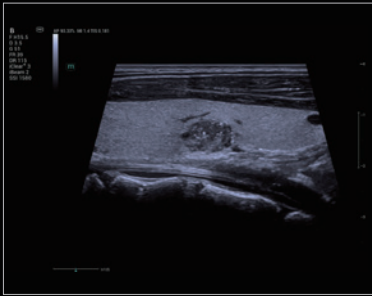
Carotid Artery
V Flow

A New Level of Image Clarity
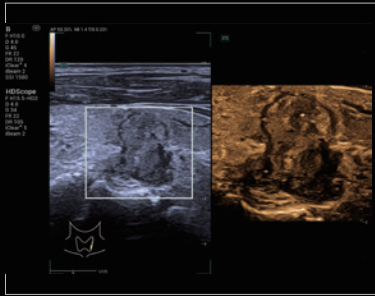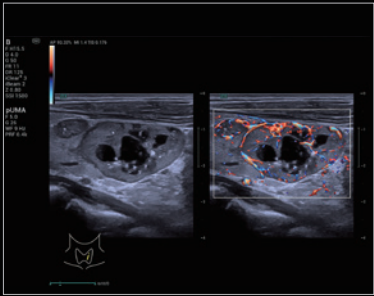

Hepatic Hemangioma
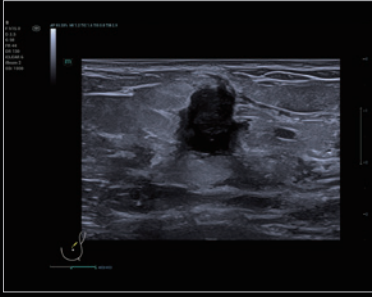B Mode

Hemangioma
HD Scope⁺
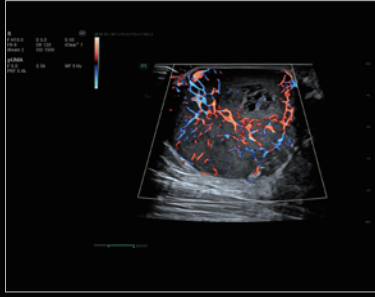
Liver Cancer
UMA

Thyroid Nodule
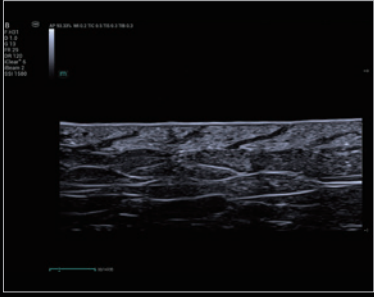B Mode

Thyroid Nodule
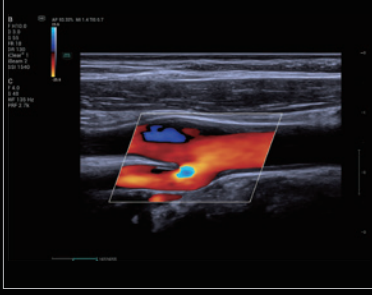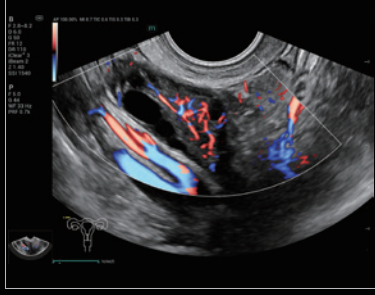HD Scope⁺

Thyroid Nodule
UMA

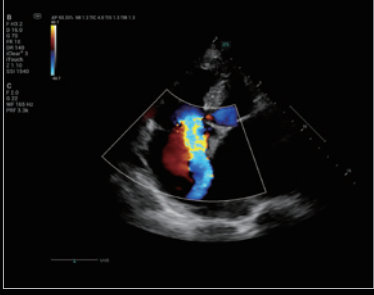Breast Cancer
B Mode

Metastatic Lymph Node
UMA

Hair Follicles
B Mode

Carotid Duplex
CDFI

Ovarian Blood Flow
Power Doppler

Cardiac Regurgitation
CDFI