

Image Accuracy and Excellent Versatility

Essential Ultrasound Care and Value-based Innovations

Introducing the SuperSonic™ MACH™ 20 Ultrasound System



Introducing the SUPERSONIC™ MACH™ 20 Ultrasound System

At Hologic, we do everything in our power to ensure more people have access to superior healthcare by making it as affordable as possible. We're on a quest to transform ultrasound care by delivering the level of performance you expect, and patients deserve.

Powered by unique UltraFast technology, the SuperSonic MACH 20 system is designed to improve outcomes, optimize costs, and increase patient satisfaction by offering:

- **High-resolution image quality** for enhanced diagnostic confidence
- **Innovative imaging modes** for increased accuracy
- **Intuitive user experience** for improved efficiency and comfort

Up to
20,000
images per second



UltraFast Imaging
The power behind innovations

Deep inside the SuperSonic MACH 20 system is a powerful processor running on our exclusive UltraFast technology, which was inspired by the video gaming industry. The intelligent signal processing has an image capture capacity of up to **20,000 frames per second!**



SonicPad™ Touchpad

Designed to improve workflow by reducing user's movements and examination time

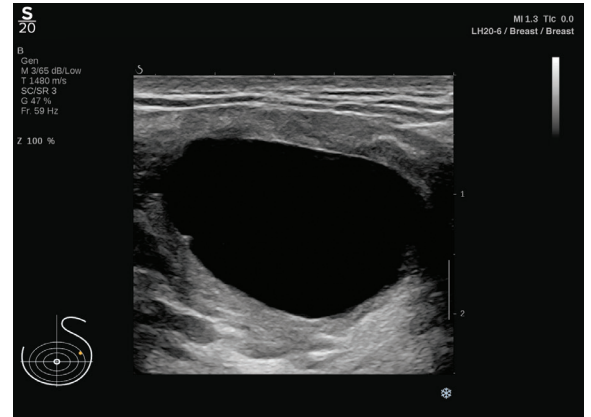


Image Accuracy and Excellent Versatility

The SuperSonic MACH 20 ultrasound system offers excellent B-mode image quality regardless of the clinical application.

A set of advanced features is available to simplify and accelerate the image acquisition process. You can adjust the parameters you need to obtain diagnostic information and image presentation based on your preferences.

Supported by a comprehensive family of lightweight and ergonomic transducers² optimized for all exams, the SuperSonic MACH 20 system delivers the level of performance a busy practice requires.



Breast with LH20-6 transducer,
Exceptional tissue differentiation



OB-GYN with C9-2X transducer



MSK with LH20-6 transducer



Innovative Imaging Modes for a Large Variety of Clinical Applications

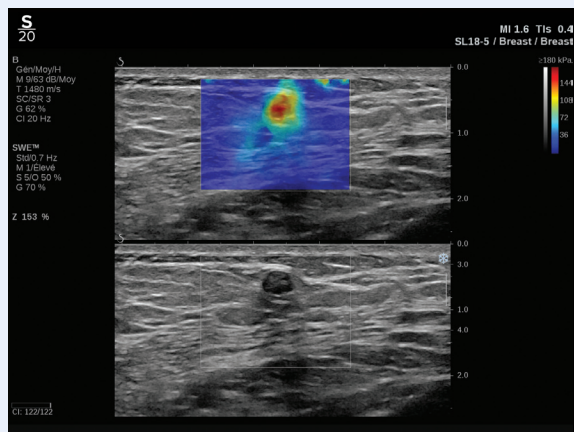
The SuperSonic MACH 20 ultrasound system features several innovative imaging modes, thanks to its UltraFast technology. These innovations integrate perfectly with routine workflow and are designed to deliver meaningful added value into general imaging.

ShearWave™ PLUS Elastography

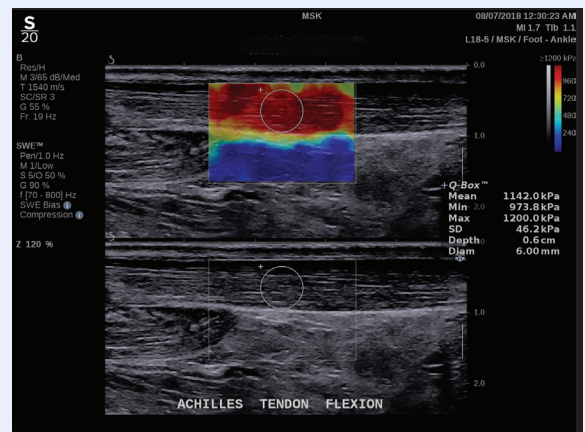
The added value of our ShearWave elastography to the medical imaging landscape is recognized by major scientific societies³ in ultrasound. It is also backed by a long track record of scientific research with nearly 600 clinical publications.

With the latest 3rd generation of shear wave-based technology ShearWave PLUS elastography, you will benefit from a new kind of elastography experience:

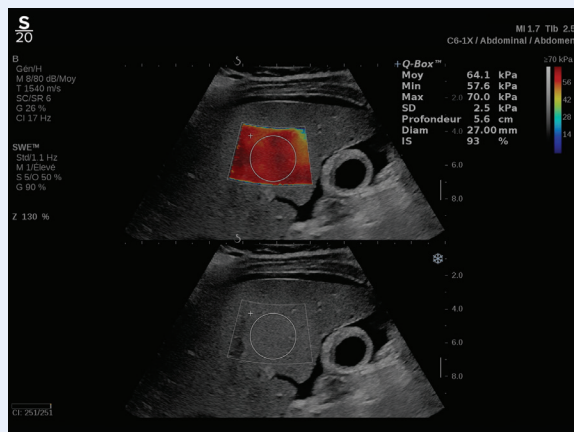
- Real-time imaging frame rates⁴
- Enhanced spatial resolution⁵
- Increased penetration⁶
- Dynamic tissue stiffness evaluation (up to 1,200 kPa or 20 m/s) with large, color-coded map



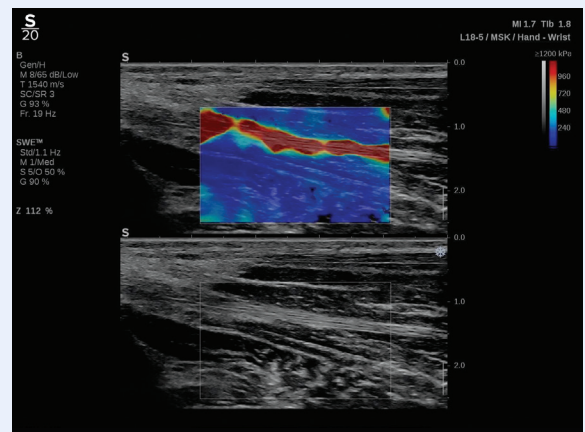
Breast with L18-5 transducer



Ankle with L18-5 transducer

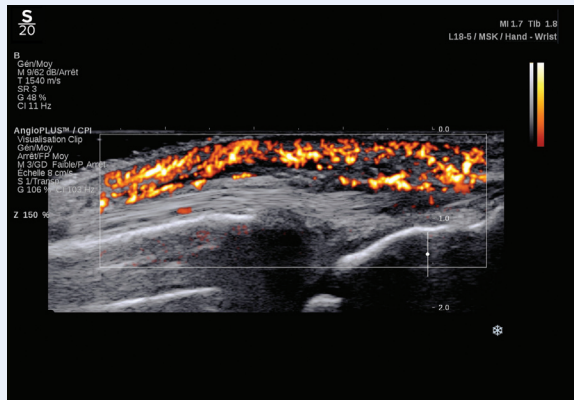


Liver with C6-1X transducer

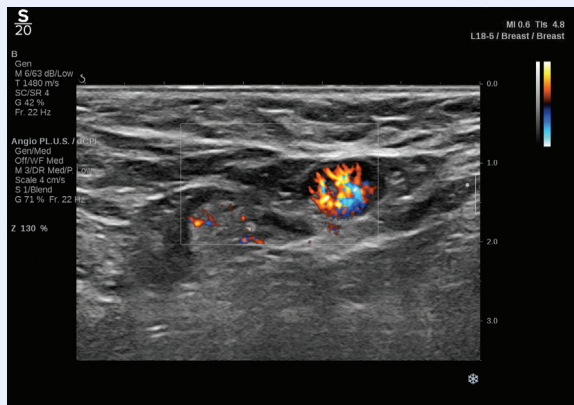


Wrist with L18-5 transducer

Angio PLUS Imaging



With ultrasensitive color mode – **Angio PLUS** imaging – microvasculature and low velocity flow states that are present within organ tissue can be assessed with astounding clarity.

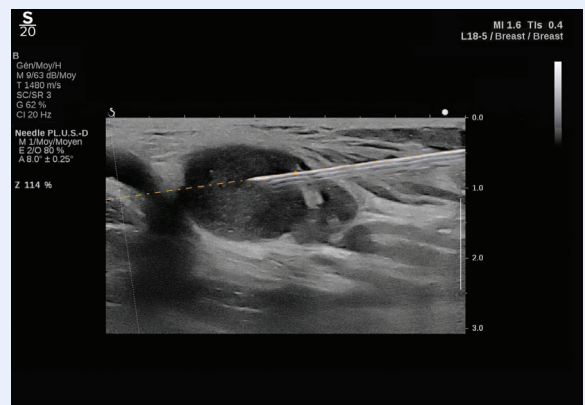


Wrist (top) and breast (bottom) with L18-5 transducer

Needle PLUS™ Imaging



Needle PLUS imaging was developed to provide enhanced needle visibility and introduce a unique functionality: needle trajectory prediction. It is designed to offer more control, and ultimately, additional confidence when performing biopsies.

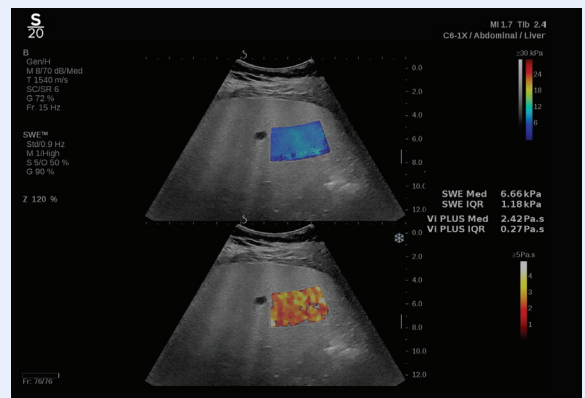


Wrist (top) and breast (bottom) with L18-5 transducer

Liver Ultrasound Markers

A unique imaging tool set is available for quantitative assessment of liver ultrasound biomarkers:

- Att PLUS™ imaging and SSp PLUS™ imaging to measure attenuation and speed of sound in the liver (See image below, left)
- Vi PLUS™ imaging to visualize and quantify liver tissue viscosity (See image below, right)



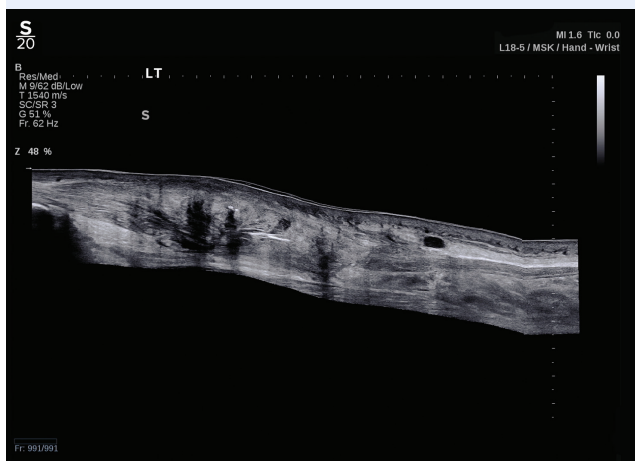
Added Clinical Value for General Imaging and Specialty Imaging

BREAST

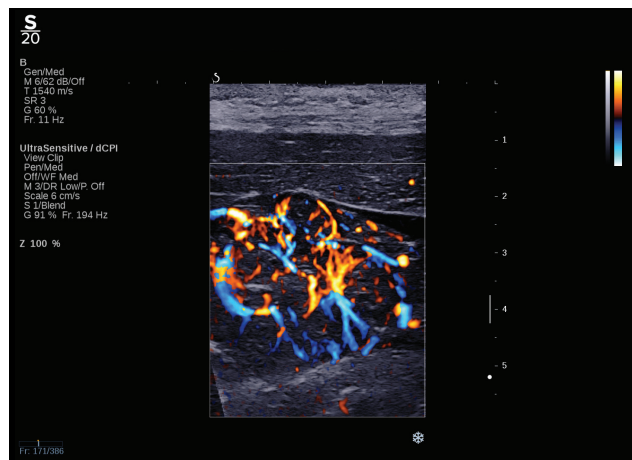
- ShearWave PLUS elastography may aid in the **diagnostic work up of breast lesions** and thus, positively impact patient management.⁷ It may also help with targeting lesions during ultrasound-guided biopsy.⁸
- Angio PLUS imaging can be the solution for an **advanced exploration of the axillary region** and the **evaluation of lymph nodes**.

MUSCLES AND TENDONS

- Panoramic imaging offers an extended field of view to **assess larger organs or abnormalities in their entirety** for improved diagnostic confidence.
(See image below)
- ShearWave PLUS elastography may become an asset for **screening and assessment of tendinopathies** (inflammatory and mechanical)
- With Needle PLUS™ imaging, you can **perform invasive procedures** (e.g. steroid or PRP injections) with precision and confidence.



LIVER



- ShearWave PLUS elastography may play a role in the **assessment of liver fibrosis** in chronic liver diseases and be a complementary method for characterization of focal liver lesions.
- Angio PLUS imaging can be useful for the **characterization of liver lesions**.
(See image above)
- Quantitative assessment of liver ultrasound biomarkers using the imaging toolset — Att PLUS imaging, SSp PLUS imaging and Vi PLUS imaging — is useful for the non-invasive **characterization of liver disease severity**.

Connectivity and Cybersecurity

The SuperSonic MACH 20 system is designed in conformity with the latest security requirements. It ensures that information is available in the right place at the right time.

- Disk encryption at installation to protect patient's personal data
- Wireless connectivity and DICOM compatibility for more flexibility
- Seamless integration with the equipment infrastructure already in place at your facility



Hologic Service and Support

Our team delivers proven expertise to improve your business results (higher system uptime resulting in fewer disruptions, increased staff productivity and greater throughput) and most importantly, patient outcomes.

- On-time intervention through remote system monitoring and diagnostics
- Access to new options and features with an online software update
- Clinical training as well as workflow and connectivity professional services

Introducing the SuperSonic MACH 20 system, Hologic's cart-ultrasound system, designed to transform the daily experiences of radiologists and sonographers.

Look for more product innovations powered by UltraFast technology and contact your local representative for a demo today!

SuperSonic MACH Ultrasound Portfolio



References:

1. Ultrafast Ultrasound Imaging, by Jeremy Bercoff (Published: August 23rd 2011 DOI: 10.5772/19729)
2. The transducers can be used on all ultrasound systems of SuperSonic MACH portfolio: SuperSonic MACH 40, SuperSonic MACH 30 and now SuperSonic MACH 20.
3. ACR BI RADS: Ultrasound (2015), KSJUM Guidelines for breast elastography (2014), EFSUMB (2013) and WFUMB Guidelines
4. Real time image processing is related with typical frame rate. Current standard for capture is typically 30 frames per second and can go up to 120 frames per second for some conventional ultrasound equipment. The UltraFast™ technology allows for the image acquisition up to 20,000 frames per second.
5. SuperSonic MACH 20 system technical specifications: SWE spatial resolution is 2mm for all transducers.
6. SuperSonic MACH 20 system technical specifications: SWE Box depth at maximum 12 cm.
7. Shearwave elastography improves the specificity of breast US: the BE1 multinational study of 939 masses. Berg WA et al. *Radiology*. 2012 Feb;262(2):4 35 49.
8. Addition of shear wave elastography during second look MR imaging directed breast US: effect on lesion detection and biopsy targeting. Plecha DM, Pham RM, Klein N, Coffey A, Sattar A, Marshall H. *Radiology*. 2014 Sep;272(3):657 64.
9. Shear Elastic Modulus on Patellar Tendon Captured from Supersonic Shear Imaging:... Zhang et al. *PLoS One*. 2013; 8(6): e68216

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