

**PHILIPS**

Ultrasound

# Redefining performance in contrast-enhanced ultrasound

## Philips EPIQ Elite Elevate and Affiniti Elevate

Radiation exposure is a concern in medical imaging, particularly for pediatric patients who are more radiation-sensitive and have a longer lifespan for long-term effects to appear.<sup>1</sup>

Philips CEUS integrates seamlessly into workflow, offering exceptional detail in arterial, portal and late-phase scans. CEUS Auto Scan automatically optimizes gain and TGC for optimal images without manual adjustments. PureWave transducers, maximum field of view, high-definition display, fusion imaging and integrated quantification enhance confidence, even in challenging exams.

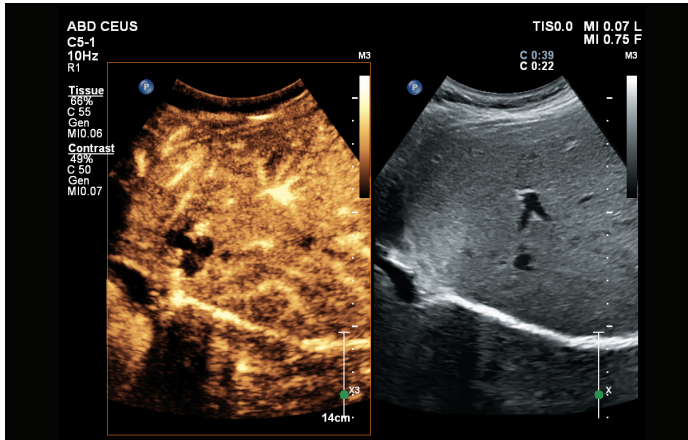


# Confident imaging

Ultrasound contrast agents can transform the role of ultrasound, allowing study of the enhancement patterns of suspicious lesions in real time<sup>2</sup>

## C5-1 transducer

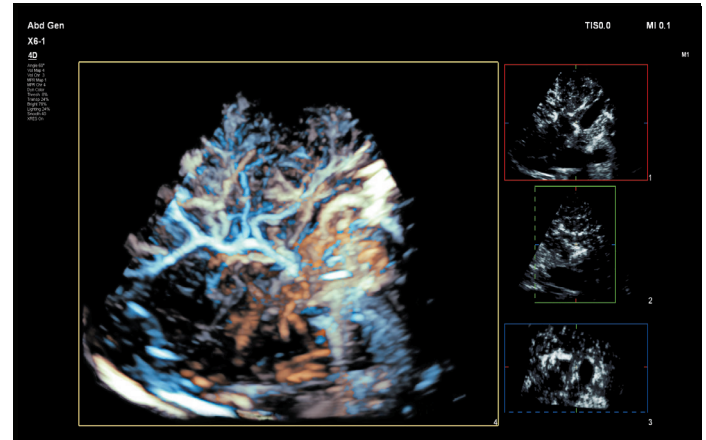
**PureWave crystal transducer technology** provides outstanding image quality, even in technically difficult patients.<sup>3</sup>



Liver CEUS imaging with the C5-1 transducer

## X6-1 transducer

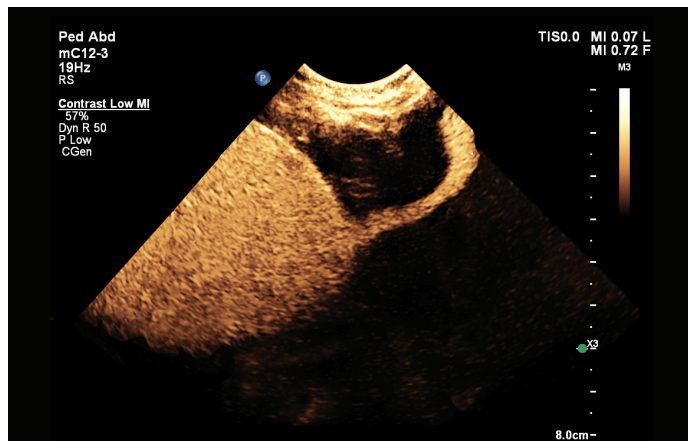
**Fast 3D/4D start times** with increase in acquisition rates for 4D volumes, in addition to the ability to use xPlane to scan two planes simultaneously in contrast mode.\*



Liver vasculature with CEUS using the X6-1 transducer

## mC12-3 transducer

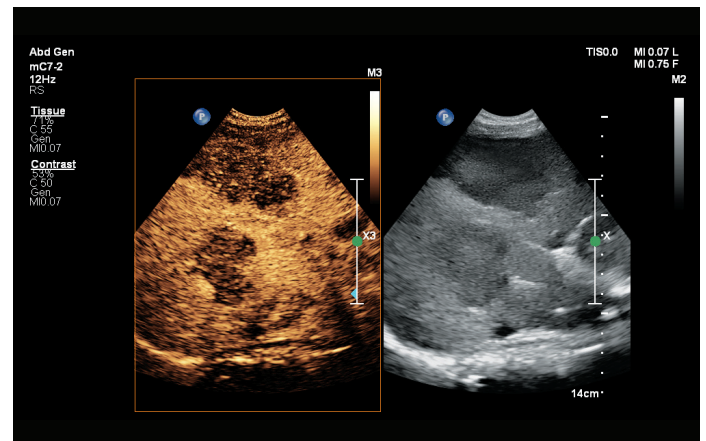
**Designed for pediatric applications**, the mC12-3 transducer provides an additional 30% improvement in penetration compared to our previous generation of pediatric transducers.\*\*



Pediatric bladder micturition with the mC12-3 transducer

## mC7-2 transducer

**Designed for procedure guidance**, this small-footprint ergonomic transducer allows imaging in tight intercostal spaces, helping reduce rib shadowing on images, as well as providing a more direct needle approach for procedures.<sup>4</sup>

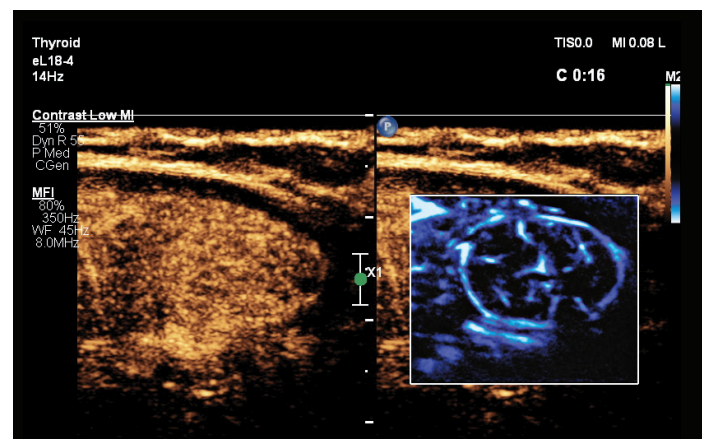


Liver metastases with the mC7-2 transducer

With Philips, ultrasound CEUS is integrated into the standard workflow.

## eL18-4 transducer

Supports a **wide range of anatomies** for small parts imaging, with PureWave crystals for outstanding image quality and support for CEUS MicroFlow Imaging.



Thyroid lesion with the eL18-4 transducer

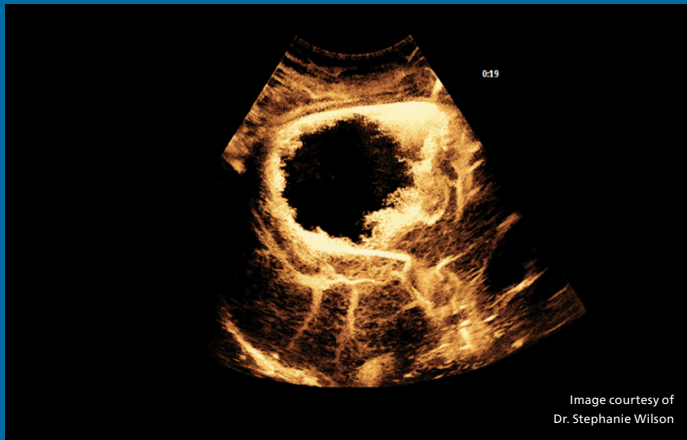
\*nSight Plus white paper, 452299171311, Nov. 2021.

\*\*Internal measured comparison on calibrated tissue phantom between the mC12-3 and C8-5 transducers on the EPIQ Elite ultrasound system.

# Visualize more

## Microvascular Imaging Super Resolution CEUS\*

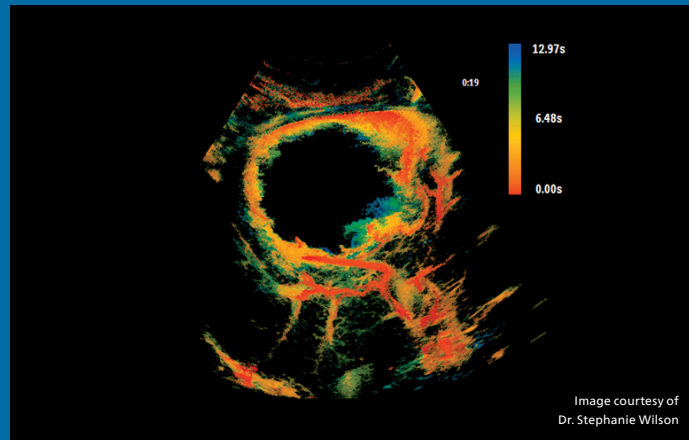
Improves resolution by more than 200%.\*\*



Liver hemangioma with enhanced detail resolution

## Time of Arrival

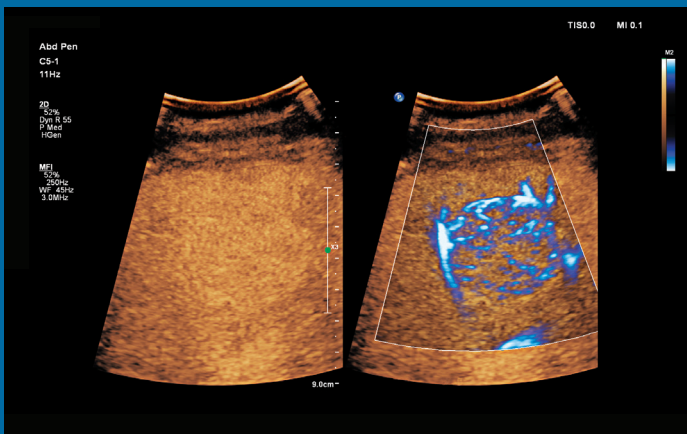
Provides concise visualization of the temporal patterns of perfusion while maintaining the superb spatial resolution offered by Super Resolution MVI. \*



Liver hemangioma with Time of Arrival mapping

## CEUS MicroFlow Imaging (MFI)

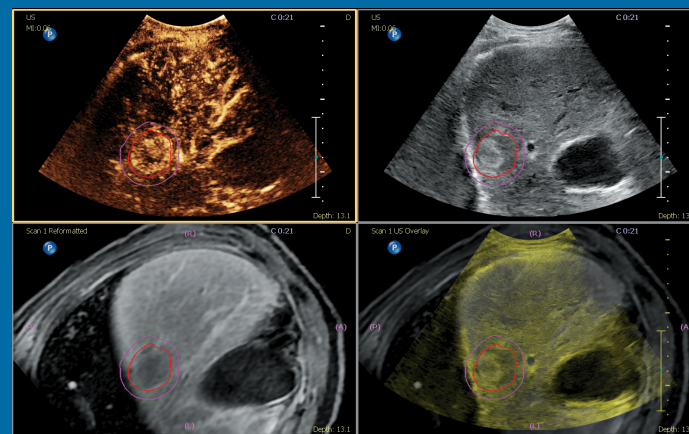
Provides remarkable sensitivity and detail in assessing blood flow during a CEUS examination without negatively affecting bubble destruction.



Isoechoic liver lesion demonstrated with CEUS MFI

## Fusion and Navigation with Contrast

Advanced capabilities such as Auto Registration, continuous patient tracking, user-assisted co-registration, tumor contour and ablation planning.

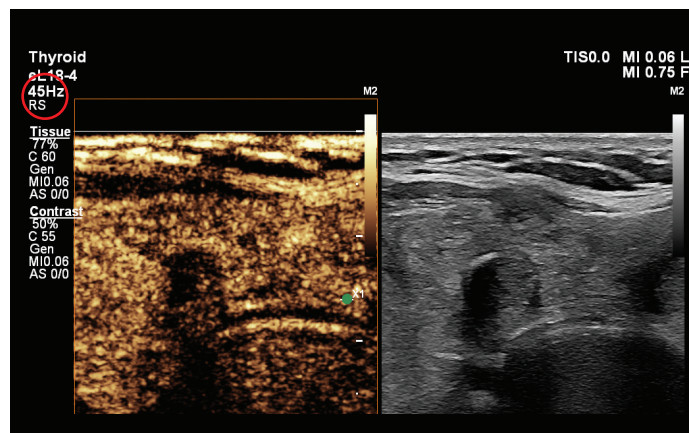


CEUS Fusion with CT for ablation planning

## Linear imaging with high frame rate

### Higher frame rate and increased FOV

EPIQ Elite Elevate offers 67% increase in CEUS frame rate and Improves CEUS field of view by 76% for the eL18-4 transducer when scanning the thyroid<sup>5</sup>, allowing for a more complete window around the target organ and making it possible to capture full-organ images.

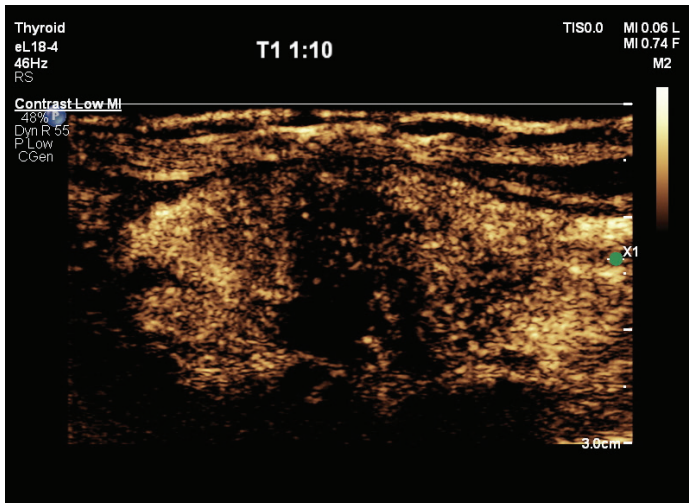


High frame rate linear. CEUS Thyroid CEUS Auto Scan with eL18-4 transducer

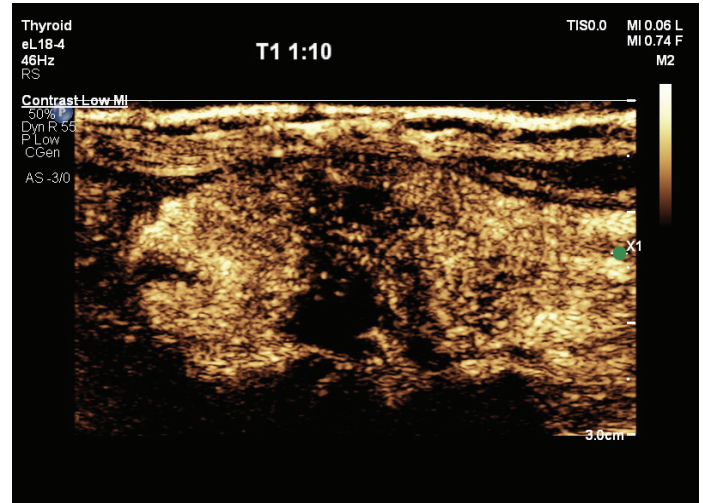
\*Compared to previous MVI capability.

\*\*Not available with the Affiniti ultrasound system.

# CEUS Auto Scan



Without CEUS Auto Scan



With CEUS Auto Scan

- Helps overcome the CEUS narrow window for dynamic range and low signal-to-noise ratio
- Supports contrast imaging with fast, high-quality images for visualizing the wash-in/wash-out pattern
- Dynamically adjusts gain to balance effects of images that are under- or over-saturated
- Designed to enhance workflow, patient comfort, diagnostic confidence and throughput

## References

1. Sidhu MK, Goske MJ, Coley BJ, et al. Image gently, step lightly: increasing radiation dose awareness in pediatric interventions through an international social marketing campaign. J Vasc Interv Radiol. 2009 Sep;20(9):1115-9. doi: 10.1016/j.jvir.2009.07.021. PMID: 19729131.
2. D'Onofrio, M., Crosara, S., De Robertis, R., Canestrini, S., & Mucelli, R. P. (2015). Contrast-Enhanced ultrasound of focal liver lesions. American Journal of Roentgenology, 205(1), W56–W66.
3. Chen J, Panda R, Savord B. Realizing dramatic improvements in the efficiency, sensitivity and bandwidth of ultrasound transducers: Philips PureWave crystal technology. Koninklijke Philips N.V. Aug 2006. 2014;203(6):W715-W723. doi:10.2214/AJR.13.12061.
4. Philips EPIQ Elite specification sheet, document number 452299179761, May 2023.
5. Windchill No. D001789392

Find out more at [www.philips.com/GI](http://www.philips.com/GI)

