Vevo® F2

DESIGNED FOR ULTRASOUND RESEARCH

The World's First Ultra High to Low Frequency Imaging System

Open and Configurable Architecture

High Resolution Real-Time Imaging

FUJIFILM | VISUALSONICS

Introducing the Vevo F2

The World's First Ultra High to Low Frequency Imaging System for Ultrasound Research

For over twenty years, FUJIFILM VisualSonics has been delivering the best-in-class, ultra high frequency ultrasound and photoacoustic imaging solutions to the scientific research community. With the Vevo F2, we now expand our reach to satisfy the imaging needs of acoustic researchers, ultrasound engineers and those that may benefit from both ultra high to low frequency imaging capabilities.

Flexible
Ultra high to low frequency imaging (71–1 MHz)

Open Architecture
Access pre-beamformed individual channel data (VADA)

One System
Adaptable for imaging small to large animals

Intuitive
Easy-to-use graphical interface

High Resolution Real-Time Imaging

Power Doppler Mode
Visualize and quantify blood flow

Photoacoustics
Compatible with the Vevo LAZR-X laser cart for multi-modal imaging

3D-Mode
Accurately quantify volumes—can be combined with Power Doppler or photoacoustics

Imagine the possibilities:

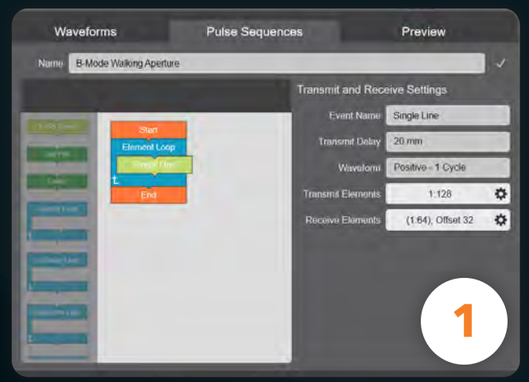
- Plane Wave Imaging
- Ultrafast Doppler
- Signal Processing and Beamforming
- Small to Large Animal Imaging
- Tissue Characterization
- Super Resolution Imaging

The Vevo F2 Imaging Platform

Open and Configurable Architecture

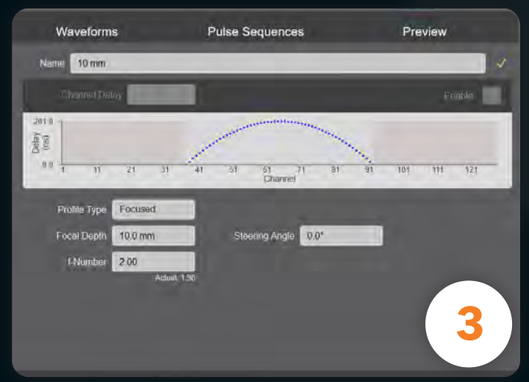
Vevo Advanced Data Acquisition (VADA)

Equipped with Vevo Advanced Data Acquisition (VADA), the Vevo F2 allows access to pre-beamformed individual channel data via an all new, easy-to-use, graphical interface. With full control over transmit profiles, researchers now have the power and freedom to develop and explore new imaging methods in a quick, iterative fashion–going beyond existing imaging modes.

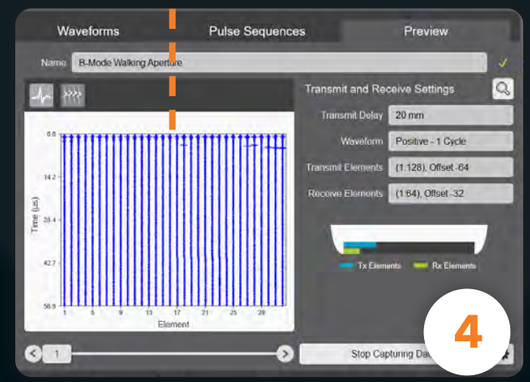


Pulse Sequence

Custom Waveforms

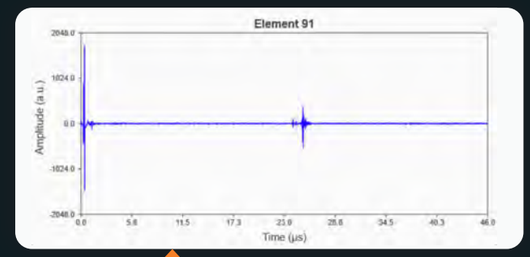


Transmit Delay

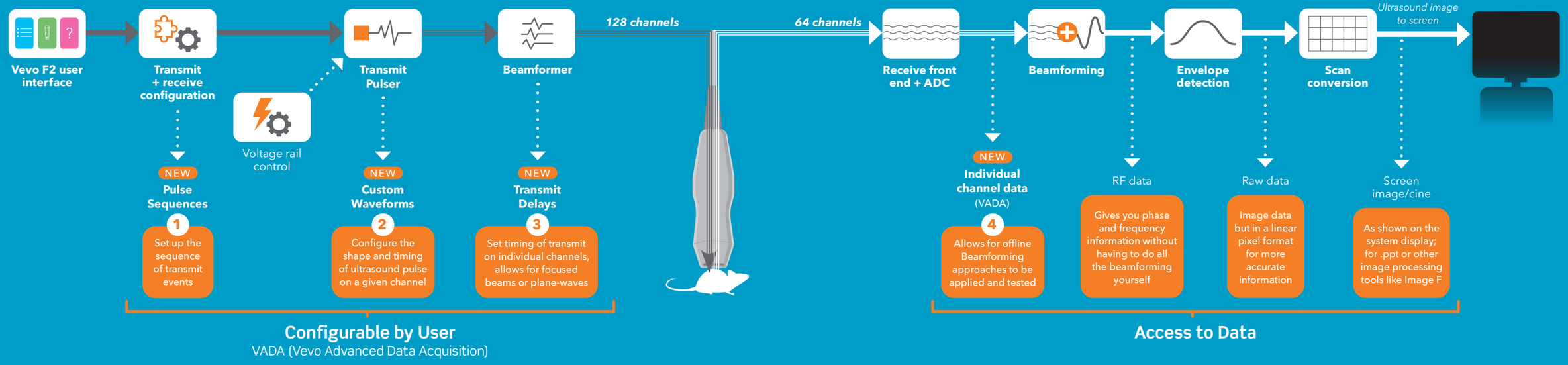


Multi-Channel Data

Display of signal (Element 91) acquired from a wire target

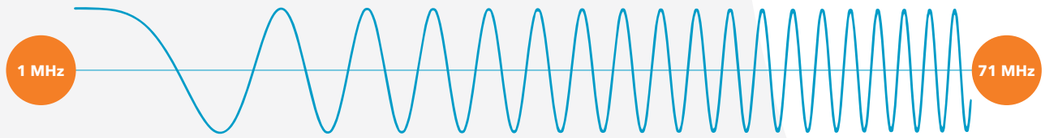


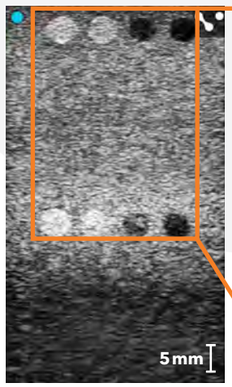
Signal Transmit and Receive Chain



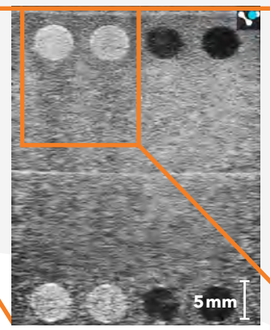
World's First High to Low Frequency Imaging System

The Vevo F2 offers an expanded range of frequencies (71–1 MHz). Users now have the flexibilty to image at low frequency for penetration and ultra high frequency for resolution using one platform.

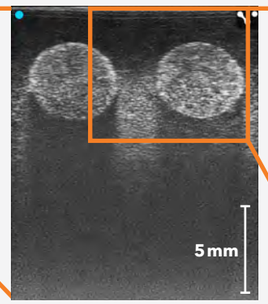




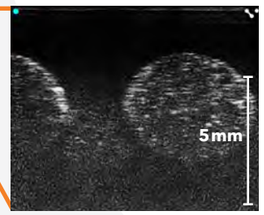
L38xp
10–5 MHz



UHF22x
22–10 MHz



UHF57x
57–25 MHz



UHF71x
71–30 MHz

Target Areas of Research

Plane-wave Implementation
Implement plane-wave techniques for ultrafast ultrasound imaging for applications such as ultrafast Doppler and super-resolution ultrasound

Beamforming Algorithm Development
Test novel beamforming techniques for image reconstruction

External Devices Syncing
Coordinate timing between HIFU pulses for imaging, or shear wave generation for elastography measurements

Small to Large Animals
Conduct imaging and analysis of small and large animals on one platform to streamline data collection

Photoacoustic Capable

Photoacoustic imaging using the Vevo F2 allows for yet another layer of information when assessing vascular and molecular events.

By adding photoacoustics, users of the Vevo F2 can perform real-time oxygen saturation and molecular imaging, co-registered with high resolution anatomy. The expanded range of frequencies permits a wider range of animal models to be used in translational research.

Vevo F2 Transducers

High to Low: Flexibility at your Fingertips

The Vevo F2 Imaging System is compatible with a greater range of transducers than ever before. With this new expanded range **(71-1 MHz)**, users now have the flexibility to image a broad spectrum of animals from small to large, using the same imaging platform!

Transition from one transducer to another quickly; the Vevo F2 allows for **three transducers** to be connected with one transducer active at any given time.

High Frequency Transducers

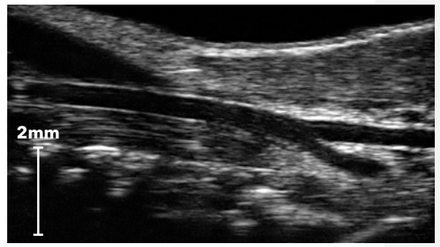
Model	Type	Bandwidth	Possible uses *in vivo*
UHF71x	Linear	71–30 MHz	▷ Mouse embryology ▷ Vascular and epidermal imaging ▷ Ophthalmology
UHF57x	Linear	57–25 MHz	▷ Mouse cardiovascular, abdominal, reproductive ▷ Mouse/rat embryology ▷ Small rat vascular
UHF46x	Linear	46–20 MHz	▷ Mouse cardiovascular ▷ Rat abdominal ▷ Rabbit ophthalmology ▷ Rat/rabbit vascular
UHF29x	Linear	29–15 MHz	▷ Rat cardiology and abdominal (<250 g)
UHF22x	Linear	22–10 MHz	▷ Rat cardiology and abdominal (<500 g) ▷ Rabbit cardiovascular

Low Frequency Transducers

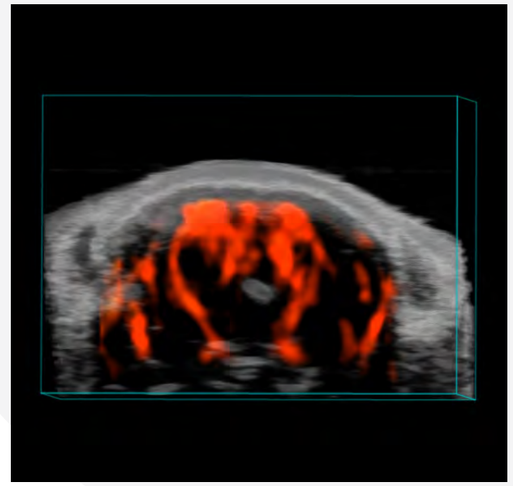
Model	Type	Bandwidth	Possible uses *in vivo*
L38xp	Linear	10–5 MHz	▷ Large animal abdominal ▷ Rat and rabbit cardiovascular ▷ Low frequency photoacoustic imaging
P10xp	Phased	8–4 MHz	▷ Large animal cardiology ▷ Large animal abdominal

Proudly partnering with FUJIFILM Sonosite to offer low frequency transducers

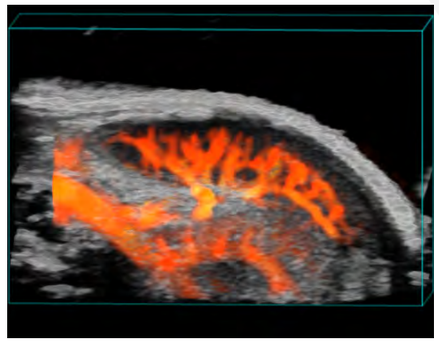
High Quality Imaging for Precise Visualization of Tissue Structures



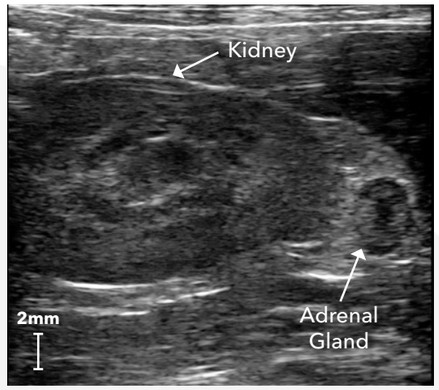
Mouse carotid artery
UHF71x (71–30 MHz)



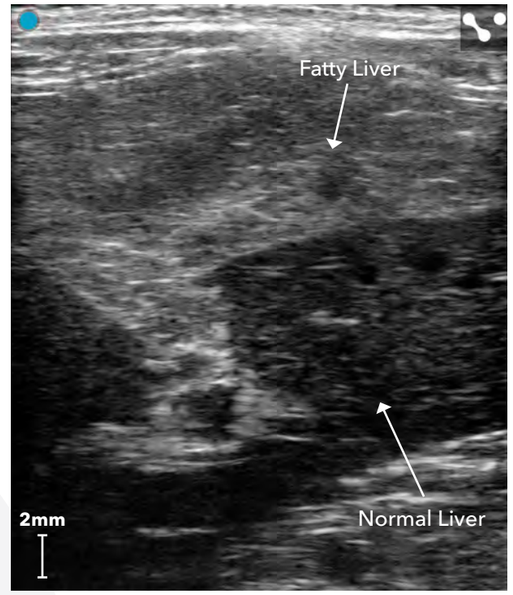
Mouse Brain Vasculature
UHF29x (29–15 MHz)



Mouse Spleen & Kidney Vasculature
UHF57x (57–25 MHz)



Rat kidney and adrenal gland
UHF22x (22–10 MHz)



Diseased rat liver
UHF22x (22–10 MHz)

Vevo LAB Analysis Software

Data management and analysis with Vevo LAB workstation software. Export data to other third-party data processing tools.

Vevo Imaging Station

Standardize image acquisition and quantification to ensure repeatable, reproducible results and high-throughput workflow for multiple animal studies.

- Warmed platform for maintaining optimal physiological conditions for small animals
- Integrated & displayed physiological monitoring: ECG, heart rate, core temperature, respiration and blood pressure
- Transducer mounting system for precision and hands-free scanning
- Precision micro-injection system for injections or extraction procedures
- Compatible with the Vevo Compact Anesthesia System, the Vevo Whole Body Imaging Setup, the Vevo E-Box and Vevo BRAIN

Accessories

Anesthesia System

Vevo BRAIN Stereotactic Frame & Atlas

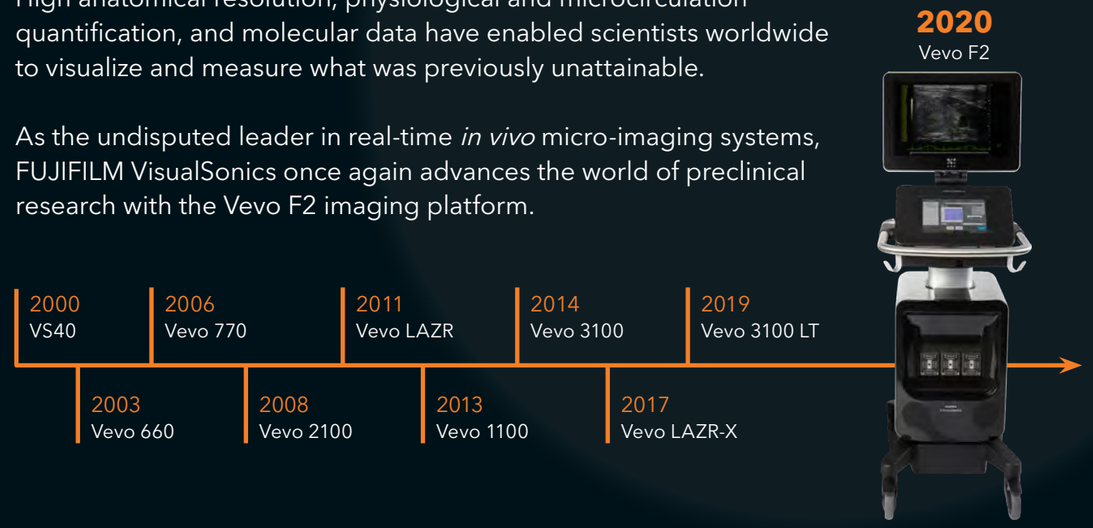
Vevo Whole Body Imaging Setup

Vevo Technology Timeline

The original Vevo platform was the world's first commercially available ultra high frequency ultrasound imaging system.

High anatomical resolution, physiological and microcirculation quantification, and molecular data have enabled scientists worldwide to visualize and measure what was previously unattainable.

As the undisputed leader in real-time *in vivo* micro-imaging systems, FUJIFILM VisualSonics once again advances the world of preclinical research with the Vevo F2 imaging platform.



Vevo Support

The advanced technology of the Vevo F2 high resolution imaging platform is accompanied by an integrated approach to service and support.

Applications support and training customized to your needs

- On-site customer training
- Customized hands-on education

Online resources

- Live & on-demand webinars
- Imaging guides
- Video tutorials
- Grant support program
- Publications libraries
- Image galleries
- Exclusive customer resource portal

Technical and scientific support

- On-site and online support
- Scientific application expertise

For additional resources, support or service requests, visit our website: **visualsonics.com**

"The possibility of working with low and high frequency is really interesting. The VADA interface is intuitive and very easy to work with. The combination of VADA and the broadband frequencies are clear differentiators of Vevo F2 over other providers."

Magnus Cinthio, Associate Professor
Lund University

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