

## Extraordinary Detail

At Samsung, our unique and proprietary way of processing digital signals has made us a global leader in the consumer electronics arena and is the foundation of our new Crystal Architecture™.

### Crystal Architecture™

#### CrystalBeam™

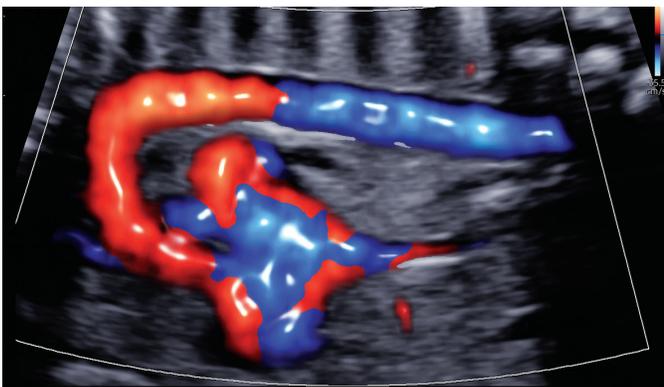


#### CrystalLive™

Our state of the art **beamformer** leverages Massive Parallel Processing to efficiently and consistently create uniform image clarity throughout the field of view while maintaining high frame rates.

Our advanced signal and image processing provides exceptional detail and contrast resolution, artifact reduction and shadow suppression.

A combination of innovative beamforming and sophisticated image and signal processing working seamlessly with our transducers is at the heart of our exceptional image clarity, color sensitivity and penetration.



Ductal Arch with LumiFlow™



Fetal Abdomen

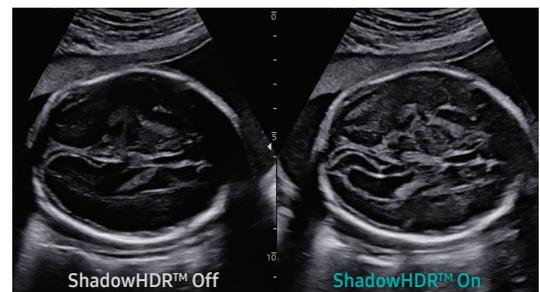
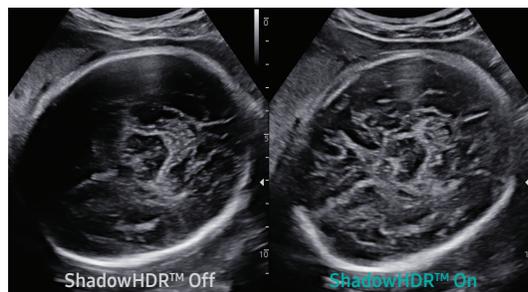
In the end, it's all about the images. Exquisite image clarity, sharp interfaces and excellent contrast and spatial resolution provide clinicians the tiny details needed to support confident answers.

## Advanced 2D Imaging

2D imaging is at the heart of each and every ultrasound exam and integral to a confident diagnosis. Hera elevates 2D imaging to a level not seen before thanks to shadow suppression, artifact reduction and image clarity techniques that produce grayscale images with crisp interfaces, outstanding contrast resolution and precise spatial detail.

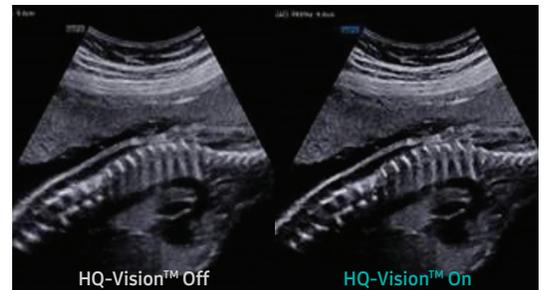
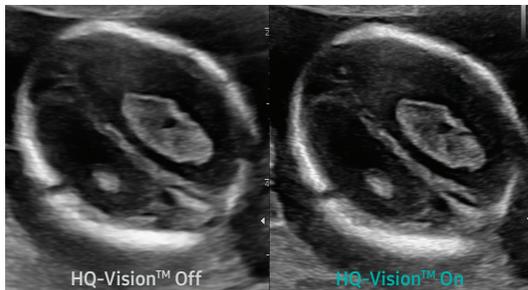
### ShadowHDR™

ShadowHDR™ improves image clarity by separating the ultrasound image into low and high frequency components. Shadow HDR then performs dynamic shadow suppression to reveal additional details, otherwise obscured. This proprietary technique is advantageous when assessing the fetal brain as it suppresses cranial shadowing for a more complete display of intracranial anatomy.



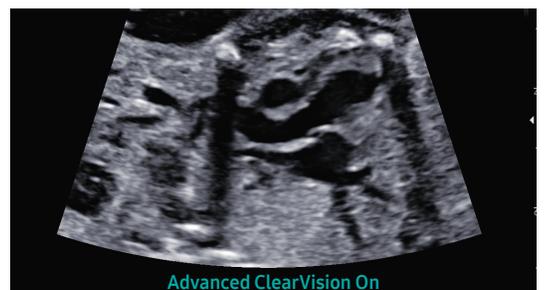
### HQ-Vision™

HQ-Vision™ is a sophisticated image processing technology designed to compensate for natural signal distortion as sound propagates through tissue. HQ-Vision continuously analyzes, deconstructs and then recalculates the received ultrasound image to display maximum sharpness and precise spatial clarity. This is especially helpful when performing detailed documentation of subtle interfaces, as well as fetal vertebrae.



### Advanced ClearVision

Advanced ClearVision is an adaptive image optimization technology designed to remove distracting speckle artifacts, while sharpening tissue interfaces and enhancing subtle changes in the displayed grayscale image.



## Superb Volume Imaging

Volume imaging is so much more than capturing a beautiful baby's face. Seeing the anatomy in 3D and or 4D provides a more comprehensive understanding of anatomical spatial relationships and rendering techniques like RealisticVue™ and CrystalVue™ continue to evolve to show the tiny details even in first trimester. These new perspectives provide clinicians more information, earlier than ever before, helping identify anomalies and better prepare for surgery and other early interventions.

### HDVI™ 2.0

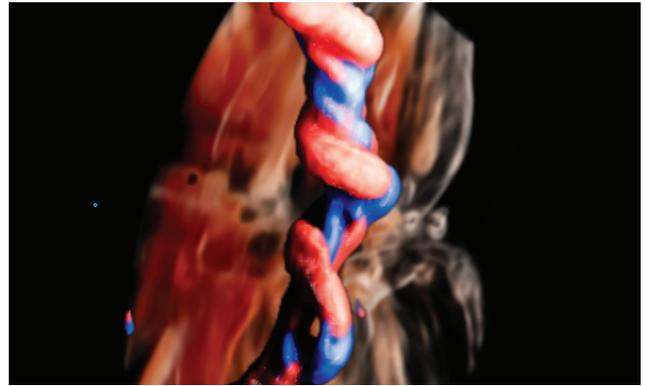
High Definition Volume Imaging (HDVI) 2.0 provides detailed edge definition and exceptional clarity of three dimensional anatomy. HDVI 2.0 is especially useful when visualizing skeletal dysplasia and spinal defects.



3D Fetal Spine with HDVI™ 2.0

### CrystalVue™ Flow™

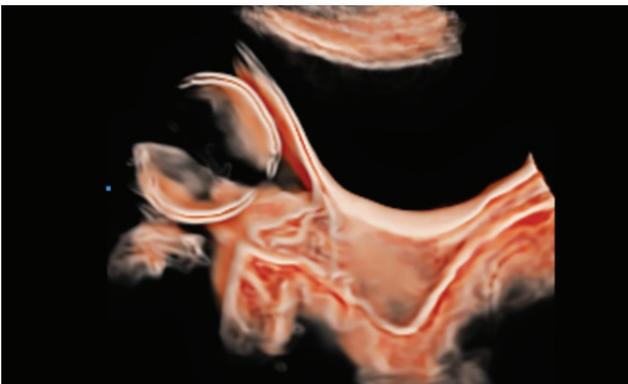
CrystalVue™ Flow™, based on Crystal Vue technology, adds vascular structures to the rendered volume for improved spatial precision of hemodynamic flow and morphological information. Providing a more comprehensive view and deeper understanding of relational anatomy with associated vessels.



Umbilical Cord with CrystalVue™ Flow™

### CrystalVue™

CrystalVue™ is an advanced volume rendering technology that enhances visualization of both internal and external structures in a single rendered image. The resulting image provides more definitive documentation of skeletal dysplasia, early neural tube defects, as well as first trimester brain development.



Normal tramline sign of the uterine/bladder interface using CrystalVue™

### RealisticVue™

RealisticVue™ displays high resolution 3D anatomy with exceptional detail and depth perception. User selectable light source direction creates intricately graduated shadows for better defined anatomical structures. From detailed understanding of complex pathology to patient consultation and education, RealisticVue is a versatile and important tool for effective diagnostics and communication.



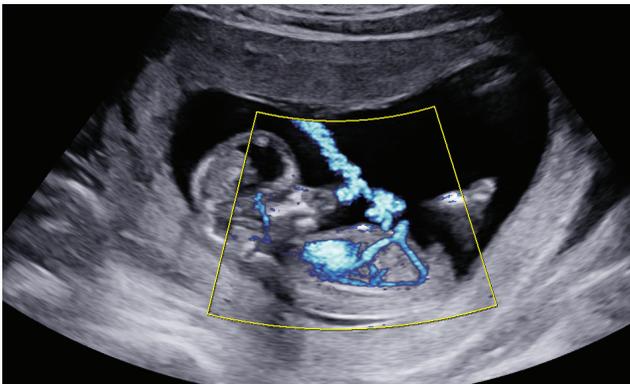
3D Fetal Face with RealisticVue™

## Hemodynamics, Amplified

Assessing blood flow is an important part of every ultrasound exam performed. Fetal movement or the small size of the structure provide unique challenges to completing your assessment, but without this information, a confident diagnosis cannot be reached. Samsung has introduced two new technologies to help you visualize blood flow; MV-Flow™ and LumiFlow™, technologies that can be used independently or in combination with each other to provide additional insights.

**MV-Flow™** is an advanced Doppler technology that provides detailed visualization of microvascular perfusion into tissues and organs. Sophisticated spatial filtering differentiates slow moving blood flow from adjacent tissues for a more confident display of color Doppler hemodynamics. Fetal lung perfusion, ductus venosus and the MCA may be easier to visualize with MV Flow.

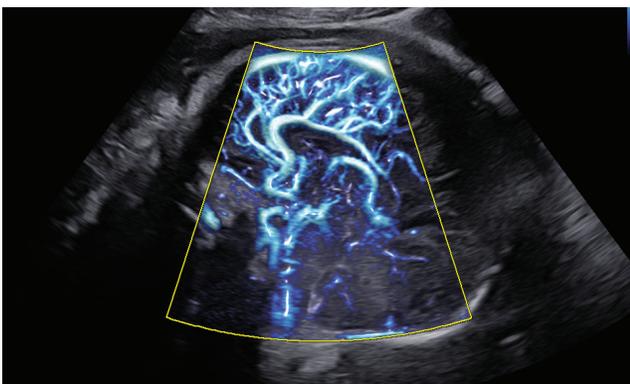
**LumiFlow™** provides dimensional visualization of blood flow which aids in quickly understanding vessel boundaries and may provide additional spatial comprehension when documenting vasa previa, placental cord insertion or outflow tracks.



Fetal Circulation with MV Flow™



Liver Vasculature with S-Flow™ and LumiFlow™



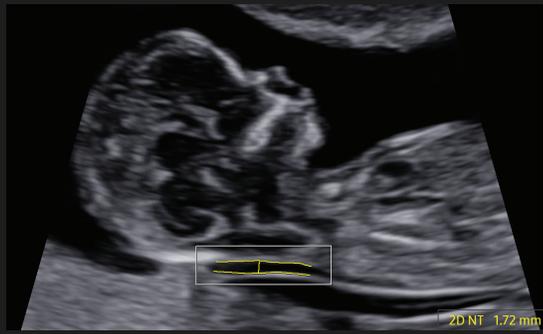
Pericallosal Artery with MV Flow™ and LumiFlow™



Fetal Heart with LumiFlow™



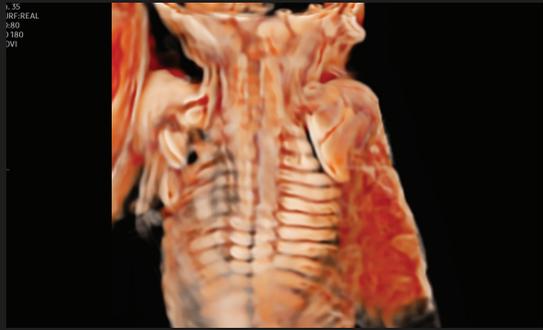
3rd trimester fetal face with RealisticVue™



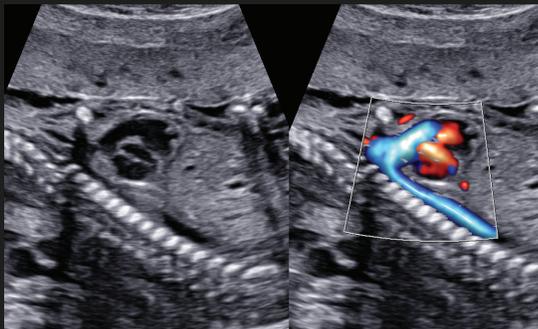
2D NT



Placental Perfusion with MV flow™



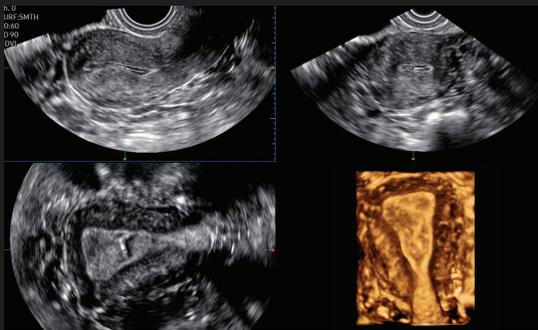
Fetal spine with CrystalView™



Ductal Arch with Dual Live and LumiFlow™



Fetal heart in 4-chamber view



3D MPR of Uterus



Fetal circulation with S-Flow™

# Hera I10 IMAGE GALLERY