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Ultrasound Imaging

LX4 Product Introduction

Acclarix LX4 Product Introduction

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2018.03.15

Outline

- **Acclarix Ultrasound Platform**

- **LX4 Product Introduction**
  - Distinctive ergonomic design
  - Excellent image performance
  - Wild application
  - User-friendly workflow

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EDAN Ultrasound Innovation R&D Center

EDAN R&D Center

Original128

128XP

Aspen

Sequoia

ZONARE

imorgon VytronUS Inc.

RESTORATION ROBOTICS

CyberHeart Acclarix

hansen MEDICAL

INNERVISION MEDICAL TECHNOLOGIES

acuson 1983 — SIEMENS 2000 — EDAN 2012

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Outline

- Acclarix Ultrasound Platform

- **LX4 Product Introduction**
  - Distinctive ergonomic design
  - Excellent image performance
  - Wide application
  - User-friendly workflow

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Milestone

product design award 2012

2010

DUS60

1996

2012

U50

U2

2013

DESIGN AWARD 2016

2014

U50PE

U2PE

reddot award product design

AX8

2015

LX8

GOOD DESIGN AWARD 2016

2017

AX4

U60

LX4

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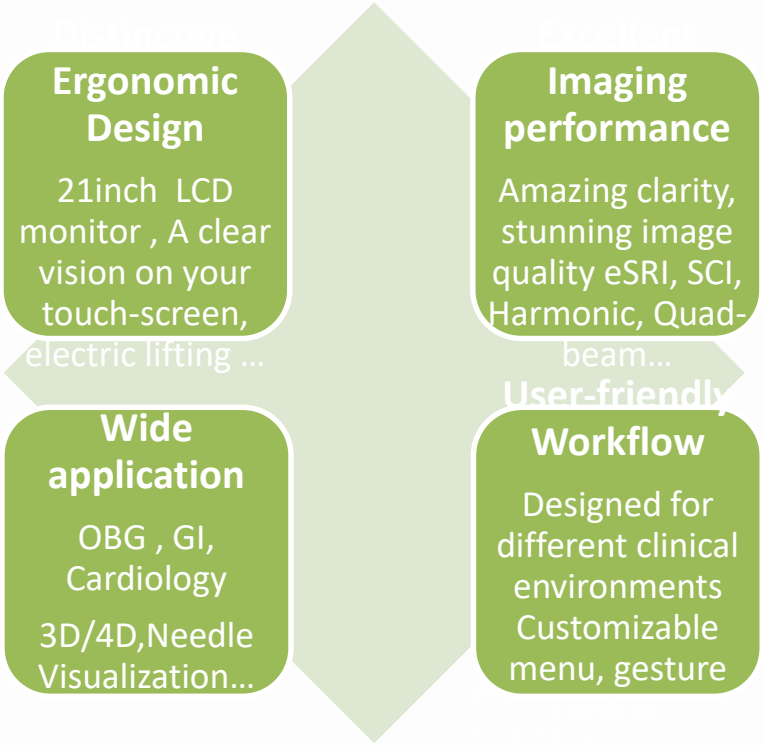
Acclarix LX4



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Distinctive Design

- 1920 x 1080 high resolution LCD monitor
- 64 physical channel with Intel i7 quad virtual cores
- 21” main screen and 10” touch screen
- Motorized 20cm height adjustment
- Gel warmer

Distinctive Design

- Clean progressive user interface
- Ergonomics design with short reach operation
- Back-light keyboard
- 4 transducers ports
- 1024 GB internal storage

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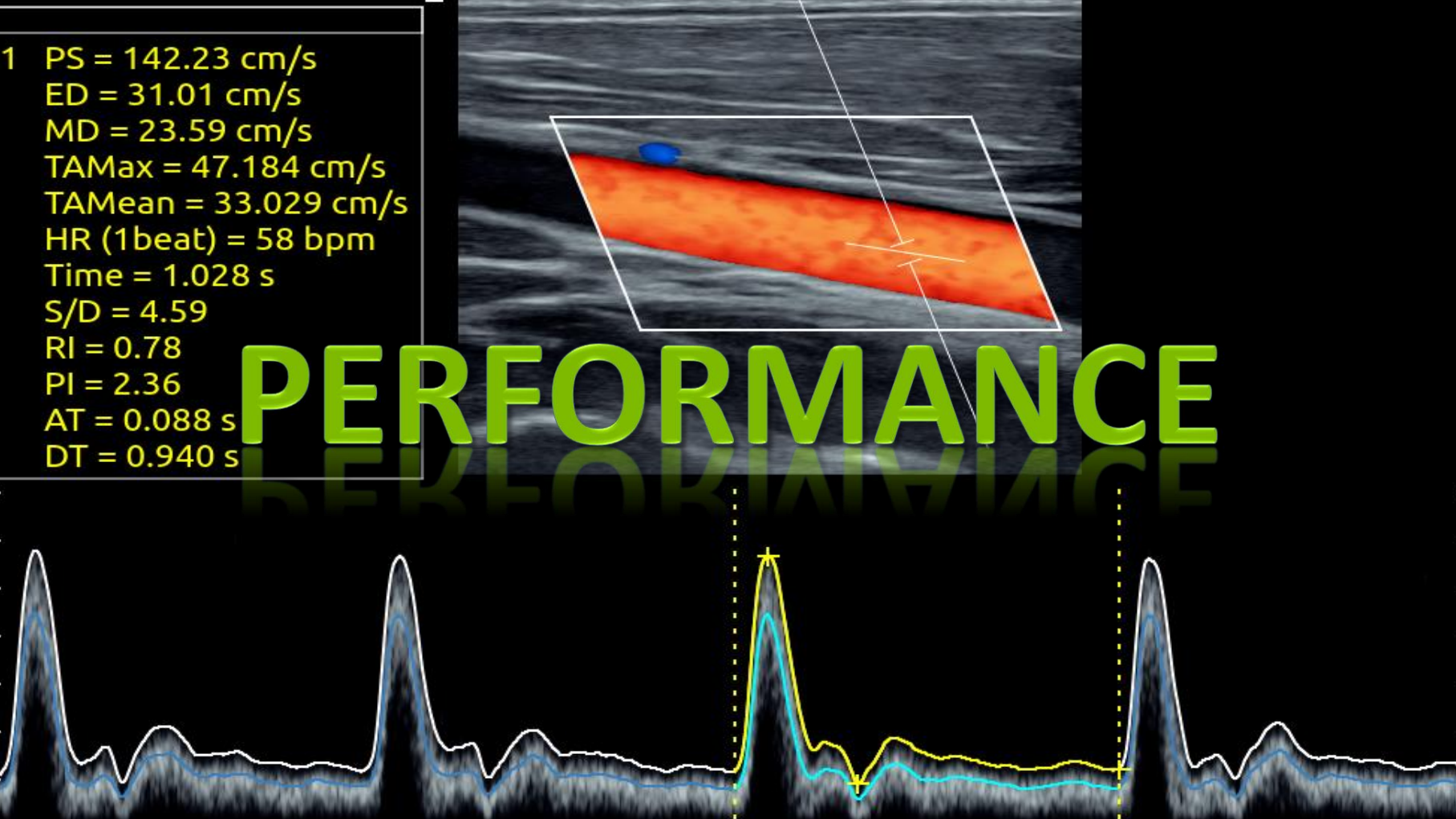
1 PS = 142.23 cm/s
ED = 31.01 cm/s
MD = 23.59 cm/s
TAMax = 47.184 cm/s
TAMean = 33.029 cm/s
HR (1beat) = 58 bpm
Time = 1.028 s
S/D = 4.59
RI = 0.78
PI = 2.36
AT = 0.088 s
DT = 0.940 s
PERFORMANCE

Innovative Imaging Technologies

- Tissue Adaptive Imaging (TAI)
- Speckle Reduction Imaging (eSRI)
- Spatial Compound Imaging (SCI)
- Transducers for wide applications
- Image gallery

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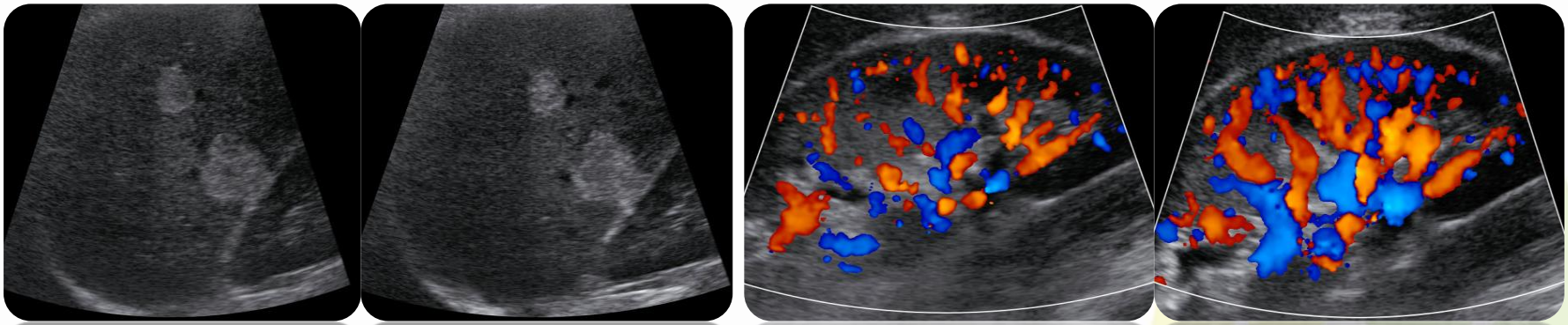
Tissue Adaptive Imaging

Acclarix core technology, Tissue Adaptive Imaging (TAI), automatically and continuously optimizes select parameters resulting in superior imaging for all modes.

In B-mode, TAI fine tunes multiple parameters to provide the best possible image quality

In Doppler, TAI automatically adjusts for flow state providing improved continuity, border detection and fill-in.



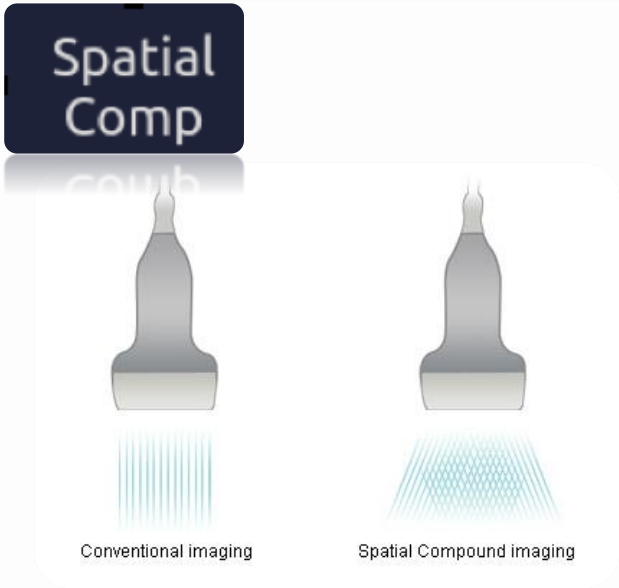
TAI image

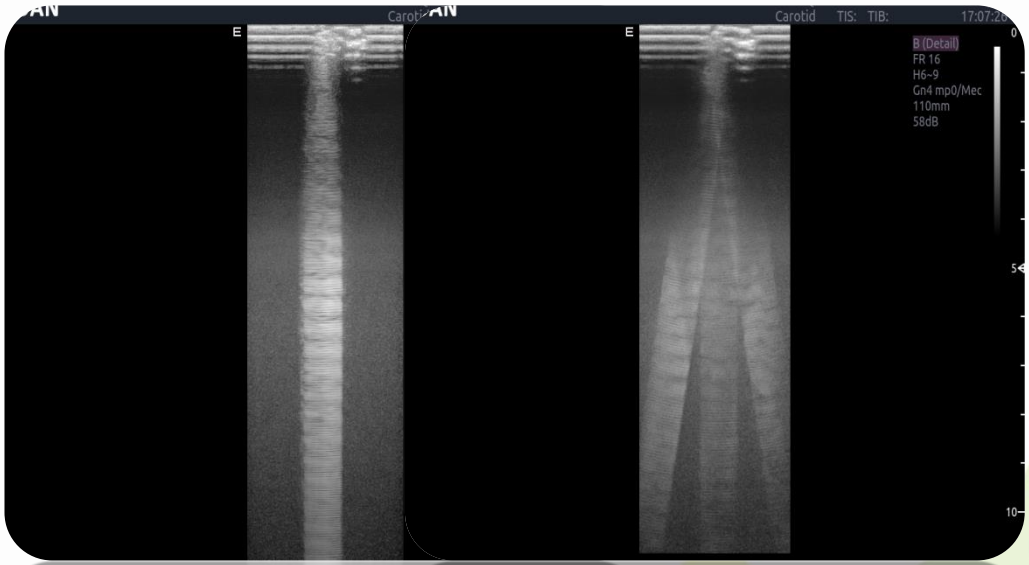
TAI image

Speckle Reduction Imaging (eSRI)

Improve spatial and contrast resolution
Enhance edges/borders for more consistent border detection
Four selections Off, low, middle, high

Spatial Compound Imaging (SCI)





Combine multiple angle-steered images into one, no frame rate drop

Less shadow for more diagnostic information

Dual view available on SCI imaging

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Transducers for applications

Probe Name	Type	Footprint/Radius	Elements	Bandwidth (-20 dB)	Scanning Angle/ FOV
C5-2D	Convex	60mm	128	2-5 MHz	60°
L17-7SD	Linear(Hockey-stick)	26mm	128	2-5 MHz	26mm
L12-5D	General linear array	38mm	128	5-12 MHz	38mm
MC8-4D	Micro convex array	15 mm	128	4-8 MHz	99°
MC9-3TD	Micro convex array	10mm	128	3-9 MHz	150°
P5-1D	Phased array	16mm	64	1-5 MHz	90°
E8-4D	Endocavity micro convex array	10mm	128	4-8 MHz	150°
C5-2MD	3D/4D mechanical curved array	40mm	128	2-5 MHz	69°

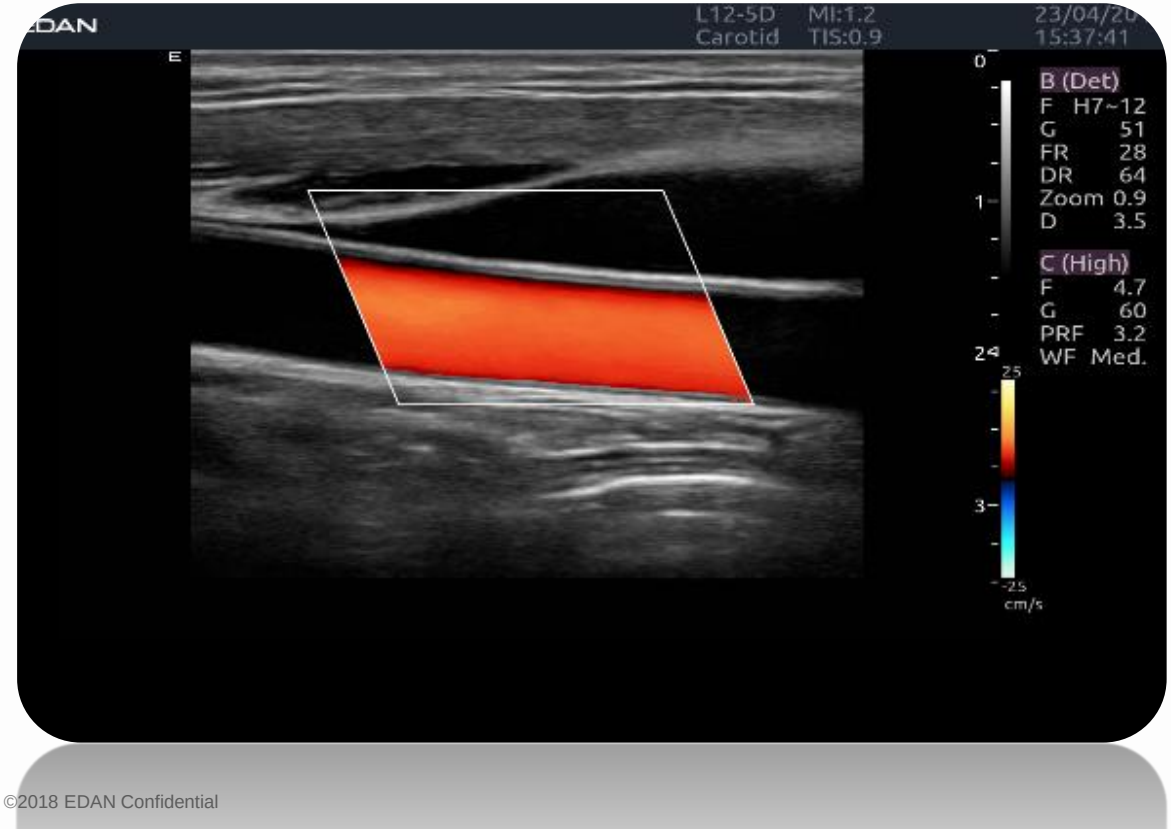
Transducers for applications(LX4 VET)

Probe Name	Type	Footprint/Radius	Elements	Bandwidth (-20 dB)	Scanning Angle/ FOV
C5-2D	Convex	60mm	128	2-5 MHz	60°
L17-7SD	Linear(Hockey-stick)	26mm	128	2-5 MHz	26mm
L12-5D	General linear array	38mm	128	5-12 MHz	38mm
MC8-4D	Micro convex array	15 mm	128	4-8 MHz	99°
MC9-3TD	Micro convex array	10mm	128	3-9 MHz	150°
P5-1D	Phased array	16mm	64	1-5 MHz	90°

Image gallery

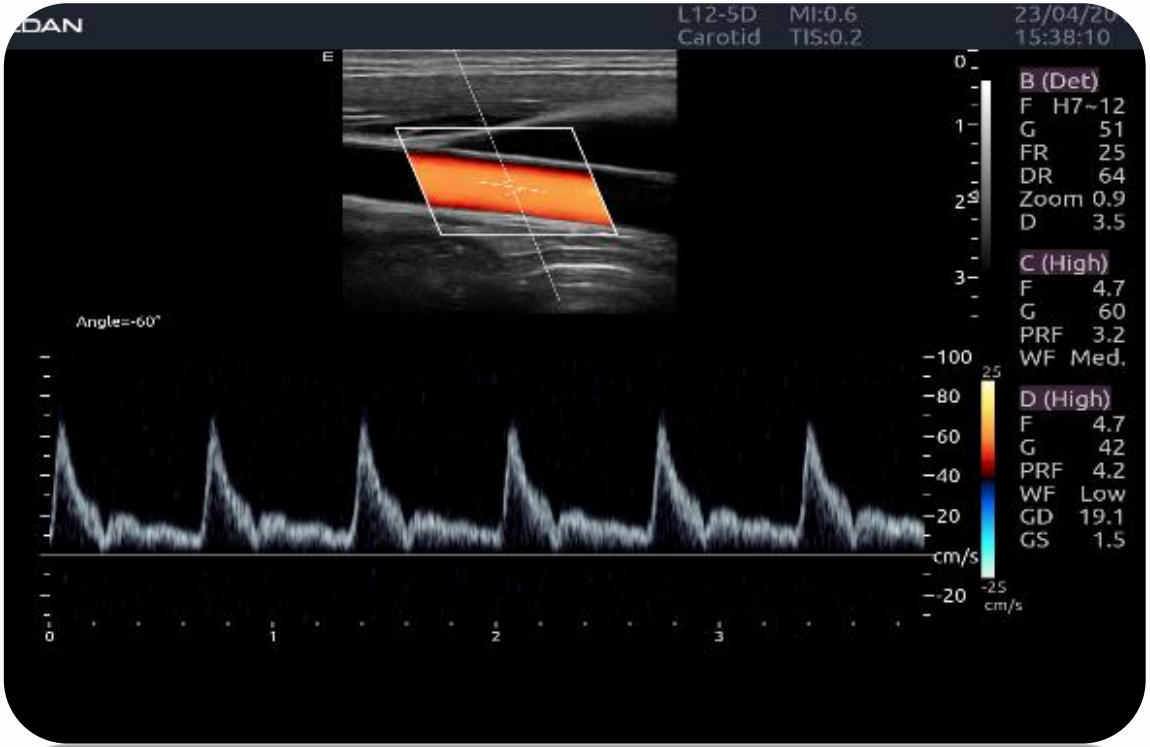
Common Carotid Artery (CCA)

Image gallery



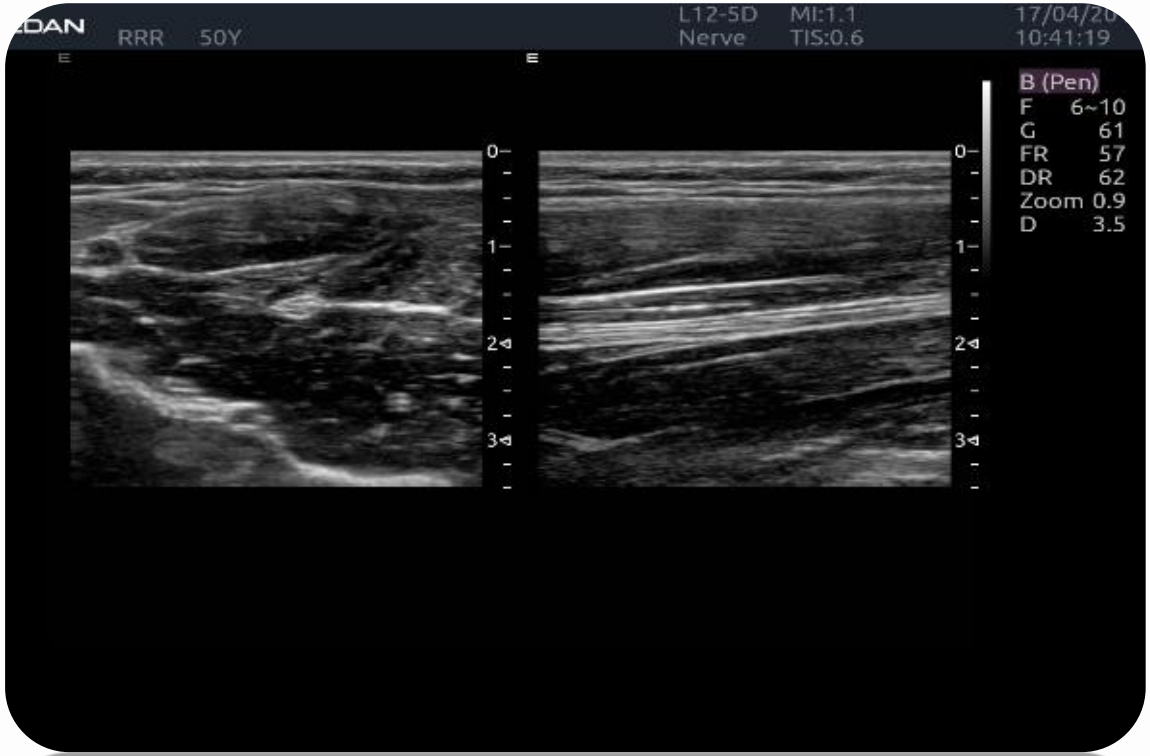
Common Carotid Artery (CCA)

Image gallery



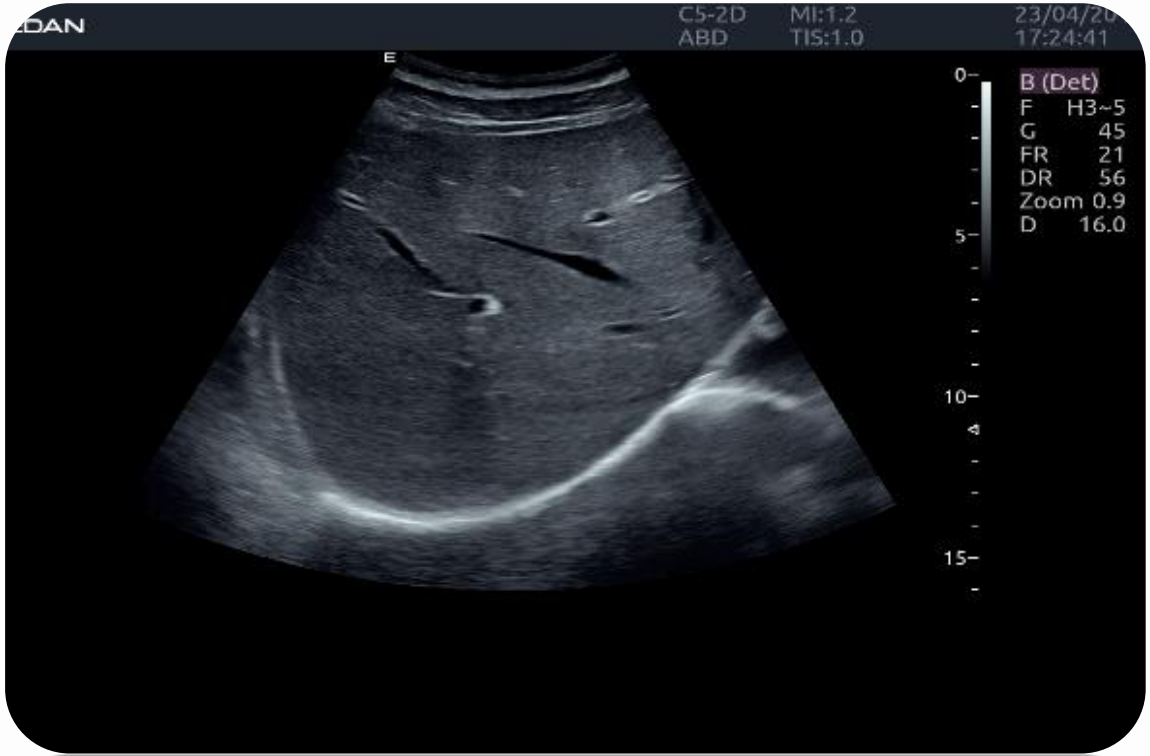
Common Carotid Artery PW (CCA)

Image gallery



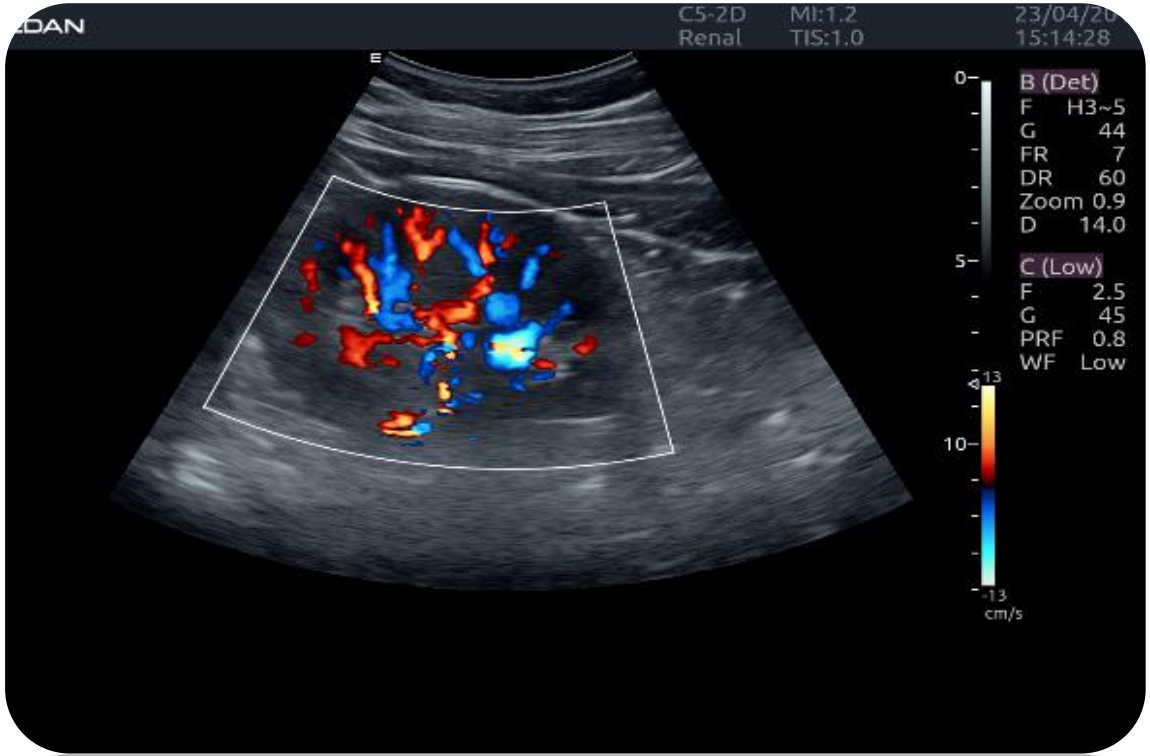
Media Nerve

Image gallery



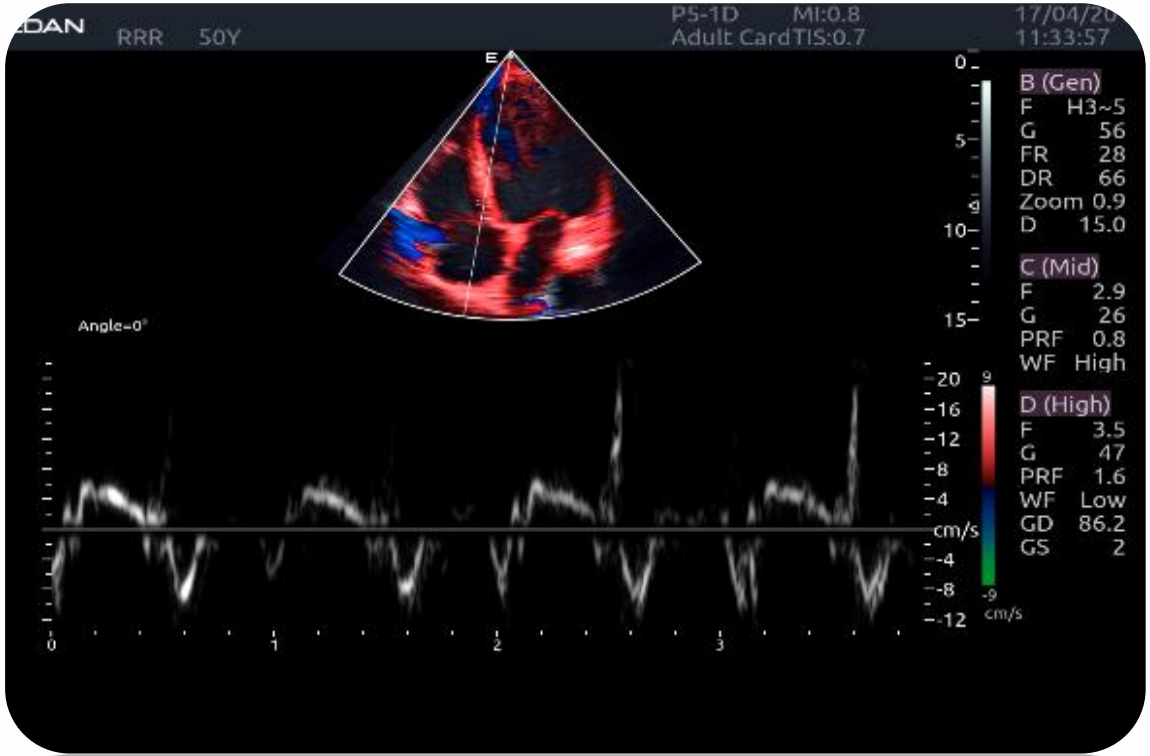
Liver

Image gallery



Renal flow

Image gallery



TDI

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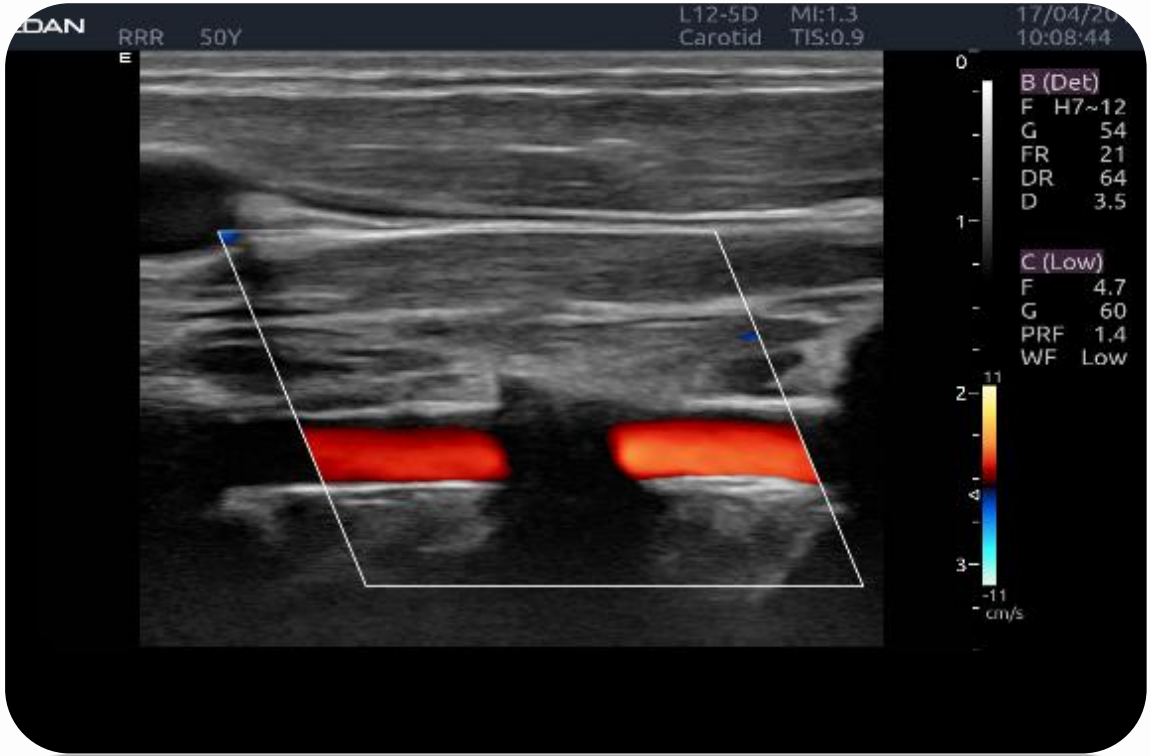
Image gallery

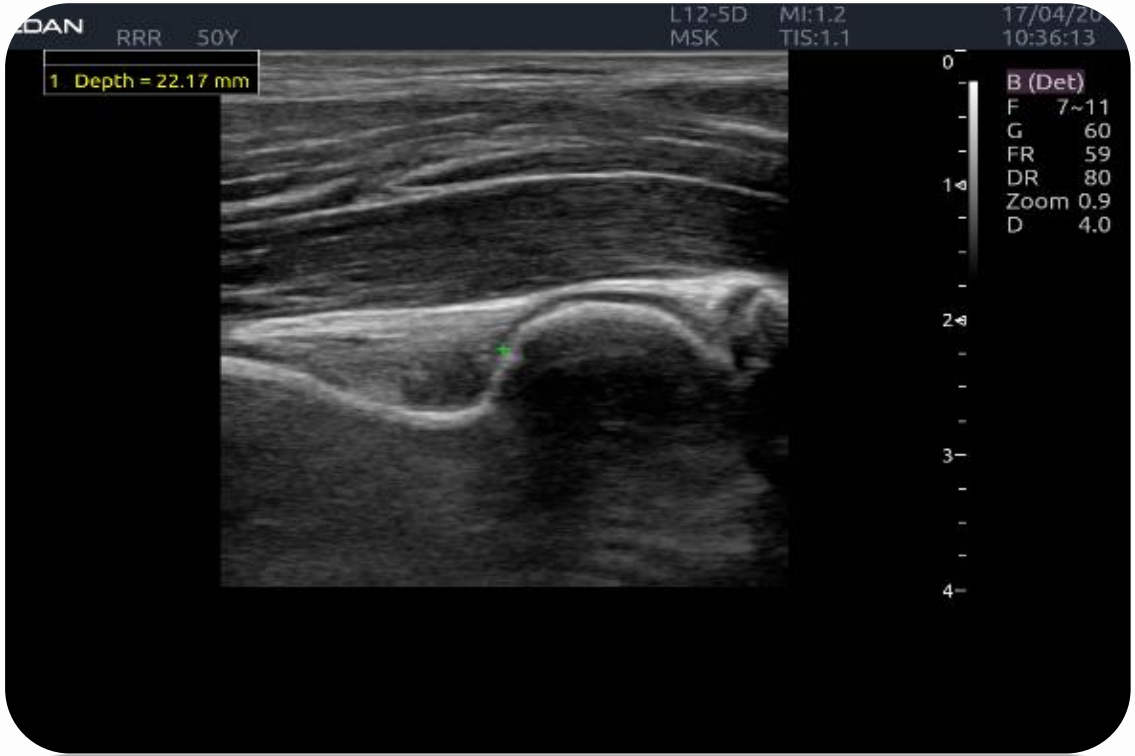


Vertebral artery

Image gallery

Kidney

Image gallery

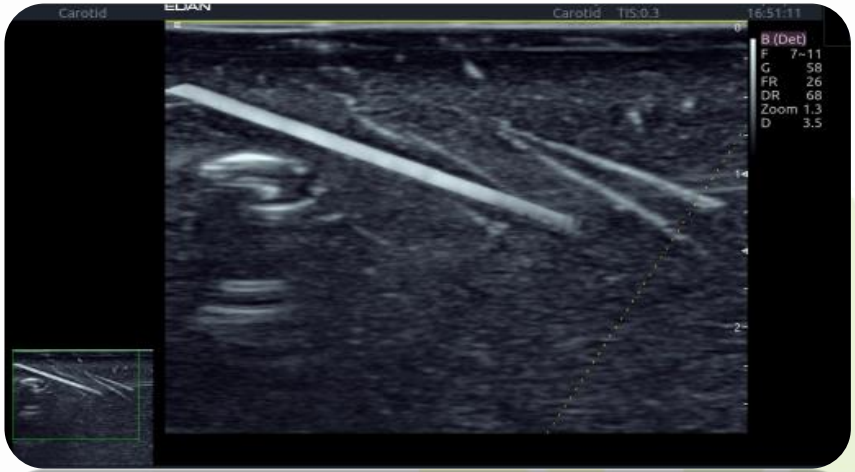


Elbow joint


APPLICATION

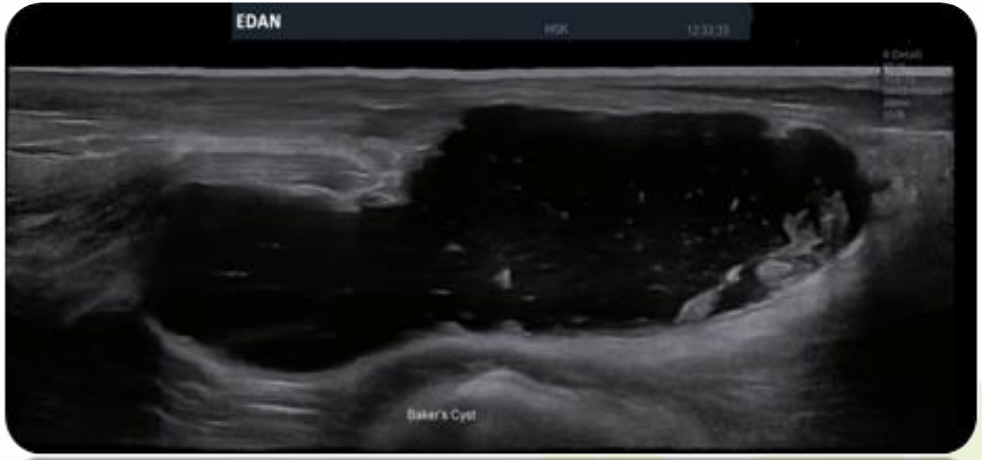
Needle Visualization

- Support 3 Angles for Needle Vis.
- Support PIP when in Needle Vis. Improved image quality while in Needle Visualization
- General Linear probe L12-5D & Intraoperative probe L17-7SD



Needle enhancement and B-mode quality maintained
Improve the plunkability of Needle image

Trapezoidal & Panorama



Enlarge image area by 30%

Real time- panorama and support measurement after freeze

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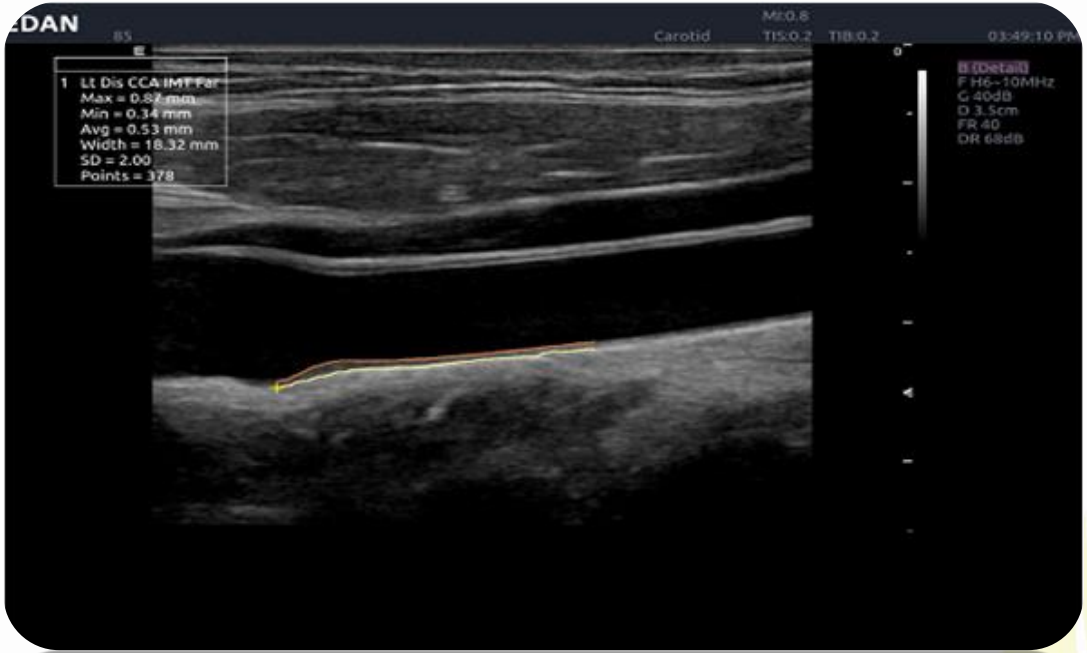
AUTO IMT



Intima Media Thickness: IMT is used to detect the presence of atherosclerotic disease and to track the regression, arrest or progression of atherosclerosis.

IMT Normal range: 0.9-1mm

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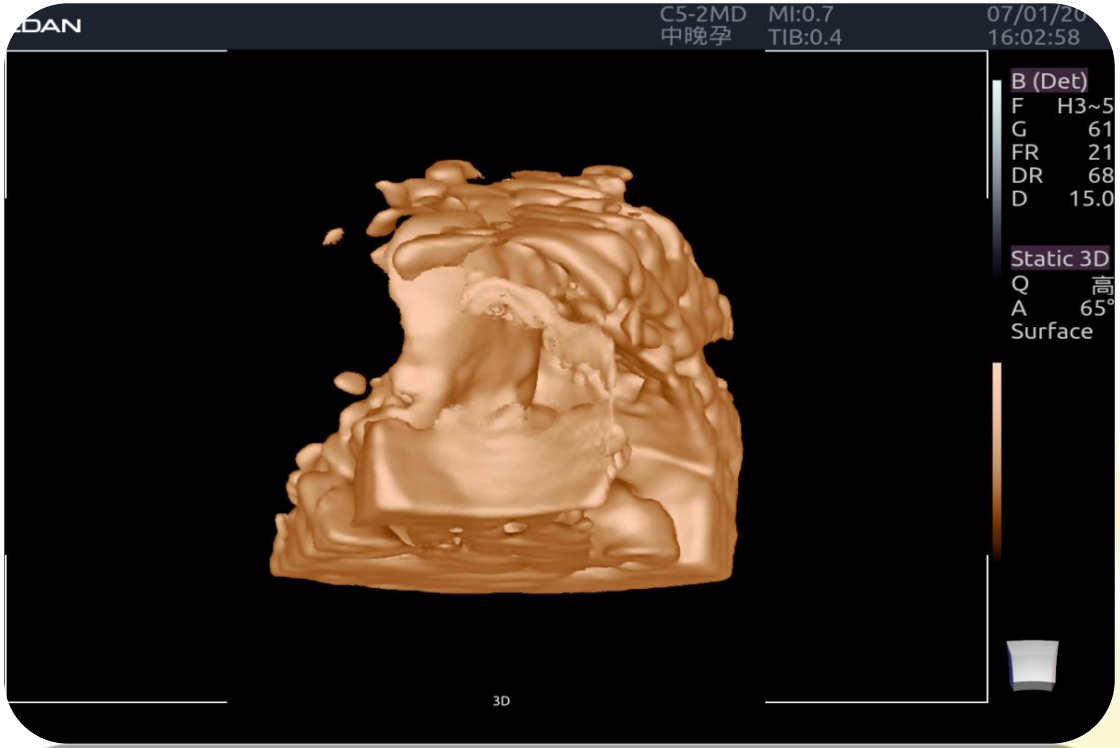
eFace

- Auto Optimization of 4D fetus face image. Increase work efficiency.



eFace

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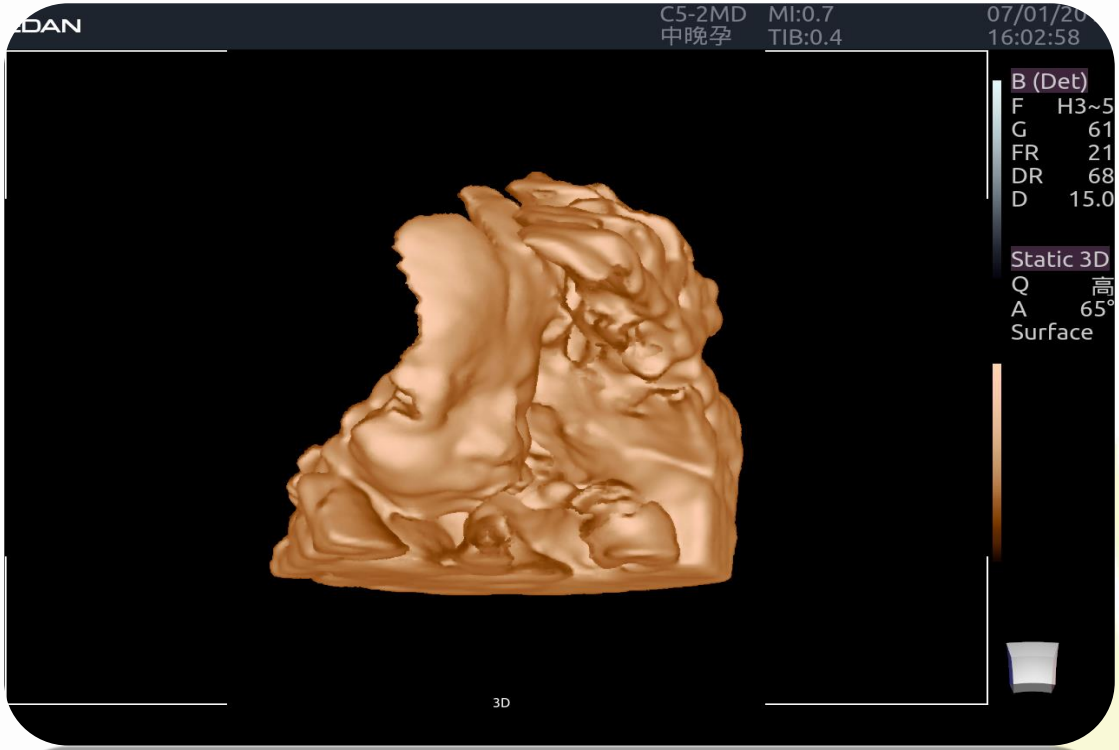
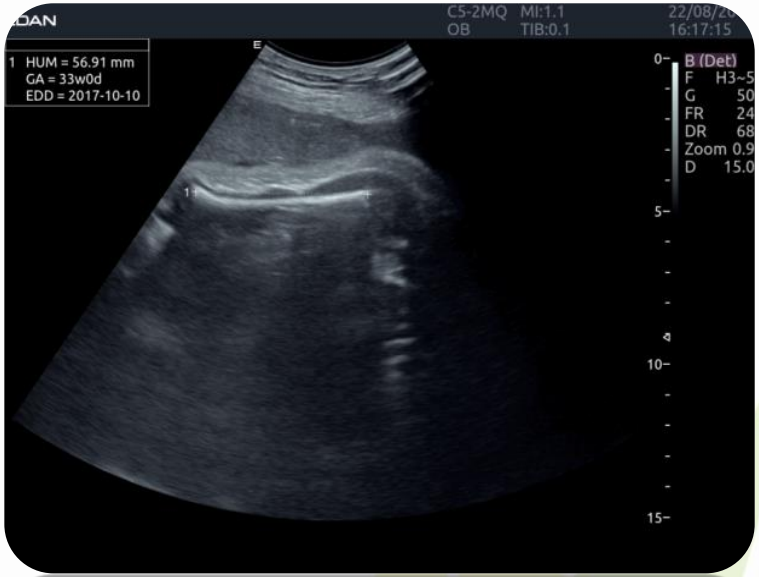


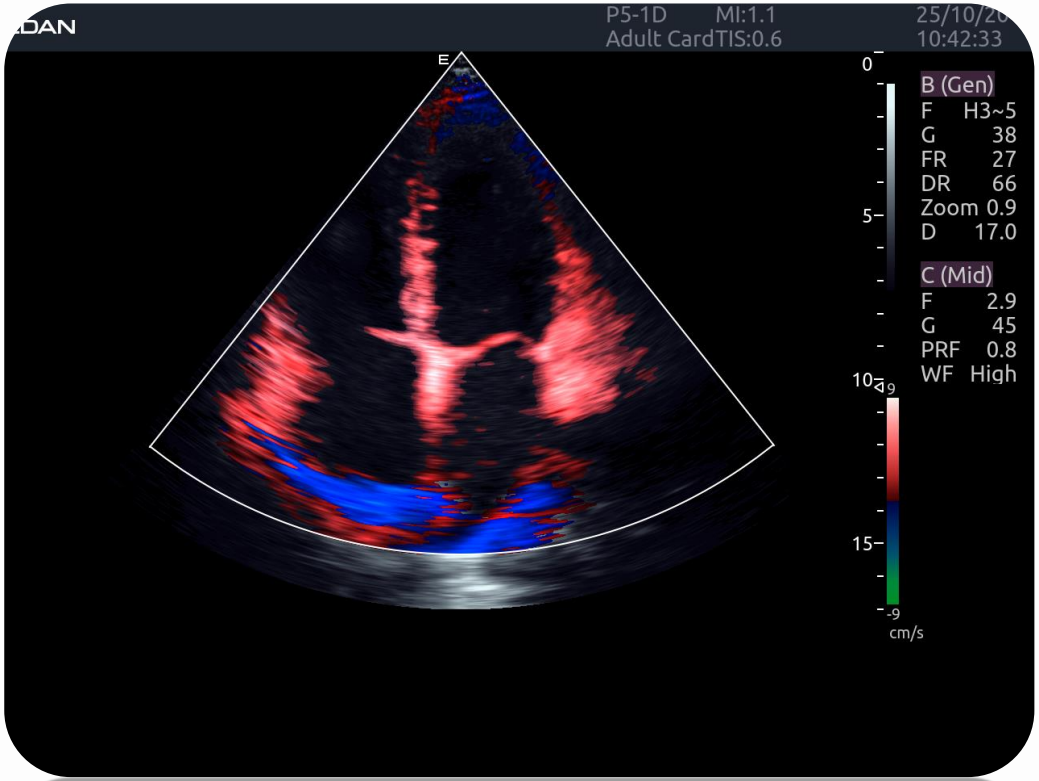
AUTO OB

- Support auto BPD, HC, FL, HUM



- Enable the auto-Measure;
- Active the BPD,HC,FL, HUM to get the results automatically.

TDI



- Support PW TDI, Color TDI on phased array transducers.


WORKFLOW
B Mode
Dual L
Dual R
Colorize
Panorama
Spatial Comp.
Trapezoid
Patient
Transducer
Report
Review
Print
Depth
Cursor
Gain
CW
Comment
Body Mark
Update
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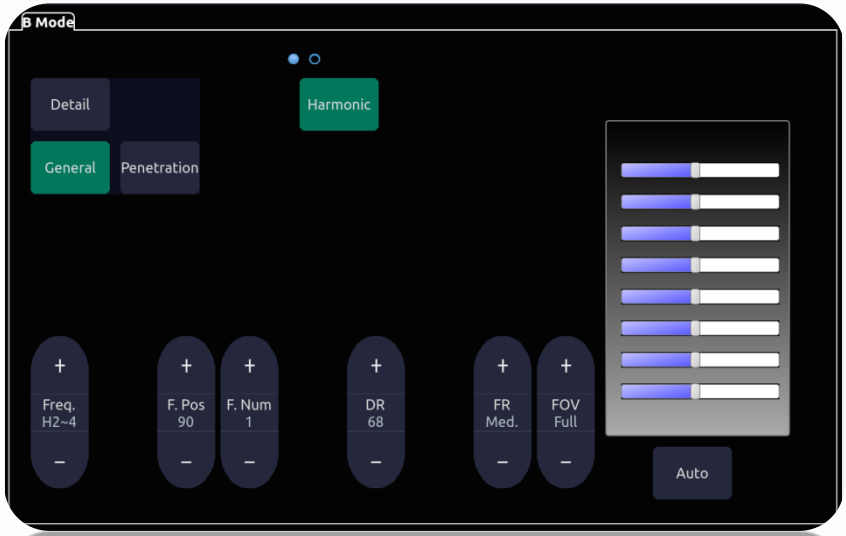
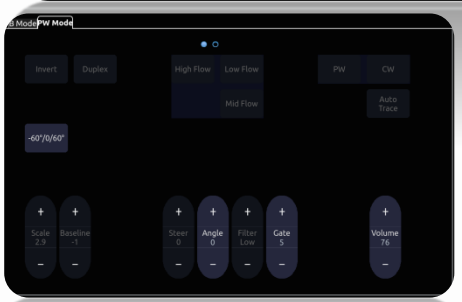
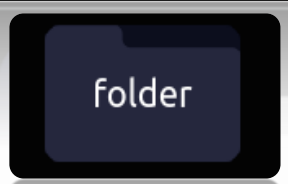
Customizable Menu/ Virtual TGC

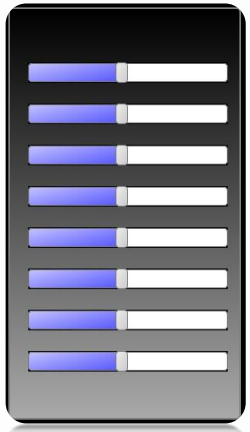






Screen layout is fully customizable

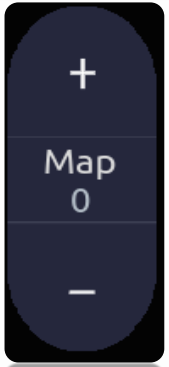
- Allows the user to prioritize controls
- Enables the ability to easily move controls between screens
- Enables ability to create folders for hiding the parameters infrequently or not used



To move individually drag each slider horizontally

To move multiple drag vertically down across the sliders or in the pattern desired

Gesture control with unique “Swipe”



Sliders operate in two ways to adjust parameters

Tap on one side of a slider changes the setting step by step

Swipe any sliders will continuously change the parameter

Unique **“Swipe”** to:

Increases or decreases gain

Be assigned to enable cine in Freeze

Adjust the speed of cine loop

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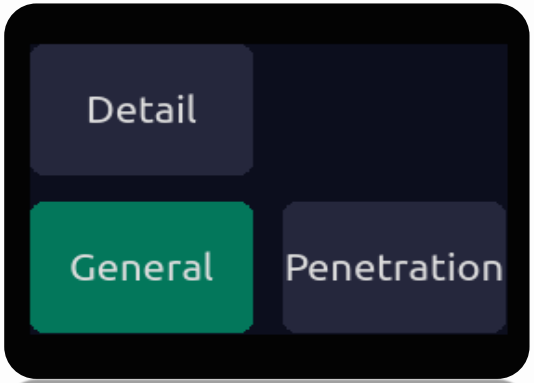
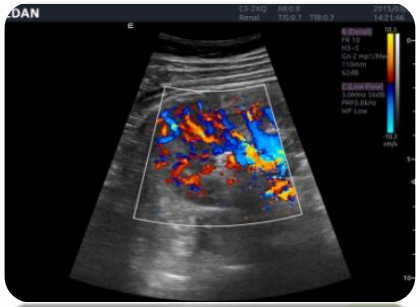
D/G/P and HF/MF/LF simpler preset

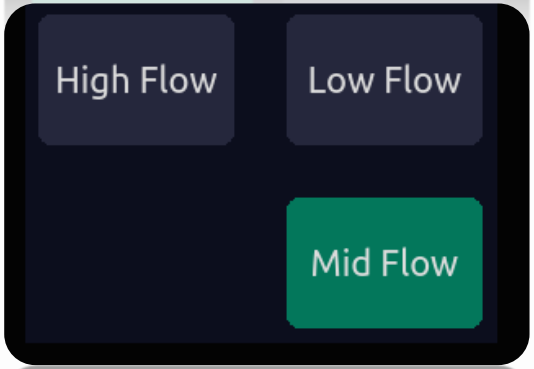


One touch to simplify the image preset for different patients

Optimizes multiple parameters

- Frequency in B
- Harmonic
- Gray Map
- Dynamic Range
- Auto Focus





One touch to finish the color mode optimization

Optimizes multiple parameters

- Frequency in C
- PRF/Scale
- Wall filter

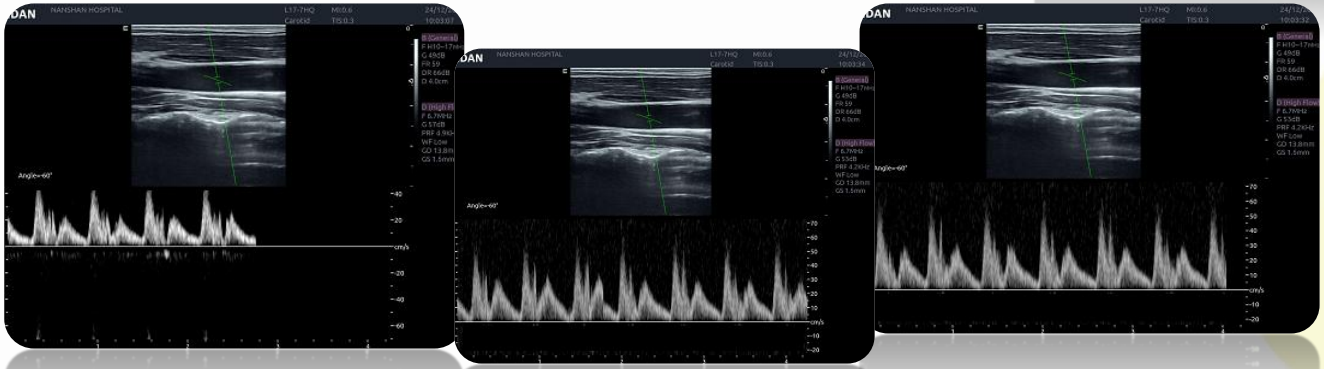
Auto Gain/PW

Auto Gain

Automatically adjusts overall gain
Single key touch
Auto TGC adjustment

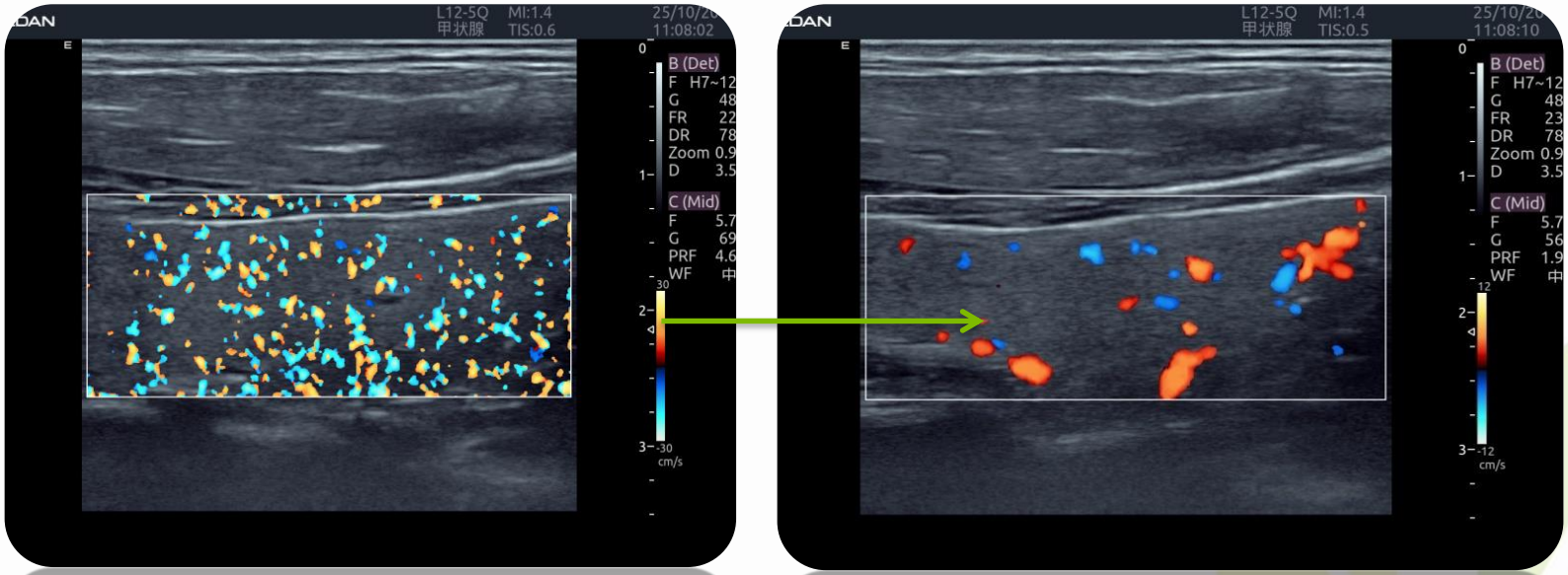
Auto PW

Automatically adjusts gain, scale, baseline



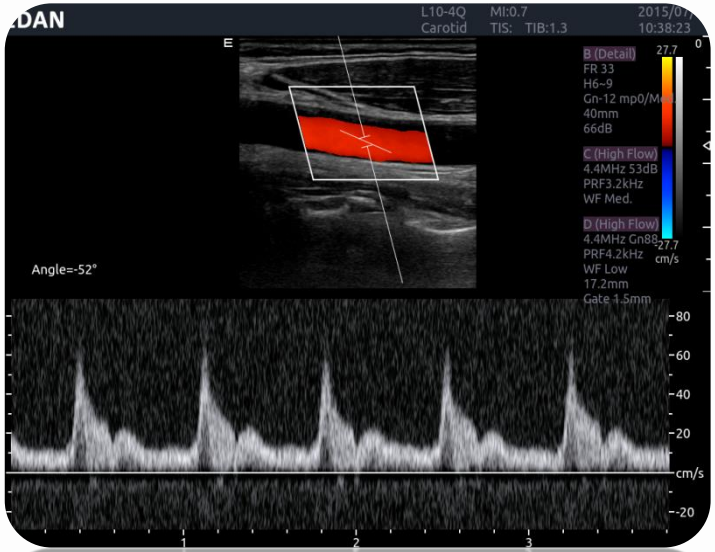
Auto-Color

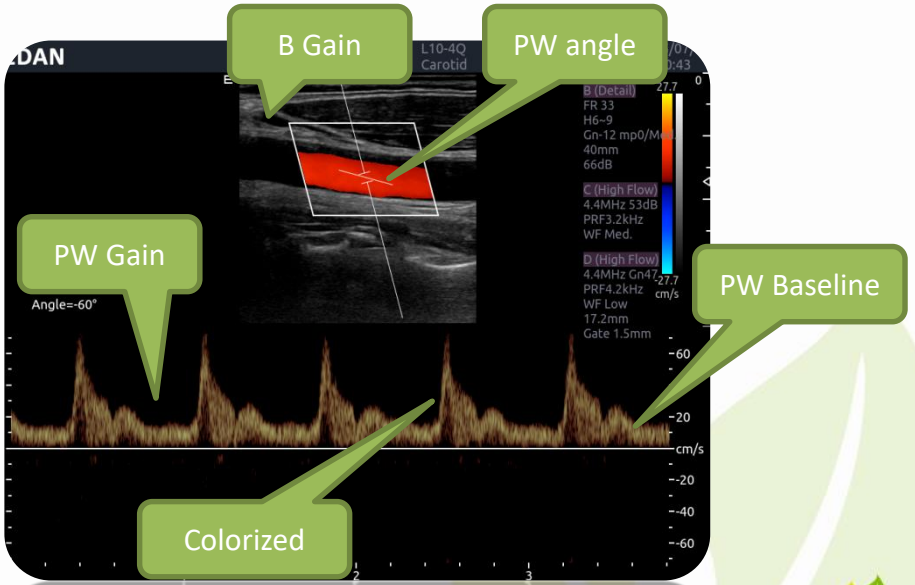
- One-touch optimization of Gain and Scale
  - Auto button located on 10” touchscreen



Post Processing

Available for many parameters post-adjustment, adding comment and measurements to the freezing image and the stored image, to achieve maximum productivity during diagnostic examination or clinical operation.





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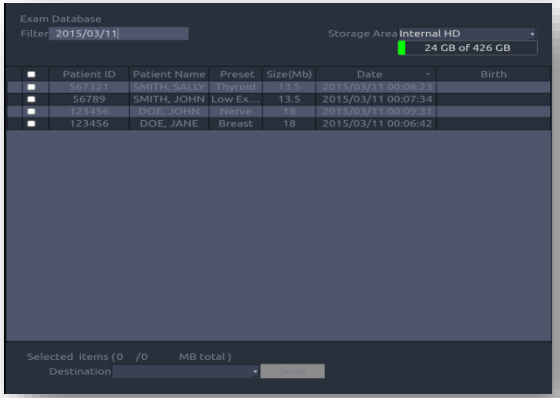
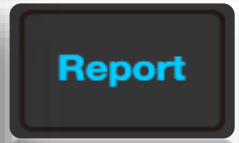
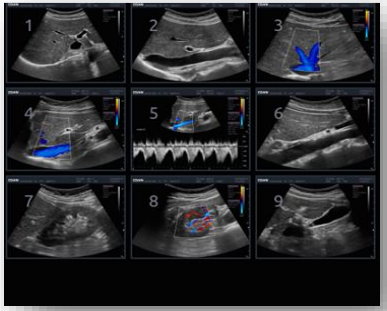
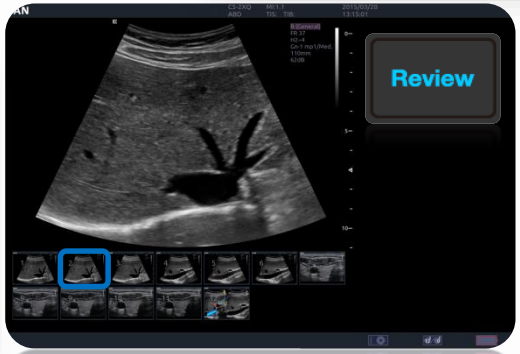
Data Management



Exam Database







Clipboard

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LX4 Summary

- Outstanding appearance design
- Cost-effective without sacrificing image quality
- Ideal for clinic applications using (POC/GI/OB/GYN)
- High-efficiency and creative workflow

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LX4 Registration Information

Feature name	Chinese	Model type	LX4-China	LX4-USA	LX4-Europe	Demo-Other	Remarks
Advanced DICOM	高级DICOM	C+L	✓(CFDA)	✓(FDA)	Option	✓	
TDI		C+L	✓(CFDA)	✓(FDA)	✓	✓	
Anatomical M	解剖M模	C+L	✓(CFDA)	✓(FDA)	✓	✓	
Remote Support	远程支持	C	✓(CFDA)	✓(FDA)	✓	✓	
Auto OB	产科自动测量	C+L	Option(CFDA)	✓(FDA)	Option	✓	
Auto IMT	IMT自动测量	C+L	Option(CFDA)	✓(FDA)	✓	✓	
3D/4D		C+L	✓(CFDA)	✓(FDA)	✓	✓	wobbler probe is controlled
Testicle	睾丸测量	C	✓(CFDA)	✓(FDA)	✓	✓	
Seminal	精囊测量	C	✓(CFDA)	✓(FDA)	✓	✓	
WI-FI		C+L	✓(CFDA)	Option(CFDA)	Option	✓	1.4CFDA没有注册WIFI
Measure MPR on 3D/4D	3D/4D下切面的测量	C	NA	NA	NA	✓	
CW		C+L	✓(CFDA)	✓(FDA)	✓	✓	phased probe is controlled
Panorama	宽景成像	C+L	✓(CFDA)	✓(FDA)	✓	✓	
Needle Visualization	穿刺增强	C+L	✓(CFDA)	✓(FDA)	✓	✓	
Color one-key optimization	Color一键优化	R	✓(CFDA)	✓(FDA)	✓	✓	
TCD	成人头部检查	R	✓(CFDA)	✓(FDA)	✓	✓(Demo)	TCD暂时屏蔽
PW one-key optimization	PW一键优化	R	✓(CFDA)	✓(FDA)	✓	✓	
Measure on panorama	宽景测量	R	✓(CFDA)	✓(FDA)	✓	✓	
Intra-operative	术中应用	R	✓(CFDA)	✓(FDA)	✓	✓	国内术中应用为III类，暂无注册计划
Pediatric Cardiac	相控阵探头的儿科心脏预置	R	✓(CFDA)	✓(FDA)	✓	✓	
Pediatric measurement package	小儿科测量包	R	✓(CFDA)	✓(FDA)	✓	✓	

LX4 VET Registration Information

Feature name	Chinese	Model type	LX4 VET-China	LX4 VET-USA	LX4 VET-Europe	Demo-Other
Advanced DICOM	高级DICOM	C+L	√	√	√	√
TDI		C+L	√	√	√	√
Anatomical M	解剖M模	C+L	√	√	√	√
Remote Support	远程支持	C	√	√	√	√
Auto OB	产科自动测量	C+L	NA	NA	NA	NA
Auto IMT	IMT自动测量	C+L	NA	NA	NA	√
3D/4D		C+L	NA	NA	NA	√
Testicle	睾丸测量	C	√	√	√	√
Seminal	精囊测量	C	√	√	√	√
WI-FI		C+L	NA(CFDA)	√	√	√
Measure MPR on 3D/4D	3D/4D下切面的测量	C	NA	NA	NA	√
CW		C+L	√	√	√	√
Panorama	宽景成像	C+L	√	√	√	√
Needle Visualization	穿刺增强	C+L	NA	NA	NA	√
Color one-key optimization	Color一键优化	R	√	√	√	√
TCD	成人头部检查	R	NA	NA	NA	NA
PW one-key optimization	PW一键优化	R	√	√	√	√
Measure on panorama	宽景测量	R	√	√	√	√
Intra-operative	术中应用	R	NA	NA	NA	√
Pediatric Cardiac	相控阵探头的儿科心脏预置	R	NA	NA	NA	NA
Pediatric measurement package	小儿科测量包	R	√	√	√	√

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LX4 Configuration

	LX4 Basic	LX4 Advanced	LX4 Customized	LX8
Physical channel	64	64	64	128
DVD driver	N	Y	N/Y	Y
WIFI module	N	Y	N/Y	Y
Gel warmer	N	Y	N/Y	Y
Retractable Keyboard	N	Y	N/Y	Y
1T Mechanical hard disk	N	Y	N/Y	Y
128G Solid state disk	Y	N	N/Y	Optional

THANK YOU

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