Small Parts Phantom

Performance measures:

- Uniformity
- Beam Profile/ Focal Zone/ Lateral Response Width
- Vertical Distance Measurement
- Horizontal Distance Measurement
- Axial and Lateral Resolution
- Elevational Resolution
- Contrast Resolution
- Grayscale Contrast Sensitivity
- Dead Zone Assessment

Detect Small Anatomical Features

The CIRS Model ATS 551 provides a comprehensive means of evaluating the performance of higher frequency (approximately 7.5- 20 MHz) ultrasound systems designed to detect small anatomic features.

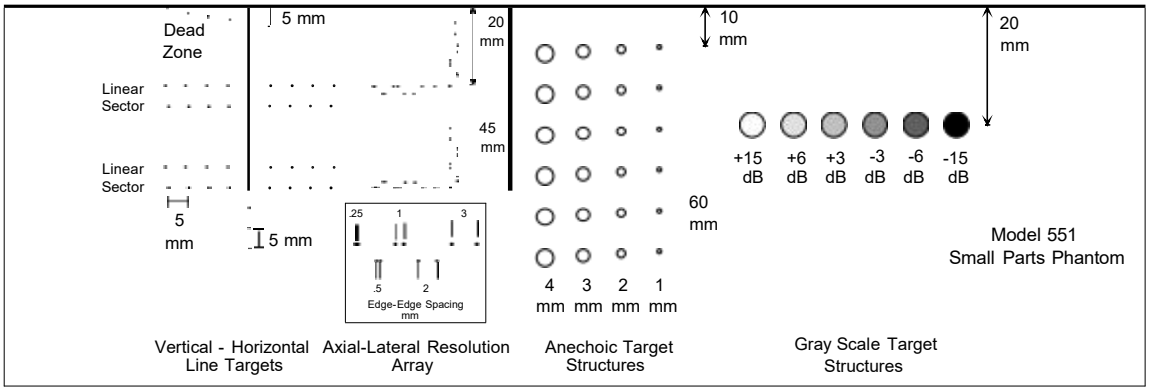
Our Small Parts Phantom is designed with a combination of monofilament line targets and tissue mimicking cylindrical targets of varying sizes and contrasts. The monofilament line targets have a diameter of 0.05 mm, to optimize the displayed image at frequencies of 7.5 MHz or greater. Four groups of line targets are provided to evaluate the vertical and horizontal calibration measurements, dead zone and axial-lateral resolution.

The CIRS Model ATS 551 provides enhanced axial-lateral resolution targets (down to 0.25mm spacing) over the standard axial-lateral targets.

Tissue Equivalent Technology

The Model 551 is constructed of our rubber-base tissue mimicking material to provide a phantom which is accurate, durable and maintenance free.

Target Schematic



Specifications

Dimensions	8 cm x 11 x 11 cm (3” x 4” x 4”)
Weight	7 lbs (3.1 kg)
Housing Material	PVC
Scan Surface Dimensions	25 cm x 8 cm
Tissue-Mimicking Material	Urethane Rubber
Urethane Properties	Freezing Point: < -40。C Melting Point: Above 100。C Speed of Sound: 1450 m/s at 23° Attenuation: 0.5 dB/cm/MHz (measured at 3.5 MHz)
Line Targets	Material: Monofilament nylon Diameter: 0.08 mm

Items Included with CIRS Model ATS 551

Quantity	Description
1	Small Parts Phantom
1	User Guide
-	Certificate of Compliance

Vertical Distance Group (10 targets)

Depth range	0.5 - 5 cm
Spacing	0.5 cm

Horizontal Distance Group: (2 groups)

Depths	2 & 4 cm 2.5 & 4.5 cm
Spacing	0.5 cm

Dead Zone Group

Lateral Displacement	5 mm
Depth range	2 & 4.5 cm
Spacing	0.25, 0.5, 1, 2, 3 mm (edge to edge)

Axial and Lateral Resolution Groups (2 targets)

Target sets per depth	10
Spacing	0.5, 1, 2, 3 mm
Depth	5, 30 mm

Anechoic Stepped Cylinders (4 groups)

Type	Non-echogenic, cylindrical
Number of targets	4
Diameter	1, 2, 3, 4 mm
Depth	1 - 6 cm
Spacing	1 cm center to center

Grayscale Targets (6 targets)

Type	Echogenic, cylindrical
Diameters	6 cm
Spacing	1 cm center to center
Depth	2 cm
Contrast (dB)	-15, -6, -3, +3, +6, +15