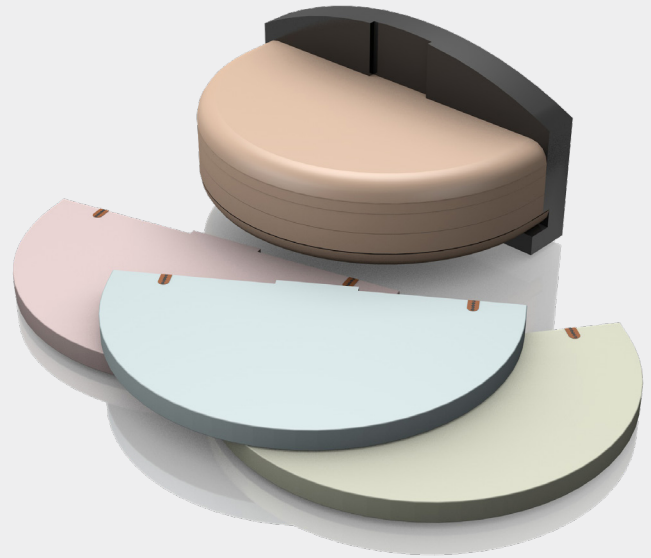


Digital Breast Tomosynthesis QC Phantom

- Acceptance testing, daily, and routine QC
- Evaluate image quality and stability of DBT systems
- Consistent and repeatable targets in homogeneous background
- Optional complex background provides clinically relevant challenge for target detection
- Developed to meet work-in-progress requirements of EUREF & AAPM TG245



Assess Breast Tomosynthesis Image Quality

The CIRS Digital Breast Tomosynthesis (DBT) QC Phantom is designed to address quality control for DBT systems. The phantom can be used for software analysis and “traditional” visual tests.

Our DBT QC Phantom consists of eight homogeneous slabs made from breast-equivalent material in 50/50 ratio of gland and adipose tissue (BR50/50). Optional swirled slabs are comprised of 100% adipose and 100% gland tissues in an approximate 50/50 ratio by weight. Three homogeneous slabs include imaging targets. Each slab measures 100 x 180 x 10 mm, allowing for the use of a combination of homogeneous and swirled slabs to test the influence of scatter radiation on image quality in more clinically-relevant, inhomogeneous conditions.

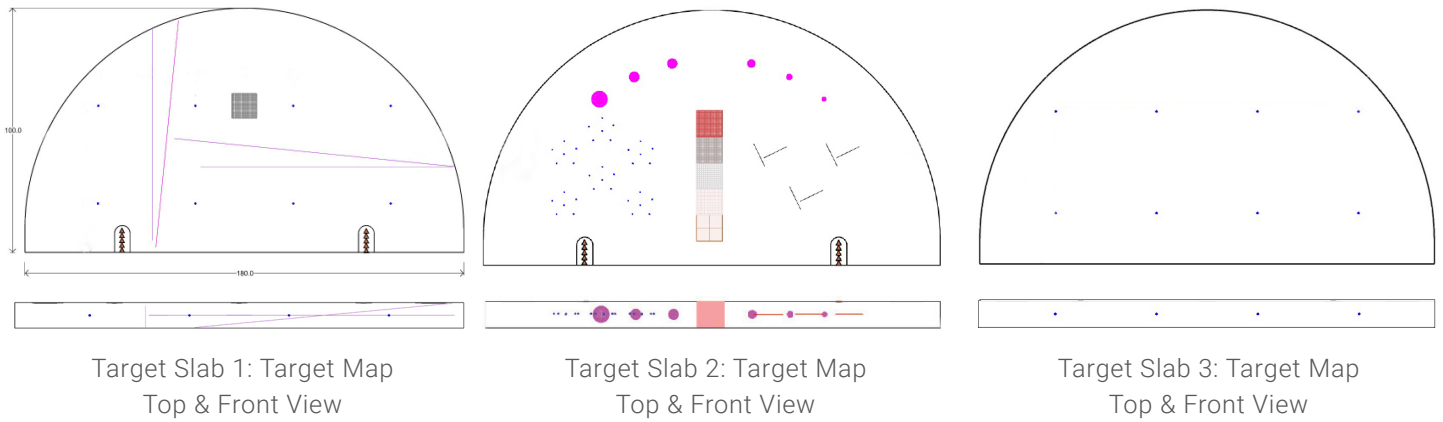
The phantom includes a positioning holder with magnetic fixation for repeatable alignment and positioning on DBT scanners.

Perform Image Quality Tests

- Volume coverage missing tissue
- Pixel value uniformity
- Noise: SNR & SDNR
- Resolution in X, Y, and Z directions (MTF, ESF & PSF)
- Geometric accuracy
- Artifact assessment
- Visual detectability: specs, masses & fibers



Target Schematics



Target Specifications

Specks (glass)	Fibers (10 mm length)	Spheroidal Masses
0.330 mm	Ø 0.15 mm	Ø 6.3 mm
0.280 mm	Ø 0.18 mm	Ø 4.7 mm
0.230 mm	Ø 0.23 mm	Ø 3.9 mm
0.200 mm	Ø 0.28 mm	Ø 3.1 mm
0.170 mm	Ø 0.38 mm	Ø 2.3 mm
0.140 mm	Ø 0.41 mm	Ø 1.8 mm

Specifications

Dimensions	12.7 cm x 18 cm x 10 cm
Individual Slab Dimensions	6 Slabs: 110 mm x 180 mm x 10 mm, 1 Slab: 115 mm x 180 mm x 10 mm, (support slab) 1 Slab: 110 mm x 180 mm x 5 mm, semicircular shape
Weight	3.5 lbs (1.62 kg)
Materials	BR50/50, BRSW50/50

Items Included with CIRS Model 021

Quantity	Description
4	Solid Homogeneous Slabs 1 cm thick
1	Solid Homogeneous Slab 0.5 cm thick
3	Target Homogeneous Slabs 1 cm thick
1	Positioning Holder with Magnetic Fixation
1	User Guide

Optional Items

Quantity	Description
-	BR3D Background Slab