

QUART DVT_kp

Test Phantom for Quality Assurance & Critical Examination of Dental 3D & Cone Beam CT X-Ray Equipment

The QUART DVT_kp phantom is a universal tool for QA/QC testing in Cone Beam CT (CBCT), Dental 3D, and Digital Volume Tomography (DVT). Only one exposure is required to collect all necessary parameters to determine the imaging quality for the equipment being tested. After the exposure, the image is automatically evaluated by the unique QUART QA/QC software program. The test results can be saved or printed out. The QUART DVT_kp phantom can be used as QA/QC tool for a wide range of 3D imaging equipment with field sizes from about 4 x 4 cm field-of-view (FOV) and larger. Customized phantom holders for easy and reproducible positioning are available.

Test Phantom

Comparable with a standard CT Head Phantom, the QUART DVT_kp has additional test objects to simulate structures and masses which are found in anatomical regions where the 3D x-ray imaging is most applicable.

Test Procedure

After the phantom had been positioned, scanning is initiated. After scanning, 2 DICOM slice images are loaded into the QUART DVT_pro QA software. The software will guide the user step-by-step through the evaluation process, collect data from the test images and create a test protocol. The whole procedure, from positioning the phantom, to the software assisted evaluation and creation of the test protocol, takes approximately 5 minutes. Essential test parameters like:

- ▶ Nyquist Frequency (NF)
- ▶ Contrast-to-Noise Ratio (CNR)
- ▶ Homogeneity



- ▶ Modulation Transfer Function (MTF) at the 10% & 50%, are displayed for evaluation. Others parameters like voxel values, contrast, noise, artifacts, and image anomalies (flaws), are collected by the software.

Phantom Description

- ▶ Size: Ø16 cm
- ▶ 2 disc setup (2 cm each – 4 cm total)
- ▶ Test Object Equivalents: Free Air, Soft Tissue, and Bone
Additional Material Equivalents can be added on request!
- ▶ Positioning Tools: linear and/or selective markers, bubble level
- ▶ Customized Holders for varying manufacturers available

Delivery includes

- ▶ QUART DVT_kp Test Phantom
- ▶ QUART DVT_pro Auto-Evaluation Software Manuals
- ▶ Transport Case with Foam Insert