

Manufacturer's Recommendations for Alternate Dental CBCT QA Program

Acteon Group Model: X-Mind Prime

Table 3A

Computed Tomography QC Requirements

Item	Required Test or Procedure	Frequency	Substitute Test or Procedure	Standard
1	Equipment Function: Indicators, Mechanical & other Safety Checks	Daily	X-Mind Prime 3D User Manual 3. Safety Information Pages: 8 to 20 (Appendix A)	Must work properly
2	Film Processing QC Testing	Daily	None – Not Applicable	None – Not Applicable
3	CT Number for Water	Daily	X-Mind Prime 3D User Manual 7.5 3D image quality check 7.5.6 CT number Pages: 53 to 57, 59 & 62 (Appendix A)	The mean and standard deviation of the gray levels inside the area are displayed. The mean value must be in the range from -100 to +100 HU.
4	Field Uniformity	Daily	X-Mind Prime 3D User Manual 7.5 3D image quality check 7.5.9 Homogeneity Pages: 53 to 57, 60 & 62 (Appendix A)	The measurement will be performed automatically. Homogeneity ≥ 5
5	Laser Film Printer QC	Weekly	None – Not Applicable	None – Not Applicable
6	Low Contrast Resolution	Initial & Annually	X-Mind Prime 3D User Manual 7.5 3D image quality check 7.5.4 Contrast to noise ratio Pages: 53 to 58, 62 (Appendix A)	Contrast ≥ 400
7	High Contrast Resolution	Initial & Annually	X-Mind Prime 3D User Manual 7.5 3D image quality check 7.5.5 Spatial Resolution Pages: 53 to 57, 59 & 62 (Appendix A)	MTF _{10%} ≥ 1 lp/mm
8	Noise	Initial & Annually	X-Mind Prime 3D User Manual 7.5 3D image quality check 7.5.4 Contrast to noise ratio Pages: 53 to 58, 62 (Appendix A)	CNR ≥ 4
9	Scan Localization Light Accuracy	Initial & Annually	X-Mind Prime 3D User Manual 7.3 Laser alignment check	Check that the mid-sagittal laser beam is aligned to the

			Page: 48 (Appendix A)	reference line of the support plate (± 3 mm).
10	Medical Physicist's QC Survey	Initial & Annually	See N.J.A.C. 7:28-22.10(a)	N.J.A.C. 7:28-22.10(a)
11	Medical Physicist's Quality Assurance Program Review	Initial & Annually	See N.J.A.C. 7:28-22.10(a)	N.J.A.C. 7:28-22.4(a)7