

Sirona Alternate Dental CBCT QA Program
Orthophos XG 3D/Cephalometric: Table 6 Medical Physicist's Computed Tomography QC Survey

Item	Required Test or Procedure	Frequency	Orthophos XG 3D/Ceph Substitute Test/Procedure	Standard
1	Scan Increment Accuracy	None	None – Not Applicable	None – Not Applicable
2	Scan Localization Light Accuracy	Initial & Annually	Maintenance Instruction 3D Manual Procedure 10 Checking the Laser Light Localizers (pg. 19-20)	No alignment error allowed.
3	Patient Dose (Multiple Scan Average Dose) MSAD or Computed Tomography Dose Index- (CTDI)	Initial & Annually	Maintenance Instruction 3D Manual Procedure 11.9 Dosimetry (pg. 42) Installation Manual Procedure 13.2.2.5 - Techniques (pg.248)	Acceptable Dose Range: 1.2 mGy to 2.3 mGy Technique= 85 kVp, 35 mAs;
4	Pre-Patient Collimation Accuracy	Initial & Annually	Same as alternate Dental CBCT	As established by the Medical Physicist*
5	Contrast Scale	Initial & Annually	Quality Inspection Orthophos Manual Procedure 5.2-5.3 (pg 33-37)	As established by the Medical Physicist*
6	CT Number For Water	Initial & Annually	Quality Inspection Orthophos Manual Procedure 5.2-5.3 (pg 33-37)	Gray Scale Reference Value=5500; Maximum Tolerance = 11000 (100%); Minimum Tolerance = 4675 (-15%)
7	Slice Thickness	Initial & Annually	None – Not Applicable	None, not applicable
8	Field Uniformity	Initial & Annually	Quality Inspection Orthophos Manual Procedure 5.2-5.3 (pg 33-37)	No artifacts present
9	Low Contrast Resolution	Initial & Annually	Quality Inspection Orthophos Manual Procedure 5.2-5.3 (pg 33-37)	Reference Value = 0.002; Minimum Tolerance = 0.001 (50%)
10	High Contrast Resolution	Initial & Annually	Quality Inspection Orthophos Manual Procedure 5.2-5.3 (pg 33-37)	Minimum Tolerance = 1.4 lp/mm
11	Noise	Initial & Annually	Quality Inspection Orthophos Manual Procedure 5.2-5.3 (pg 33-37)	Reference Value = 40; Tolerance (+50%) =60; Tolerance (-25%) = 30
12	Scan Protocol Review	Initial & Annually	Same as NJAC 7:28-22.10(a)	Same as NJAC 7:28-22.10(a)
13	Review of Facility and Technologists QC Tests	Initial & Annually	Same as NJAC 7:28-22.10(a)	Same as NJAC 7:28-22.10(a)
14	Physicist Report and Recommendations	Initial & Annually	Same as NJAC 7:28-22.10(a)	Same as NJAC 7:28-22.10(a)

*Where no performance standard is identified or expressed by the manufacture, the medical physicist shall establish the standard for the facility's CBCT unit with justification