

Manufacturer's Recommendations for Alternate Dental CBCT QA Program
Hiossen: Model T2-C & T2-CS

Table 6

Medical Physicist's Computed Tomography QC Survey

Item	Required Test or Procedure	Frequency	Substitute Test or Procedure	Standard
1	Scan Increment Accuracy	Initial & Annually	None – Not Applicable	None – Not Applicable
2	Scan Localization Light Accuracy	Initial & Annually	T2 (T2-C, T2-CS) Technical Manual 3. CT (Computed Tomography) 3.3 Beam Alignment (Patient Positioning) Pages: 20 & 21 (Appendix B)	± 2mm
3	Patient Dose (Multiple Scan Average Dose) MSAD or Computed Tomography Dose Index-CTDI	Initial & Annually	T2 (T2-C, T2-CS) Technical Manual 1. Dose 1.1 AirKerma Pages: 6 & 7 (Appendix B) 1.2 DAP (Dose Area Product) Pages: 8 & 9 (Appendix B) 3. CT (Computed Tomography) 3.5 CTDI Pages: 24 to 27 (Appendix B) T2 CBCT Acquisition Dose Protocol Page: 1 (Appendix D)	Max deviation of reference dose = ± 20% 1515 DXT [Adult Mode] CTDI 100periphery = 90 mGy·cm CTDI w = 10mGy at 150 x 90 FOV & 95kVp / 6mA [Child Mode] CTDI 100periphery = 75 mGy·cm CTDI w = 8.5mGy at 150 x 90 FOV & 90kVp / 6mA Sen1 [Adult Mode] CTDI 100periphery = 95 mGy·cm CTDI w = 10mGy at 150 x 100 FOV & 95kVp / 6mA [Child Mode] CTDI 100periphery = 80 mGy·cm CTDI w = 8.5mGy at 150 x 100 FOV & 90kVp / 6mA
4	Pre-Patient Collimation Accuracy	Initial & Annually	T2 (T2-C, T2-CS) Installation Manual 8.6. CT Collimator Align 8.6.2. Proceedings – Manual Mode Pages: 170 to 172	Adjust the 4-axis Collimator to achieve the Success result.

			8.6.3. Proceedings – Auto Scan Mode Pages: 173 to 175 (Appendix C)	
5	Contrast Scale	Initial & Annually	T2 (T2-C, T2-CS) Technical Manual 3. CT (Computed Tomography) 3.9 Contrast Scale Pages: 34 & 35 (Appendix B)	Minimum: 650 Maximum: 1200
6	CT Number for Water	Initial & Annually	T2 (T2-C, T2-CS) Technical Manual 3. CT (Computed Tomography) 3.2 CT Number Pages: 18 & 19 (Appendix B)	Water: $0 \pm 100\text{HU}$
7	Slice Thickness	Initial & Annually	T2 (T2-C, T2-CS) Technical Manual 3. CT (Computed Tomography) 3.4 Slice Thickness Pages: 22 & 23 (Appendix B)	$\pm 1 \text{ mm}$
8	Field Uniformity	Initial & Annually	T2 (T2-C, T2-CS) Technical Manual 3. CT (Computed Tomography) 3.6 Uniformity (Image Homogeneity) Pages: 28 & 29 (Appendix B)	Detector Model 1515DXT Homogeneity: 0 to 70 Detector Model Sen1 Homogeneity: 0 to 150
9	Low Contrast Resolution	Initial & Annually	T2 (T2-C, T2-CS) Technical Manual 3. CT (Computed Tomography) 3.9 Contrast Scale Pages: 34 & 35 (Appendix B)	Minimum: 650 Maximum: 1200
10	High Contrast Resolution	Initial & Annually	T2 (T2-C, T2-CS) Technical Manual 3. CT (Computed Tomography) 3.8 Spatial Resolution (MTF 10%) Pages: 32 & 33 (Appendix B)	MTF 10% > 1
11	Noise	Initial & Annually	T2 (T2-C, T2-CS) Technical Manual 3. CT (Computed Tomography) 3.7 Noise Pages: 30 & 31 (Appendix B)	Detector Model 1515DXT Noise: ≤ 150 Detector Model Sen1 Noise: ≤ 230
12	Scan Protocol Review	Initial & Annually	See N.J.A.C. 7:28-22.10(a)	N.J.A.C. 7:28-22.10(a)
13	Review of Facility and Technologist's QC Tests	Initial & Annually	See N.J.A.C. 7:28-22.10(a)	N.J.A.C. 7:28-22.10(a)
14	Physicist Report and Recommendations	Initial & Annually	See N.J.A.C. 7:28-22.10(a)	N.J.A.C. 7:28-22.10(a)