

Manufacturer's Recommendations for Alternate Dental CBCT QA Program

Owandy: Model I-Max 3D

Table 6 Requirements for Dental CBCT

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	User Manual Quality Assurance Program Section 7 Laser alignment check Page 49 Appendix A	Check that the mid-sagittal laser beam is aligned to the reference line of the support plate ($\pm 3\text{mm}$). In case the test fails, repeat it checking that there is no mechanical interference. If misalignment is still present, call technical assistance
3	Patient Dose (Multiple Scan Average Dose) MSAD or Computed Tomography Dose Index-CTDI	Initial & Annually	User Manual Technical Characteristics Section 6.8 CTDI Information Page 43-46 Appendix A	Maximum deviation from the nominal values given in the preceding tables is $\pm 25\%$.
4	Pre-Patient Collimation Accuracy	Initial & Annually	Technical Manual Troubleshooting Section 12.3.6 X-Ray beam Alignment check Page 117-118 Appendix B	The x-ray beam is correctly aligned if a white border is visible on each side of the image.
5	Contrast Scale	Initial & Annually	User Manual Quality Assurance Program Section 7.5.4 Contrast to Noise ration Page 61 Appendix A	Verify that the CNR value is greater or equal to 400
6	CT Number for Water	Initial & Annually	User Manual Quality Assurance Program Section 7.5.6 CT number for water Page 62 Appendix A	The mean value must be in the range from -100 to +100 HU
7	Slice Thickness	Initial & Annually	User Manual Quality Assurance Program Section 7.5.8 Slice Thickness Page 63 Appendix A	Verify that the Slice thickness value displayed is in the range from 15.3mm to 18.7mm (nominal 17.0mm)

8	Field Uniformity	Initial & Annually	User Manual Quality Assurance Program Section 7.5.9 Homogeneity Page 63 Appendix A	The Homogeneity value must be greater or equal to 5
9	Low Contrast Resolution	Initial & Annually	User Manual Quality Assurance Program Section 7.5.4 Contrast to Noise ration Page 61 Appendix A	Verify that the CNR value is greater or equal to 400.
10	High Contrast Resolution (Modular Transfer Function - MTF 10% and MTF 50%)	Initial & Annually	User Manual Quality Assurance Program Section 7.5.5 Spatial Resolution Page 62 Appendix A	MTF 10% Value must be greater than 1 Lp/mm MTF 50% must be recorded
11	Noise	Initial & Annually	User Manual Quality Assurance Program Section 7.5.4 Contrast to Noise ration Page 61 Appendix A	Verify that the CNR value is greater or equal to 4.
12	Scan Protocol Review	Initial & Annually	Same as NJAC 22.10(a)	Same as NJAC 22.10(a)
13	Review of Facility and Technologists QC Tests	Initial & Annually	Same as NJAC 22.10(a)	Same as NJAC 22.10(a)
14	Physicist Report and Recommendations	Initial & Annually	Same as NJAC 22.10(a)	Same as NJAC 22.10(a)