

Manufacturer's Recommendations for Alternate Dental CBCT QA Program  
**Genoray: Model Papaya 3D– Papaya Plus 3D**  
**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 | Technical Manual-Appendix<br>Section 4- Alignment and Calibration<br>Panoramic Laser Alignment<br>Section 4.6 Step 6<br>Pages 22<br><br>(Appendix C)      | Install 'Laser Alignment jig' on the Ball phantom and adjust laser position, refer to Figure 4.10.<br><br>Align the three lasers to laser alignment jig, according to the drawings.<br><br>Must align with laser alignment jig. |             |
| 3    | Patient Dose (Multiple Scan Average Dose) MSAD or Computed Tomography Dose Index-CTDI | Initial & Annually | User Manual<br>Appendix 3<br>X-ray exposure table & DAP (Dose area product)<br>Pages 89-93<br><br>(Appendix B)  | Reference dose tables available only.<br><br>The acceptable error range is 20%.   |             |
| 4    | Pre-Patient Collimation Accuracy  | Initial & Annually | Technical Manual-Appendix<br>Section 4 -Alignment and Calibration<br>Panoramic Collimator Alignment<br>Section 4.7 Step 7<br>Pages 23<br><br>(Appendix C) | Must Pass computerized test.  |             |
| 5    | Contrast Scale  | Initial & Annually | Quality Control Test Procedure<br>Section 3.2<br>Contrast Scale<br>Pages 6-7<br><br>(Appendix A)  | Check that the Avg values are within standard value range.  |             |
|      |   |                    |   | Air   | -1024 ~ 900 |
|      |   |                    |   | LDPE  | -180 ~ -20  |
|      |   |                    |   | Acrylic   | 40 ~ 200    |
|      |   |                    |   | Teflon  | 910 ~ 1070  |
| 6    | CT Number for Water   | Initial & Annually | Quality Control Test Procedure<br>Section 3.3<br>Noise & CT Number of Acrylic<br>Pages 8-9<br><br>(Appendix A)  | Average Value 40 ~ 200<br>Std Value 40 ~ 100  |             |

|    |   |                    |   |   |
|----|---|--------------------|---|---|
| 7  | Slice Thickness                               | Initial & Annually | Quality Control Test Procedure<br>Section 3.4<br>Slice Thickness<br>Pages 10-11<br><br>(Appendix A)                                     | Open the image and measure the length of phantom.<br>Measured length are within error range of ( $\pm 0.5$ mm). |
| 8  | Field Uniformity                              | Initial & Annually | Quality Control Test Procedure<br>Section 3.3<br>Noise & CT Number of Acrylic<br>Pages 8-9<br><br>(Appendix A)                          | Average Value 40 ~ 200<br>Std Value 40 ~ 100  |
| 9  | Low Contrast Resolution                       | Initial & Annually | Quality Control Test Procedure<br>Section 3.5<br>Spatial Resolution for High and Low Contrast Object<br>Pages 12-14<br><br>(Appendix A) | Low Contrast Resolution<br>6 mm   |
| 10 | High Contrast Resolution                      | Initial & Annually | Quality Control Test Procedure<br>Section 3.5<br>Spatial Resolution for High and Low Contrast Object<br>Pages 12-14<br><br>(Appendix A) | Spatial Resolution<br>0.6 mm  |
| 11 | Noise   | Initial & Annually | Quality Control Test Procedure<br>Section 3.3<br>Noise & CT Number of Acrylic<br>Pages 8-9<br><br>(Appendix A)                          | Average Value 40 ~ 200<br>Std Value 40 ~ 100  |
| 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)   |