

# Manufacturer's Recommendations for Alternate Dental CBCT QA Program

## Acteon Group: Model X-Mind Trium

### 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 Trium User Manual Introduction  Pages: 6 to 12 (Appendix B)	Must work properly
2	Film Processing QC Testing	Daily	None – Not Applicable	None – Not Applicable
3	CT Number for Water	Daily	X-Mind Trium Quality Assessment Manual 5. CBCT Quality Check 5.2.4 Homogeneity  Pages: 5 to 19, 22, 23 & 27 (Appendix A)	The software computes automatically the homogeneity value.  Trium: Man-Medium, Medium Quality, FOV 80x80 OR Trium TLD: Man-Medium, Medium Quality, FOV 80x90  Homogeneity > 12  Trium: Man-Medium, Medium Quality, FOV 110x80 OR Trium TLD: Man-Medium, Medium Quality, FOV 110x90  Homogeneity > 10
4	Field Uniformity	Daily	X-Mind Trium Quality Assessment Manual 5. CBCT Quality Check 5.2.4 Homogeneity  Pages: 5 to 19, 22, 23 & 27 (Appendix A)	The software computes automatically the homogeneity value.  Trium: Man-Medium, Medium Quality, FOV 80x80 OR Trium TLD: Man-Medium, Medium Quality, FOV 80x90  Homogeneity > 12  Trium: Man-Medium, Medium Quality, FOV 110x80 OR Trium TLD: Man-Medium, Medium Quality, FOV 110x90  Homogeneity > 10
5	Laser Film Printer QC	Weekly	None – Not Applicable	None – Not Applicable
6	Low Contrast Resolution	Initial & Annually	X-Mind Trium Quality Assessment Manual 5. CBCT Quality Check	Trium: Man-Medium, Medium Quality, FOV 80x80 OR Trium TLD:

			<p>5.2.3. Contrast to Noise Ratio (CNR)</p> <p>Pages: 5 to 21, 27 (Appendix A)</p>	<p>Man-Medium, Medium Quality, FOV 80x90</p> <p>CNR &gt; 5.0</p> <p>Trium: Man-Medium, Medium Quality, FOV 110x80 OR Trium TLD: Man-Medium, Medium Quality, FOV 110x90</p> <p>CNR &gt; 4.0</p>
7	High Contrast Resolution	Initial & Annually	<p>X-Mind Trium Quality Assessment Manual</p> <p>5. CBCT Quality Check</p> <p>5.2.5. Modular Transfer Function</p> <p>Pages: 5 to 19, 23 to 25, 27 (Appendix A)</p>	<p>Trium: Man-Medium, Medium Quality, FOV 80x80 OR Trium TLD: Man-Medium, Medium Quality, FOV 80x90</p> <p><math>V_{10\%} \text{ [LP/mm]} &gt; 1.6</math></p> <p><math>V_{50\%} \text{ [LP/mm]} &gt; 0.5</math></p> <p>Trium: Man-Medium, Medium Quality, FOV 110x80 OR Trium TLD: Man-Medium, Medium Quality, FOV 110x90</p> <p><math>V_{10\%} \text{ [LP/mm]} &gt; 1.5</math></p> <p><math>V_{50\%} \text{ [LP/mm]} &gt; 0.4</math></p>
8	Noise	Initial & Annually	<p>X-Mind Trium Quality Assessment Manual</p> <p>5. CBCT Quality Check</p> <p>5.2.3. Contrast to Noise Ratio (CNR)</p> <p>Pages: 5 to 21, 27 (Appendix A)</p>	<p>Trium: Man-Medium, Medium Quality, FOV 80x80 OR Trium TLD: Man-Medium, Medium Quality, FOV 80x90</p> <p>CNR &gt; 5.0</p> <p>Trium: Man-Medium, Medium Quality, FOV 110x80 OR Trium TLD: Man-Medium, Medium Quality, FOV 110x90</p> <p>CNR &gt; 4.0</p>
9	Scan Localization Light Accuracy	Initial & Annually	<p>X-Mind Trium Service Manual</p> <p>13.1 Adjustment of the Lasers</p> <p>Pages: 139, 144, 145, 150 to 155 (Appendix C)</p> <p>X-Mind Trium User Manual</p> <p>11.10 Laser</p> <p>Page: 60 (Appendix B)</p>	< 1mm
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
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