

AutoQA Plus - Release build 1.9.0.0

PET WATER PHANTOM



	<i>Study Date</i>	<i>Vendor</i>	<i>Model</i>	<i>Study Name</i>
	7/15/2022	SIEMENS	Biograph64_TruePoint	BIOGRAPH^TEST1

Site Information

Scanner Name:
Device Serial Number: **10000**
Software Version: **6.7.4**
Operator Initials:
Phantom Serial #:
Modality: **PT**
Report Profile: **SiemensPhantom**
Module Sort

Series Information

Description: **100MIL CAL 20:45_UNIF (AC)**
Protocol Name:
Series Number: **8**

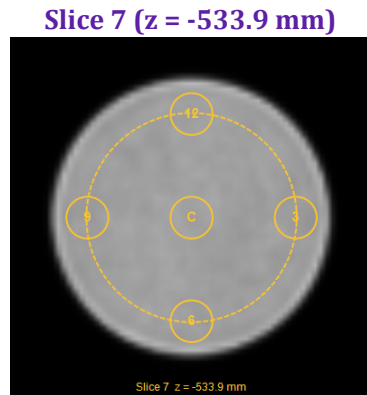
Test Results

Processed Date: **10/19/2026**

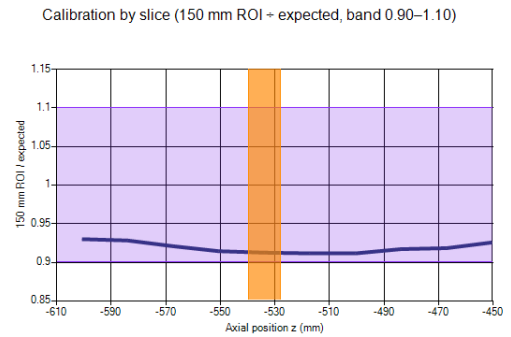
<i>Test</i>	<i>Details</i>	<i>Results</i>	<i>Pass/Fail</i>
Slice: Series (PETUNIF)			
	Reconstruction: PSF 3i21s Filter: XYZ Gauss4.00 Time per bed: 82.2 min Decay correction: to scan start Attenuation correction: measured,AC_CT Scatter correction: Model-based Randoms correction: delayed window Units: Bq/mL Series date/time: 15-Jul-2022 20:45:00	Console isotope: F-18 Voxel size: 4.07 × 4.07 × 5.00 mm Slice spacing: 16.7 mm Matrix: 168 × 168 × 14 Last scanner calibration: 15-Jul-2022 06:45 Beds: 1 FOV: 684 mm Image Comment: AC_CT, Volume Scaled Patient Position: HFS	

AAPM TG-126 Image Uniformity	MetricValueLimitResult Maximum in-slice integral uniformity2.54 % (slice 12)<= 5.00 %PASS Maximum axial integral uniformity2.41 % (6 o'clock ROI)<= 5.00 %PASS Uniformity notes Phantom axis tilted 2.3 deg (6.2 mm drift over the analyzed length). ROIs followed the phantom center on each slice.	
SNMMI PAT-comparable metrics (not TG-126 metrics; informational)	Metric (as reported by SNMMI PAT)ValueRecommended Axial maximum deviation (150 mm ROI vs mean)+1.19% (slice 3)-5% to +5% Radial maximum deviation (30 mm ROI vs mean)-3.54% (3 o'clock, slice 10)-5% to +5%	
PET Quantitative Calibration	Cross-calibration (F-18) — dose calibrator to scanner MetricValueLimitResult Calibration ratio (SUV, weight = fill volume)0.9130.90 - 1.10PASS Measured concentration (150 mm ROI, slice 7)5,616 Bq/mL Expected concentration at scan6,154 Bq/mL	
F-18 Reference	PhantomF-18 water phantomNet activity477.3 MBq (12.90 mCi) Activity time15-Jul-2022 14:07SourceConsole entry (net) Fill volume6,283 mL (report profile)Decay to scan6 h 38 min (× 0.0810) Dose calibrator modelCRC85	
Acquisition / geometry	Slices analyzed3–12 (10 of 14)Tilt / center drift2.3° / 6.2 mm Measured diameter198.5 mmNoise: 30 mm ROI CV¹1.1% Peripheral ROI distance74.2 mm from centerIn-slice IU from noise alone¹1.2% Count-limitedNo Peripheral ROI distance: phantom center to each 12, 3, 6 and 9 o'clock ROI center, placing each ROI 10 mm inside the measured edge (TG-126). ¹ Noise CV and noise-only IU are estimates: a scan is flagged count-limited when the noise-only IU is more than half the in-slice IU limit, and a longer time per bed is recommended.	

Transverse
Image / Axial
Calibration
Profile



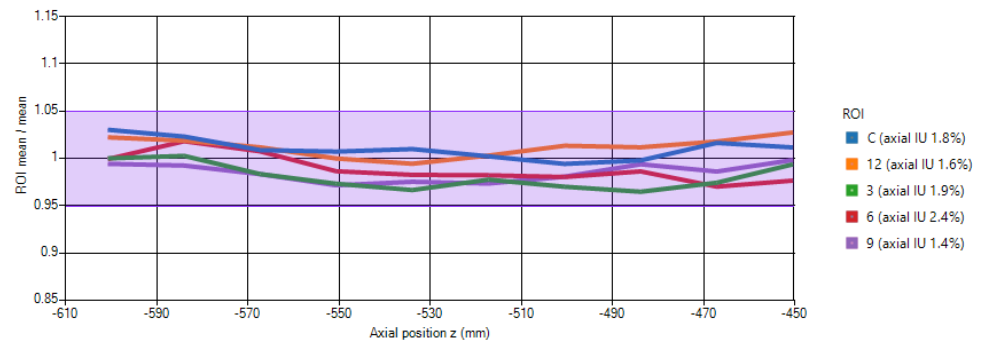
Solid: 30 mm TG-126 ROIs. Dashed: 150 mm calibration ROI. ROIs follow the fitted phantom axis.



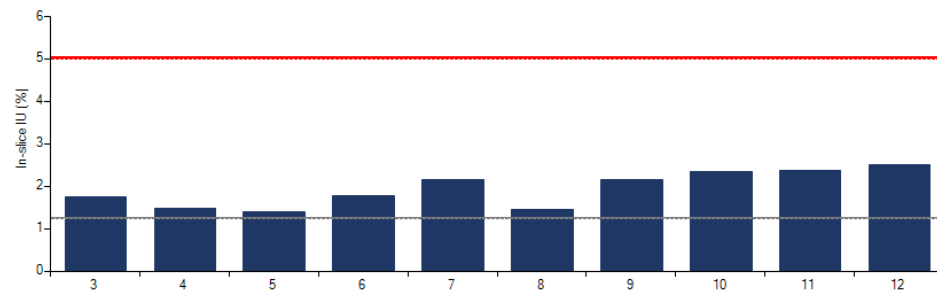
Each point is one slice's 150 mm ROI mean divided by the expected concentration at scan time. Orange line: the central slice that sets the calibration (TG-126 6.4.2).

TG-126
Uniformity
Profiles

30 mm ROI axial profiles (shaded $\pm 5\%$ of the mean)



In-slice integral uniformity • 30 mm ROIs (limit 5%)



Red line: limit (5%). Grey line: in-slice IU from noise alone (1.2%). Red bars: slices outside the limit.

Slice table (TG-126 Table 20 layout) • mean activity concentration, Bq/mL	Slice	z (mm)	Center	12	3	6	9	IU %	150 mm ROI	Cal. ratio
	3	-600.7	5,826	5,781	5,655	5,651	5,623	1.78	5,723	0.930
	4	-584.0	5,786	5,762	5,670	5,758	5,613	1.52	5,713	0.928
	5	-567.3	5,705	5,722	5,562	5,697	5,561	1.42	5,667	0.921
	6	-550.6	5,696	5,655	5,504	5,579	5,494	1.80	5,628	0.914
	7	-533.9	5,711	5,623	5,466	5,557	5,515	2.19	5,616	0.913
	8	-517.2	5,668	5,672	5,528	5,554	5,505	1.49	5,610	0.912
	9	-500.5	5,622	5,731	5,486	5,544	5,546	2.18	5,610	0.912
	10	-483.8	5,643	5,722	5,456	5,577	5,620	2.38	5,644	0.917
	11	-467.1	5,748	5,756	5,510	5,486	5,577	2.40	5,652	0.918
	12	-450.4	5,721	5,810	5,620	5,523	5,646	2.54	5,697	0.926
	Axial IU %		1.78	1.64	1.93	2.41	1.36			
	Red: in-slice IU above 5%. Cal. ratio: 150 mm ROI mean ÷ expected concentration at scan time.									