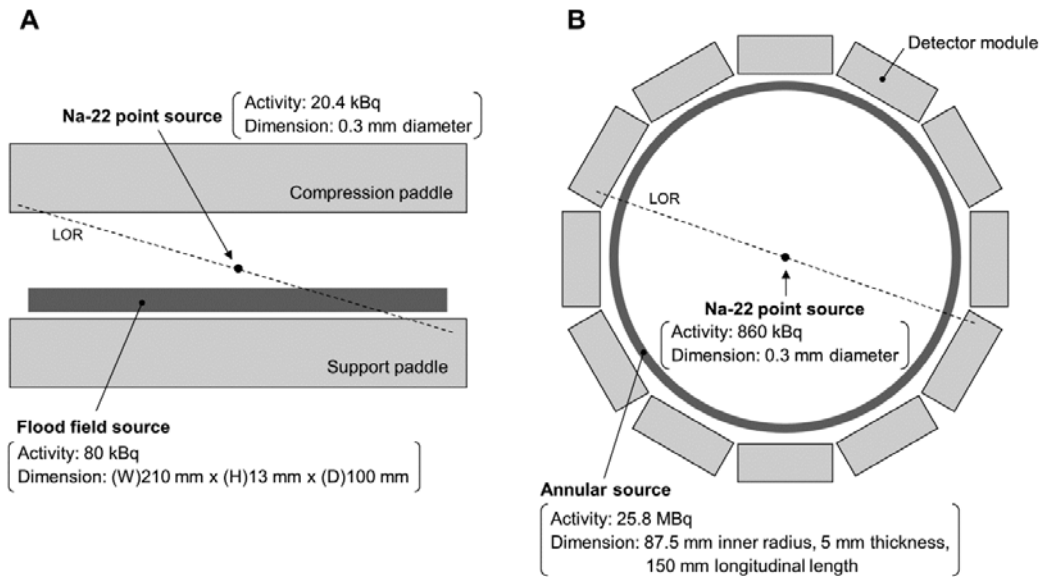


SUPPLEMENTAL DATA



SUPPLEMENTAL FIGURE 1. Schematic of spatial resolution evaluations with a background activity in a commercially available positron emission mammography system (A) and the dedicated breast PET scanner (B). In a previous study (3), spatial resolutions with a background activity for the positron emission mammography system were evaluated with a flood field source (A). To obtain spatial resolutions with a background activity for the dedicated breast PET system, an annular phantom filled with an ^{18}F solution with an activity 30 times higher than that of the ^{22}Na point source was placed inside the scanner (B) for reproducing the same background level per line of response as in A. These annular phantom data were merged with point-source data for each position to produce fused list-mode data files. The list-mode DRAMA reconstructions were then performed with the same parameters (128 subsets, 1 iteration) as used in Fig. 2B.

SUPPLEMENTAL TABLE 1. Comparison of Spatial Resolutions (FWHM) With and Without

Background Activity at the Axial Center and the 1/4 Axial FOV

Plane position	Transverse offset (mm)	Direction	FWHM (mm)	
			Without background activity	With background activity
At axial center	5	Radial	0.80	0.81
		Tangential	0.85	0.86
		Axial	0.98	0.98
	75	Radial	1.31	1.32
		Tangential	0.94	0.95
		Axial	0.82	0.83
At 1/4 axial FOV	5	Radial	0.78	0.79
		Tangential	0.85	0.86
		Axial	0.88	0.88
	75	Radial	1.34	1.35
		Tangential	0.90	0.91
		Axial	0.87	0.87