

QIBA DWI PVP-IceWater Phantom – System Test Protocol draft 20140106

Parameter	1.5T Philips	3T Philips
Model	Achieva	Ingenia
SW version	3.2.2	4.1.3
Rec Coil	8ch Head	15ch Head
Uniformity	CLEAR=yes; body-tuned=no	CLEAR=yes
Plane	Transaxial	Transaxial
FOV	220mm	220mm
Acq Voxel Size	1.72x1.72x4mm	1.72x1.72mmx4mm
Acq Matrix	128x126	128x128
Recon Voxel Size	0.898x0.898x4mm	0.898x0.898x4mm
Recon Matrix	256x256	256x256
SENSE (parallel imaging)	Yes, A/P factor = 2	Yes, A/P factor = 2
Phase-encode Direction	A/P	A/P
Fat-shift Direction	P	P
Foldover-sup / Oversampling	No	No
Qty Slices	25	25
Stacks & Packages	1	1
Slice thickness	4mm	4mm
Slice gap (user defined)	1mm	1mm
Shim	Volume	Volume (or best available)
Scan Mode	MS	MS
Technique	SE	SE
Acq Mode	Cartesian	Cartesian
Fast Imaging Mode	EPI	EPI
Shot Mode	Single-shot	Single-shot
Echoes	1	1
Partial Echo	No	No
TE	Shortest (104ms)	Shortest (105ms)
Flip Angle	90deg	90deg
TR	15000ms	15000ms
Halfscan factor	0.618	0.618
Water-fat shift	Minimum (11.4 acq pix)	Minimum (24.4 acq pix)
Fat suppression	No	No
Diffusion-Mode	DWI	DWI
Direction	"M,P,S" (i.e. non-overplus)	"M,P,S" (i.e. non-overplus)
b-values (user defined)	0, 500, 900, 2000	0, 500, 900, 2000
Average High b-values	No	No
PNS Mode	High	High
Gradient Mode	Maximum	Maximum
NSA (averages)	1	1
Images	Magnitude	Magnitude
Prep phases	Full	Full
EPI 2D Phase Correction	No	No
Save Raw Data	No	No
Geometry Correction	Default	Default
EPI Factor	67	67
Bandwidth in Freq-dir	1534 Hz	1414 Hz
Total Scan Duration	3minutes	3minutes

Repeat Axial Scan 4-times (~13min)

Perform Sag (phase A/P) and Coronal (phase R/L) versions 2-times each (~10min + ~10min)

Total DWI System Test Acq Time ~30-45min