PHILIPS

Diffusion Excellence Pack

MR Clinical application

Step up your **diffusion performance**

The Diffusion Excellence Pack offers a unique range of innovations to address the common challenges you face to enhance the efficiency and quality of diffusion imaging for areas ranging from oncology to neuro.

SmartShim
SmartShim is an image-based shimming method which delivers reliable fat suppression for whole body diffusion, resulting in highly uniform images.[1] The automated scan corrects for B0 inhomogeneities and eliminates operator variability.[2] It simplifies workflow by automating the planning of the shim region.

Computed DWI
Computed DWI is a technique for generating synthetic high b-value images that were not acquired[3], which decreases your overall exam time and enhances clinical workflow.[4] Simply acquire two b-value images and you can generate virtually any image up to b5000. Save time by generating the required b-values on the MR console. It enables computation of diffusion weighted images at any b-value between 0 and 5000 s/mm^2 from an acquired DWI series to support diagnosis of lesions. This technique enables an interactive b-value sweep to compare differences in diffusion behavior and find the optimal contrast for lesions.

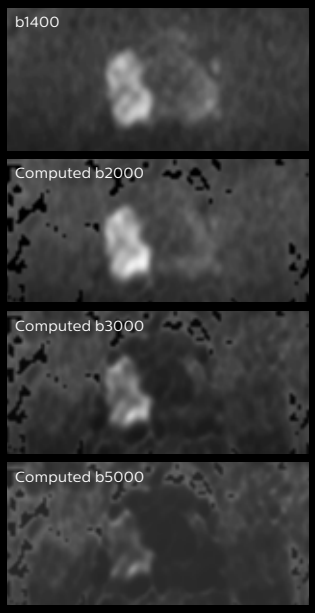
EPIC Brain
EPIC Brain aims at reducing B0-induced distortions to achieve better geometrical fidelity in EPI scans. It brings down the residual distortion within a single voxel size.[5] This improves the geometrical match between EPI images and MR anatomical brain images compared to conventional EPI scans. It is intended for EPI scans (DWI, DTI, fMRI, perfusion scans) of the brain. EPIC Brain will deliver fMRI,[6] DWI,[7] and DTI[8] images that geometrically match anatomical brain images.

LOVA ADC
The LOVA ADC technique automatically corrects for ADC variability to improve diffusion restriction assessments and make ADC measurements more reproducible for follow-up examinations. LOVA ADC delivers consistent ADC values with up to 95% accuracy[9] compensating for gradient linearity errors, in large field of views.

Diffusion Excellence Pack

Field strength	1.5T and 3.0T MR systems[10]
Prerequisite	Diffusion calculation SW option
Speed	SmartShim: simplifies workflow by automating the planning of the shim region Computed DWI: save time by generating b-value images up to b5000
Image quality	SmartShim: predictable fat suppression for challenging areas, like foot and whole body diffusion EPIC Brain: improves the geometrical match between EPI images and MR anatomical brain images LOVA ADC: delivers consistent ADC values with up to 95% accuracy[9] and compensating for gradient linearity errors

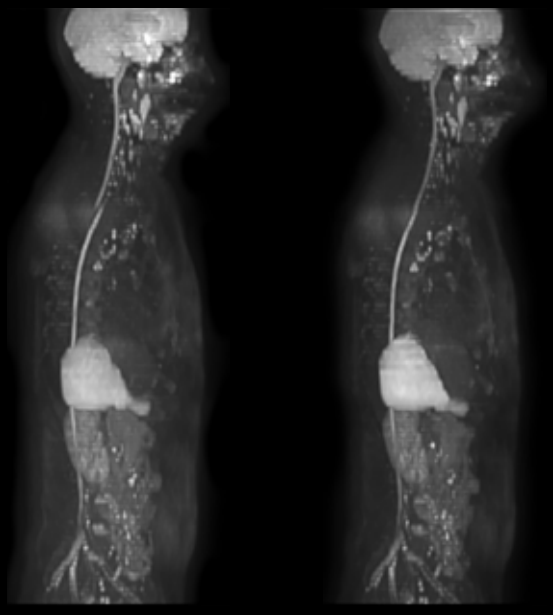
[1] Compared to auto shim, in foot & body DWIBS.
[2] Compared to volume shim, by eliminating manual shim box placement.
[3] In Computed DWI the acquired b-values are used to extrapolate synthetic high b-value images. This extrapolation uses a mono-exponential fit.
[4] By generating synthetic high b-value images. Compared to Philips DWI.
[5] Based on in house phantom tests, at a FOV of 230 mm and matrix size of 128x128.
[6] Compared to Philips EPI fMRI scans.
[7] Compared to Philips DWI EPI scans.
[8] Compared to Philips DTI EPI scans.
[9] In large field of views. Based on in house testing on phantom at a FOV of 45 cm.
[10] LOVA ADC is not available for Achieva 1.5T, Multiva 1.5T and Ingenia CX 1.5T systems. Multiva 1.5T is not for sale in the USA.



Computed DWI
Resolution: 2.2 x 2.5 x 3.0 mm
Ingenia 3.0T

EPIC
Resolution: 2.4 x 2.5 x 1.8 mm
Scan time: 3:15 min
Ingenia Elition 3.0T

Without EPIC
Resolution: 2.4 x 2.5 x 1.8 mm
Scan time: 3:15 min
Ingenia Elition 3.0T



Without SmartShim
Resolution: 6.4 x 6.6 x 703.6 mm
Scan time: 2:23 min /station
Ingenia 1.5T

SmartShim
Resolution: 6.4 x 6.6 x 703.6 mm
Scan time: 2:23 min /station
Ingenia 1.5T

4522 991 57241 * APR 2020

How to reach us
healthcare@philips.com
www.philips.com/healthcare

More information
www.philips.com/mrclinicalapplications