SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Research\19028_KGarner\Protocols v1 17072019\Tune_up_shim

TA: 0:25 PAT: 2 Voxel size: 2.7×2.7×2.7 mm Rel. SNR: 1.00 USER: CV_shim_452B

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	20 %
Position	R2.6 A25.6 F35.3
Orientation	Sagittal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Auto	Off
Phase oversampling	0 %
Slice oversampling	11.1 %
Slices per slab	72
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	2.67 mm
TR	288.00 ms
TE 1	1.02 ms
TE 2	3.06 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast

Magn. preparation	None
Flip angle	10 deg
Fat suppr.	None
Restore magn.	Off
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution

Base resolution	96
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Accel. factor 3D	1
Reference scan mode	Integrated
Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry

Multi-slice mode	Sequential
Series	Ascending
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	240.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm

Physio

1st Signal/Mode	None
Segments	60
Tagging	None
Dark blood	Off
Cine	Off
Inline ventricular function	Off
Resp. control	Off

Inline

Subtract	Off
Std-Dev-Sag	Off
Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

Sequence	
Introduction	On
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Weak
Contrasts	2
Bandwidth 1	854 Hz/Px
Bandwidth 2	854 Hz/Px
Flow comp. 1	No
Flow comp. 2	No
Readout mode	Monopolar
Optimization	None
Allowed delay	0 s
Echo spacing	4.8 ms
Sequence type	Gre
Define	Shots
Shots per slice	1
RF pulse type	Fast
Gradient mode	Fast
Excitation	Non-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On

\\USER\Research\19028_KGarner\Protocols v1 17072019\Standard_Shim

TA: 0:33 PAT: 2 Voxel size: 2.7×2.7×2.7 mm Rel. SNR: 1.00 USER: CV_shim_452B

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	20 %
Position	R2.6 A25.6 F35.3
Orientation	Sagittal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Auto	Off
Phase oversampling	0 %
Slice oversampling	11.1 %
Slices per slab	72
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	2.67 mm
TR	410.40 ms
TE 1	1.02 ms
TE 2	5.10 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast

Magn. preparation	None
Flip angle	10 deg
Fat suppr.	None
Restore magn.	Off
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution

Base resolution	96
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Accel. factor 3D	1
Reference scan mode	Integrated
Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry

Multi-slice mode	Sequential
Series	Ascending
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	240.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	R2.6 A25.6 F35.3
Orientation	Sagittal
Rotation	0.00 deg
F >> H	256 mm
A >> P	256 mm
R >> L	193 mm

Physio

1st Signal/Mode	None
Segments	60
Tagging	None
Dark blood	Off
Cine	Off
Inline ventricular function	Off
Resp. control	Off

Inline

Subtract	Off
Std-Dev-Sag	Off
Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

Sequence	
Introduction	Off
Dimension	3D
Elliptical scanning	Off
Reordering	Linear
Asymmetric echo	Weak
Contrasts	2
Bandwidth 1	854 Hz/Px
Bandwidth 2	854 Hz/Px
Flow comp. 1	No
Flow comp. 2	No
Readout mode	Monopolar
Optimization	None
Allowed delay	0 s
Echo spacing	6.8 ms
Sequence type	Gre
Define	Shots
Shots per slice	1
RF pulse type	Fast
Gradient mode	Fast
Excitation	Non-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On

\\USER\Research\19028_KGarner\Protocols v1 17072019\AAHScout_32ch 220V

TA: 0:17 PAT: 3 Voxel size: 1.6×1.6×1.6 mm Rel. SNR: 1.00 SIEMENS: AALScout

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	On
Load images to graphic segments	On
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	20 %
Position	L0.0 A24.1 F32.1
Orientation	Sagittal
Phase enc. dir.	A >> P
Rotation	0 deg
AutoAlign	Head
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	128
FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
TR	4.00 ms
TE	1.53 ms
Averages	1
Concatenations	1
Filter	B1 filter
Coil elements	A32

Contrast

Flip angle	16.0 deg
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

Resolution

Base resolution	160
Phase resolution	100 %
Slice resolution	69 %
Phase partial Fourier	6/8
Slice partial Fourier	6/8
PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	24
Accel. factor 3D	1
Reference scan mode	Integrated
Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	On
Intensity	Strong
Unfiltered images	Off
Raw filter	Off
Elliptical filter	Off

Geometry

Multi-slice mode	Sequential
Series	Ascending
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	REF
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
Auto Coil Select	Off
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	240.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	L0.0 A24.1 F32.1
Orientation	Sagittal
Rotation	0.00 deg
F >> H	260 mm
A >> P	260 mm
R >> L	205 mm

Inline

Time to center	7.4 s
MapIt	None
Contrasts	1

Sequence

Introduction	On
Dimension	3D
Asymmetric echo	Weak
Bandwidth	550 Hz/Px
RF pulse type	Fast
Gradient mode	Normal
Excitation	Non-sel.
RF spoiling	On

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\Research\19028_KGarner\Protocols v1 17072019\WIP944_mp2rage_0.75iso_7T

TA: 6:54 PAT: 3 Voxel size: 0.8×0.8×0.8 mm Rel. SNR: 1.00 USER: tfl_wip944_b17stx

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	50 %
Position	R0.1 A4.2 H1.9
Orientation	Sagittal
Phase enc. dir.	A >> P
Rotation	19.23 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	256
FoV read	240 mm
FoV phase	93.8 %
Slice thickness	0.75 mm
TR	4300 ms
TE	3.38 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(3D)
Coil elements	A32

Contrast

Magn. preparation	Non-sel. IR
TI 1	840 ms
TI 2	2370 ms
Flip angle 1	5 deg
Flip angle 2	6 deg
Fat suppr.	Water excit. normal
Water suppr.	None
2nd Inversion Contrast	On
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

Resolution

Base resolution	320
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	6/8
PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	32
Accel. factor 3D	1
Reference scan mode	Integrated
Image Filter	Off
Distortion Corr.	On
Mode	3D
Unfiltered images	On
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off

Geometry

Multi-slice mode	Single shot
Series	Interleaved
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	Head > Basis
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	R0.1 A4.2 H1.9
Orientation	Sagittal
Rotation	19.23 deg
F >> H	240 mm
A >> P	225 mm
R >> L	192 mm

Physio

1st Signal/Mode	None
Dark blood	Off
Resp. control	Off

Composing

Sequence

Introduction	On
Dimension	3D
Elliptical scanning	Off
Asymmetric echo	Off
Contrasts	1
Bandwidth	250 Hz/Px
Flow comp.	No
Echo spacing	7.7 ms
RF pulse type	Fast
Gradient mode	Fast
Excitation	Non-sel.
RF spoiling	On

FFT Scale Factor	150 %
LIN/PAR Swap	Off
Ext. INV Pulse	On
Flip Angle	850
Uniform Image	On
Head Mask on UNI	Off
T1 Map	On
Complex Div. Image	Off
Denoise Weighting	60
FLAWS	Off

\\USER\Research\19028_KGarner\Protocols v1 17072019\cmrr_3x4_TR1.5s_1.5mm

TA: 4:48 PAT: 3 Voxel size: 1.5×1.5×1.5 mm Rel. SNR: 1.00 USER: cmrr_mbep2d_bold

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	On
Start measurements	single

Routine

Slice group 1	
Slices	81
Dist. factor	0 %
Position	L1.2 A18.3 H10.5
Orientation	T > C-7.0 > S1.3
Phase enc. dir.	A >> P
Rotation	-0.60 deg
Phase oversampling	0 %
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	1510 ms
TE	19.4 ms
Multi-band accel. factor	3
Filter	None
Coil elements	A32

Contrast

MTC	Off
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	Fat sat.
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	170
Delay in TR	0 ms
Multiple series	Off

Resolution

Base resolution	128
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	36
Reference scan mode	Segmented
Distortion Corr.	Off
Prescan Normalize	Off
Raw filter	On
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Ascending
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	L1.2 A18.3 H10.5
Orientation	T > C-7.0 > S1.3
Rotation	-0.60 deg
R >> L	192 mm
A >> P	192 mm
F >> H	122 mm

Physio

1st Signal/Mode	None

BOLD

GLM Statistics	Off
Dynamic t-maps	Off
Starting ignore meas	0
Ignore after transition	0
Model transition states	On
Temp. highpass filter	On
Threshold	4.00
Paradigm size	20
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Baseline
Meas[4]	Baseline
Meas[5]	Baseline
Meas[6]	Baseline
Meas[7]	Baseline
Meas[8]	Baseline
Meas[9]	Baseline
Meas[10]	Baseline
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off

Sequence

Introduction	On
Contrasts	1
Bandwidth	1116 Hz/Px
Flow comp.	No
Free echo spacing	Off
Echo spacing	1.02 ms
EPI factor	128
Gradient mode	Fast*
RF spoiling	Off
Excite pulse duration	7000 us
Single-band images	On
MB LeakBlock kernel	Off
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	On
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	0.50
Physio recording	Off
Triggering scheme	Standard

\\USER\Research\19028_KGarner\Protocols v1 17072019\WIP_3DEPI_1080_1.5mm_TR1.9s

TA: 0:51 PAT: 6 Voxel size: 1.5×1.5×1.5 mm Rel. SNR: 1.00 USER: ep3d_bold_WIP1080

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	50 %
Position	R5.1 A25.4 F35.6
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	20.0 %
Slices per slab	80
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	1.50 mm
TR	60 ms
TE	22 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast

MTC	Off
Flip angle	15 deg
Fat suppr.	Water excit. normal
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	20
Delay in TR	0 ms
Multiple series	Off

Resolution

Base resolution	128
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	32
Accel. factor 3D	3
Ref. lines 3D	24
Reference scan mode	Separate
Distortion Corr.	Off
Prescan Normalize	Off
Raw filter	On
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Interleaved
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	R5.1 A25.4 F35.6
Orientation	Transversal
Rotation	0.00 deg
R >> L	192 mm
A >> P	192 mm
F >> H	120 mm

Physio

1st Signal/Mode	None

BOLD

Motion correction	Off
Spatial filter	Off

Sequence

Introduction	Off
Dimension	3D
Reordering	Linear
Contrasts	1
Bandwidth	1116 Hz/Px
Free echo spacing	Off
Echo spacing	1.02 ms
EPI factor	128
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Use Ernst angle?	On
Log physio?	Off
FFT scale	1.00
RF BWTP	25.0
bipolar water excite?	Off
EFFECTIVE TR	1920 ms
PatPartitions	32

EPI phase correction	local
PAT refscan mode	Flash
FlashRef BaseRes	128
FlashRef BW	1000 Hz/px
FlashRef TE	4800 us
FlashRef FA	5 deg
use CAIPI	On
CAIPI shift kz	1
CAIPI shift ky	0
dummy prepscan time	3 s

\\USER\Research\19028_KGarner\Protocols v1 17072019\cmrr_2x4_TE10+30ms_TR0.7s_2.0mm

TA: 7:02 PAT: 2 Voxel size: 2.0×2.0×2.0 mm Rel. SNR: 1.00 USER: cmrr_mbep2d_bold

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	On
Start measurements	single

Routine

Slice group 1	
Slices	48
Dist. factor	0 %
Position	L1.4 A19.3 H2.4
Orientation	T > C-7.0 > S1.3
Phase enc. dir.	A >> P
Rotation	-0.60 deg
Phase oversampling	0 %
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	700 ms
TE 1	10.00 ms
TE 2	30.56 ms
Multi-band accel. factor	4
Filter	None
Coil elements	A32

Contrast

MTC	Off
Magn. preparation	None
Flip angle	35 deg
Fat suppr.	Fat sat.
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	581
Delay in TR	0 ms
Multiple series	Off

Resolution

Base resolution	96
Phase resolution	100 %
Phase partial Fourier	5/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	GRE
Distortion Corr.	Off
Prescan Normalize	Off
Raw filter	On
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Ascending
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	L1.4 A19.3 H2.4
Orientation	T > C-7.0 > S1.3
Rotation	-0.60 deg
R >> L	192 mm
A >> P	192 mm
F >> H	96 mm

Physio

1st Signal/Mode	None

BOLD

GLM Statistics	Off
Dynamic t-maps	Off
Starting ignore meas	0
Ignore after transition	0
Model transition states	On
Temp. highpass filter	On
Threshold	4.00
Paradigm size	20
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Baseline
Meas[4]	Baseline
Meas[5]	Baseline
Meas[6]	Baseline
Meas[7]	Baseline
Meas[8]	Baseline
Meas[9]	Baseline
Meas[10]	Baseline
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off

Spatial filter	Off

Sequence

Introduction	On
Contrasts	2
Bandwidth	1930 Hz/Px
Flow comp.	No
Free echo spacing	Off
Echo spacing	0.64 ms
EPI factor	96
Gradient mode	Fast
RF spoiling	Off
Excite pulse duration	4100 us
Inter-TE delay	0 us
Single-band images	On
MB LeakBlock kernel	Off
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	On
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	0.50
GRE iPAT ref. FA	12.0 deg
Physio recording	Off
Triggering scheme	Standard

\\USER\Research\19028_KGarner\Protocols v1 17072019\WIP_Diffusion_511E_1p8_b0_P-A

TA: 0:41 PAT: 3 Voxel size: 1.8×1.8×1.8 mm Rel. SNR: 1.00 USER: ep2d_advdiff_511E

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	On
Start measurements	single

Routine

Slice group 1	
Slices	70
Dist. factor	13 %
Position	L0.9 P12.0 H32.9
Orientation	T > C-18.1
Phase enc. dir.	P >> A
Rotation	173.16 deg
Phase oversampling	0 %
FoV read	216 mm
FoV phase	100.0 %
Slice thickness	1.8 mm
TR	6300 ms
TE	63.6 ms
Averages	1
Concatenations	1
Filter	Raw filter
Coil elements	A32

Contrast

MTC	Off
Magn. preparation	None
Fat suppr.	Fat sat.
Extra Fat Suppr.	off
Saturation Mode	standard
Averaging mode	Long term
Reconstruction	Magnitude
Delay in TR	0 ms
Multiple series	Off

Resolution

Base resolution	120
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	72
Reference Scan Mode	FLASH
Distortion Corr.	Off
Prescan Normalize	Off
Raw filter	On
Intensity	Weak
Slope	25
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Interleaved
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
AutoAlign	Head > Basis
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	L0.9 P12.0 H32.9
Orientation	T > C-18.1
Rotation	173.16 deg
R >> L	216 mm
A >> P	216 mm
F >> H	143 mm

Physio

1st Signal/Mode	None
PMU Recording	off
Resp. control	Off

Diff

Diffusion mode	Free
Diff. weightings	1
b-value	0 s/mm²
Diff. weighted images	On
Trace weighted images	Off
Average ADC maps	Off
Individual ADC maps	Off
FA maps	Off
Mosaic	On
Tensor	Off
Noise level	40
Diff. directions	32

Sequence

Introduction	Off
Bandwidth	2084 Hz/Px
Optimization	None
Free echo spacing	Off
Echo spacing	0.64 ms
EPI factor	120
RF pulse type	Normal
Gradient mode	Fast*
Add. FFT Scale Factor	0.9

\\USER\Research\19028_KGarner\Protocols v1 17072019\WIP_Diffusion_511E_1p8_b2500_64dir

TA: 7:18 PAT: 3 Voxel size: 1.8×1.8×1.8 mm Rel. SNR: 1.00 USER: ep2d_advdiff_511E

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	On
Start measurements	single

Routine

Slice group 1	
Slices	70
Dist. factor	13 %
Position	L0.9 P12.0 H32.9
Orientation	T > C-18.1
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
FoV read	216 mm
FoV phase	100.0 %
Slice thickness	1.8 mm
TR	6300 ms
TE	63.6 ms
Averages	1
Concatenations	1
Filter	Raw filter
Coil elements	A32

Contrast

MTC	Off
Magn. preparation	None
Fat suppr.	Fat sat.
Extra Fat Suppr.	off
Saturation Mode	standard
Averaging mode	Long term
Reconstruction	Magnitude
Delay in TR	0 ms
Multiple series	Off

Resolution

Base resolution	120
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	72
Reference Scan Mode	FLASH
Distortion Corr.	Off
Prescan Normalize	Off
Raw filter	On
Intensity	Weak
Slope	25
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Interleaved
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
AutoAlign	Head > Basis
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	L0.9 P12.0 H32.9
Orientation	T > C-18.1
Rotation	0.00 deg
R >> L	216 mm
A >> P	216 mm
F >> H	143 mm

Physio

1st Signal/Mode	None
PMU Recording	off
Resp. control	Off

Diff

Diffusion mode	Free
Diff. weightings	1
b-value	2500 s/mm²
Diff. weighted images	On
Trace weighted images	On
Average ADC maps	On
Individual ADC maps	On
FA maps	On
Mosaic	On
Tensor	On
Noise level	40
Diff. directions	64

Sequence

Introduction	Off
Bandwidth	2084 Hz/Px
Optimization	None
Free echo spacing	Off
Echo spacing	0.64 ms
EPI factor	120
RF pulse type	Normal
Gradient mode	Fast*
Add. FFT Scale Factor	0.9

\\USER\Research\19028_KGarner\Protocols v1 17072019\WIP_Diffusion_511E_1p8_b1000_32dir

TA: 3:57 PAT: 3 Voxel size: 1.8×1.8×1.8 mm Rel. SNR: 1.00 USER: ep2d_advdiff_511E

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	On
Start measurements	single

Routine

Slice group 1	
Slices	70
Dist. factor	13 %
Position	L0.9 P12.0 H32.9
Orientation	T > C-18.1
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
FoV read	216 mm
FoV phase	100.0 %
Slice thickness	1.8 mm
TR	6300 ms
TE	63.6 ms
Averages	1
Concatenations	1
Filter	Raw filter
Coil elements	A32

Contrast

MTC	Off
Magn. preparation	None
Fat suppr.	Fat sat.
Extra Fat Suppr.	off
Saturation Mode	standard
Averaging mode	Long term
Reconstruction	Magnitude
Delay in TR	0 ms
Multiple series	Off

Resolution

Base resolution	120
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	72
Reference Scan Mode	FLASH
Distortion Corr.	Off
Prescan Normalize	Off
Raw filter	On
Intensity	Weak
Slope	25
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Interleaved
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
AutoAlign	Head > Basis
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	L0.9 P12.0 H32.9
Orientation	T > C-18.1
Rotation	0.00 deg
R >> L	216 mm
A >> P	216 mm
F >> H	143 mm

Physio

1st Signal/Mode	None
PMU Recording	off
Resp. control	Off

Diff

Diffusion mode	Free
Diff. weightings	1
b-value	1000 s/mm²
Diff. weighted images	On
Trace weighted images	On
Average ADC maps	On
Individual ADC maps	On
FA maps	On
Mosaic	On
Tensor	On
Noise level	40
Diff. directions	32

Sequence

Introduction	Off
Bandwidth	2084 Hz/Px
Optimization	None
Free echo spacing	Off
Echo spacing	0.64 ms
EPI factor	120
RF pulse type	Normal
Gradient mode	Fast*
Add. FFT Scale Factor	0.9

\\USER\Research\19028_KGarner\Protocols v1 17072019\cmrr_3x3_TR1.9s_1.3mm

TA: 7:00 PAT: 3 Voxel size: 1.3×1.3×1.3 mm Rel. SNR: 1.00 USER: cmrr_mbep2d_bold

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	On
Start measurements	single

Routine

Slice group 1	
Slices	96
Dist. factor	0 %
Position	L1.4 A19.3 H2.4
Orientation	T > C-7.0 > S1.3
Phase enc. dir.	A >> P
Rotation	-0.60 deg
Phase oversampling	0 %
FoV read	212 mm
FoV phase	100.0 %
Slice thickness	1.30 mm
TR	1990 ms
TE	25 ms
Multi-band accel. factor	3
Filter	None
Coil elements	A32

Contrast

MTC	Off
Magn. preparation	None
Flip angle	70 deg
Fat suppr.	Fat sat.
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	188
Delay in TR	0 ms
Multiple series	Off

Resolution

Base resolution	164
Phase resolution	100 %
Phase partial Fourier	7/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	36
Reference scan mode	GRE
Distortion Corr.	Off
Prescan Normalize	Off
Raw filter	On
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Ascending
Special sat.	None
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	L1.4 A19.3 H2.4
Orientation	T > C-7.0 > S1.3
Rotation	-0.60 deg
R >> L	212 mm
A >> P	212 mm
F >> H	125 mm

Physio

1st Signal/Mode	None

BOLD

GLM Statistics	Off
Dynamic t-maps	Off
Starting ignore meas	0
Ignore after transition	0
Model transition states	On
Temp. highpass filter	On
Threshold	4.00
Paradigm size	20
Meas[1]	Baseline
Meas[2]	Baseline
Meas[3]	Baseline
Meas[4]	Baseline
Meas[5]	Baseline
Meas[6]	Baseline
Meas[7]	Baseline
Meas[8]	Baseline
Meas[9]	Baseline
Meas[10]	Baseline
Meas[11]	Active
Meas[12]	Active
Meas[13]	Active
Meas[14]	Active
Meas[15]	Active
Meas[16]	Active
Meas[17]	Active
Meas[18]	Active
Meas[19]	Active
Meas[20]	Active
Motion correction	Off
Spatial filter	Off

Sequence

Introduction	On
Contrasts	1
Bandwidth	1386 Hz/Px
Flow comp.	No
Free echo spacing	Off
Echo spacing	0.83 ms
EPI factor	164
Gradient mode	Fast
RF spoiling	Off
Excite pulse duration	7000 us
Single-band images	On
MB LeakBlock kernel	Off
MB dual kernel	Off
MB RF phase scramble	On
SENSE1 coil combine	Off
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Force equal slice timing	Off
Online multi-band recon.	Online
FFT scale factor	0.50
GRE iPAT ref. FA	12.0 deg
Physio recording	Off
Triggering scheme	Standard