

Table of contents

\\MARTINOS DEVELOPER

<table border="1"> <tr> <td>HUBER</td> </tr> </table>	HUBER
HUBER	

<table border="1"> <tr> <td> <table border="1"> <tr> <td>3rd_order_shim_tests_with_Gunjan</td> </tr> </table> </td> </tr> </table>	<table border="1"> <tr> <td>3rd_order_shim_tests_with_Gunjan</td> </tr> </table>	3rd_order_shim_tests_with_Gunjan
<table border="1"> <tr> <td>3rd_order_shim_tests_with_Gunjan</td> </tr> </table>	3rd_order_shim_tests_with_Gunjan	
3rd_order_shim_tests_with_Gunjan		

<table border="1"> <tr> <td> <table border="1"> <tr> <td>20250723_3rd_order</td> </tr> </table> </td> </tr> </table>	<table border="1"> <tr> <td>20250723_3rd_order</td> </tr> </table>	20250723_3rd_order
<table border="1"> <tr> <td>20250723_3rd_order</td> </tr> </table>	20250723_3rd_order	
20250723_3rd_order		

<table border="1"> <tr> <td> <table border="1"> <tr> <td>scout_axial</td> </tr> </table> </td> </tr> </table>	<table border="1"> <tr> <td>scout_axial</td> </tr> </table>	scout_axial
<table border="1"> <tr> <td>scout_axial</td> </tr> </table>	scout_axial	
scout_axial		

<table border="1"> <tr> <td>scout_sag</td> </tr> </table>	scout_sag
scout_sag	

<table border="1"> <tr> <td>dzne_ep3d_3rd_order_shim_test_es1p01</td> </tr> </table>	dzne_ep3d_3rd_order_shim_test_es1p01
dzne_ep3d_3rd_order_shim_test_es1p01	

<table border="1"> <tr> <td>dzne_ep3d_3rd_order_shim_test_es1p01_connted</td> </tr> </table>	dzne_ep3d_3rd_order_shim_test_es1p01_connted
dzne_ep3d_3rd_order_shim_test_es1p01_connted	

<table border="1"> <tr> <td>cmrr_es_1.01_connected</td> </tr> </table>	cmrr_es_1.01_connected
cmrr_es_1.01_connected	

<table border="1"> <tr> <td>cmrr_es_1.01_unconnected</td> </tr> </table>	cmrr_es_1.01_unconnected
cmrr_es_1.01_unconnected	

<table border="1"> <tr> <td>ep3d_unconnected</td> </tr> </table>	ep3d_unconnected
ep3d_unconnected	

<table border="1"> <tr> <td>ep3d_connected</td> </tr> </table>	ep3d_connected
ep3d_connected	

<table border="1"> <tr> <td>ep2d_siemens_connected</td> </tr> </table>	ep2d_siemens_connected
ep2d_siemens_connected	

<table border="1"> <tr> <td>ep2d_siemens_unconnected</td> </tr> </table>	ep2d_siemens_unconnected
ep2d_siemens_unconnected	

<table border="1"> <tr> <td>DPG_FLEET_disconnected</td> </tr> </table>	DPG_FLEET_disconnected
DPG_FLEET_disconnected	

<table border="1"> <tr> <td>DPG_FLEET_connected</td> </tr> </table>	DPG_FLEET_connected
DPG_FLEET_connected	

<table border="1"> <tr> <td>ep2d_bold_mgh_dpg_hatch_1p2_R3_SMS_siemensDPG_noFLEET</td> </tr> </table>	ep2d_bold_mgh_dpg_hatch_1p2_R3_SMS_siemensDPG_noFLEET
ep2d_bold_mgh_dpg_hatch_1p2_R3_SMS_siemensDPG_noFLEET	

<table border="1"> <tr> <td>dpg_hatch_1p2_R3_SMS_siemensDPG_noFLEET_nodpg_disconn</td> </tr> </table>	dpg_hatch_1p2_R3_SMS_siemensDPG_noFLEET_nodpg_disconn
dpg_hatch_1p2_R3_SMS_siemensDPG_noFLEET_nodpg_disconn	

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250723_3rd_order\scout_axial

TA: 17 sec Coil Selection: Manual Voxel Size: 1.6×1.6×1.6 mm³ Acc:: 3 Rel. SNR: 1.00**Properties**

Start measurement without further preparation	Off
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	On
Graphic segment	3rd Segment
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	L0.0 A16.0 H0.0 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	160
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FOV Read	260 mm
FOV Phase	100.0 %
Slice Thickness	1.600 mm
TR	3.6 ms
TE	1.56 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	3.6 ms
TE	1.56 ms
MTC	Off
Magn. Preparation	None
Flip Angle	15 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Contrasts	1
SWI	Off
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FOV Read	260 mm
FOV Phase	100.0 %
Slice Thickness	1.600 mm
Base Resolution	160
Phase Resolution	100 %
Slice Resolution	69 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	3
Reference Lines PE	24
Acceleration Factor 3D	1
Phase Partial Fourier	6/8
Slice Partial Fourier	6/8
Asymmetric Echo	Off
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	3D
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	L0.0 A16.0 H0.0 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	160
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FOV Read	260 mm
FOV Phase	100.0 %
Slice Thickness	1.600 mm
TR	3.6 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	L0.0 A16.0 H0.0 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---

Geometry - AutoAlign

Initial Position	L0.0 A16.0 H0.0
L	0.0 mm
A	16.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Saturation Mode	Standard
Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	L0.0 A36.7 F31.6 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	263 mm
! R >> L	350 mm
! F >> H	350 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Non-sel.

System - Tx/Rx

Frequency 1H	297.118707 MHz
! Ref. Amplitude 1H	250.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3.6 ms
Segments	1
Concatenations	1

Physio - Cardiac

Tagging	None
Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
FOV Read	260 mm
FOV Phase	100.0 %
Phase Resolution	100 %

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Soft Tissue

Wash-in	Off
Wash-out	Off
TTP	Off
PEI	Off
MIP Time	Off
Measurements	1

Inline - Composing**Inline - MapIt**

MapIt	None
Flip Angle	15 deg
Measurements	1
Contrasts	1

Inline - MapIt

TE	1.56 ms
TR	3.6 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Non-sel.
RF Pulse Type	Fast
Gradient Mode	Normal
Flow Compensation	None
Bandwidth	540 Hz/Px
Asymmetric Echo	Off
Segments	1

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Acoustic noise reduction	Off

Sequence - Nuclei

TX/RX Nucleus	¹ H
TX/RX Delta Frequency	0 Hz
TX Nucleus	None
TX Delta Frequency	0 Hz
Coil Elements	AC

Sequence - Special

Readout polarity	Positive
Image processing	Standard
Apply echo spacing	Off
Echo spacing	0 us
Delta echo spacing	0 us
Dummy scans	0 ms
RF pulse duration	100 us
Gradient spoiling	Siemens
Gradient moment factor	1.00
Receiver gain mode	Siemens
Number of segments	1
Current segment	0
Lines before/after seg	0

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250723_3rd_order\scout_sag

TA: 14 sec Coil Selection: Auto Voxel Size: 1.6×1.6×1.6 mm³ Acc:: 3 Rel. SNR: 1.00**Properties**

Start measurement without further preparation	Off
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	On
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	On
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	L0.0 A16.0 H0.0 mm
Orientation	Sagittal
Phase Encoding Dir.	A >> P
Slices per Slab	128
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FOV Read	260 mm
FOV Phase	100.0 %
Slice Thickness	1.6 mm
TR	3.25 ms
TE	1.53 ms
Averages	1
Concatenations	1
AutoAlign	Head

Contrast - Common

TR	3.25 ms
TE	1.53 ms
Flip Angle	16 deg
Fat-Water Contrast	Standard
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Time to Center	6.3 s

Resolution - Common

FOV Read	260 mm
FOV Phase	100.0 %

Resolution - Common

Slice Thickness	1.6 mm
Base Resolution	160
Phase Resolution	100 %
Slice Resolution	69 %
Trajectory	Cartesian

Resolution - Acceleration

Acceleration Mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	3
Reference Lines PE	24
Acceleration Factor 3D	1
Phase Partial Fourier	6/8
Slice Partial Fourier	6/8
Asymmetric Echo	Weak

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	3D
Normalize	B1 Filter
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	L0.0 A16.0 H0.0 mm
Orientation	Sagittal
Phase Encoding Dir.	A >> P
Slices per Slab	128
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FOV Read	260 mm
FOV Phase	100.0 %
Slice Thickness	1.6 mm
TR	3.25 ms
Multi-Slice Mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	L0.0 A16.0 H0.0 mm
Orientation	Sagittal
Phase Encoding Dir.	A >> P
AutoAlign	Head
Initial Position	L0.0 A16.0 H0.0
L	0.0 mm
A	16.0 mm

Geometry - AutoAlign

H	0.0 mm
Initial Orientation	Sagittal
Initial Rotation	0.00 deg

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Auto Coil Select
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	L0.0 A36.7 F31.6 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	263 mm
! R >> L	350 mm
! F >> H	350 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Non-sel.

System - Tx/Rx

Frequency 1H	297.118707 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Subtraction

Subtract	Off
----------	-----

Inline - Subtraction

Measurements	1
StdDev	Off
Save Original Images	On

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing**Inline - MapIt**

MapIt	None
Flip Angle	16 deg
Measurements	1
Contrasts	1
TE	1.53 ms
TR	3.25 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Non-sel.
RF Pulse Type	Fast
Gradient Mode	Normal
Bandwidth	540 Hz/Px
Asymmetric Echo	Weak

Sequence - Part 2

Introduction	On
RF Spoiling	On
Breast Application	Off
Phase Enc. Order	Automatic

Sequence - Assistant

SAR Assistant	Off
---------------	-----

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250723_3rd_order\ldzne_ep3d_3rd_order_shim_test_es1p01

TA: 4:48 min Coil Selection: Auto Voxel Size: 0.8x0.8x0.8 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	36
Slice Oversampling	0.0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.84 mm
TR	72.1 ms
Vol. TR	2595.6 ms
TE 1	25.50 ms
Averages	1
Multi-echo Shots	1
AutoAlign	---

Contrast - Common

TR	72.1 ms
Vol. TR	2595.6 ms
TE 1	25.50 ms
Multi-echo spacing	53.40 ms
MTC	Off
Flip Angle	15 deg
Fat-Water Contrast	Standard
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	100
Pause after Meas.	0.0 s
Reordering	Linear

Resolution - Common

FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.84 mm
Base Resolution	206
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	CAIPIRINHA
CAIPIRINHA Mode	Free
Reference Scans	GRE/Separate
Acceleration Factor PE	1
Reference Lines PE	63
Acceleration Factor 3D	3
Reference Lines 3D	36
Reordering Shift 3D	1
Phase Partial Fourier	6/8
Slice Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	Off
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	36
Slice Oversampling	0.0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.84 mm
TR	72.1 ms
Vol. TR	2595.6 ms
Multi-echo Shots	1

Geometry - AutoAlign

Slab Group	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	R1.9 P2.5 H6.8

Geometry - AutoAlign

R	1.9 mm
P	2.5 mm
H	6.8 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Saturation Mode	Standard
-----------------	----------

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Auto Coil Select
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R1.9 P0.0 H6.2 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	175 mm
! F >> H	49 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	297.118707 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Sequence - Part 1

Sequence Name	ep 256d7d0
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Normal
Reordering	Linear
Bandwidth	1104 Hz/Px
Echo Spacing	1.01 ms
Segmentation	3
EPI Factor	52

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Special

PAT ref. FA	3 deg
RF duration	2000 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Noise dummy shots	-1
CHECK FLIP ANGLE!	On
Integrated PC	Off
Invert PE	Off
Min. TE w/ PF	On
Dual-polarity	On
Ramp Sampling	On
Ext. trigger/shot	Off
Water Exc.	-none-
Phase Correction	per Series
EPI rise time factor	1.10
G. spoil dephasing[1]	0.0 pi
G. spoil dephasing[2]	4.0 pi
G. spoil dephasing[3]	2.0 pi
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	5000 /10^6
Slab Scale	-10 %
RF spoil scheme	Conventional

Sequence - Assistant

SAR Assistant	Off
---------------	-----

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250723_3rd_order\ldzne_ep3d_3rd_order_shim_test_es1p01_connted

TA: 4:48 min Coil Selection: Auto Voxel Size: 0.8x0.8x0.8 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	36
Slice Oversampling	0.0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.84 mm
TR	72.1 ms
Vol. TR	2595.6 ms
TE 1	25.50 ms
Averages	1
Multi-echo Shots	1
AutoAlign	---

Contrast - Common

TR	72.1 ms
Vol. TR	2595.6 ms
TE 1	25.50 ms
Multi-echo spacing	53.40 ms
MTC	Off
Flip Angle	15 deg
Fat-Water Contrast	Standard
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	100
Pause after Meas.	0.0 s
Reordering	Linear

Resolution - Common

FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.84 mm
Base Resolution	206
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	CAIPIRINHA
CAIPIRINHA Mode	Free
Reference Scans	GRE/Separate
Acceleration Factor PE	1
Reference Lines PE	63
Acceleration Factor 3D	3
Reference Lines 3D	36
Reordering Shift 3D	1
Phase Partial Fourier	6/8
Slice Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	Off
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	36
Slice Oversampling	0.0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.84 mm
TR	72.1 ms
Vol. TR	2595.6 ms
Multi-echo Shots	1

Geometry - AutoAlign

Slab Group	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	R1.9 P2.5 H6.8

Geometry - AutoAlign

R	1.9 mm
P	2.5 mm
H	6.8 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Saturation Mode	Standard
-----------------	----------

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Auto Coil Select
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R1.9 P0.0 H6.2 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	175 mm
! F >> H	49 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	297.118707 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Sequence - Part 1

Sequence Name	ep 256d7d0
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Normal
Reordering	Linear
Bandwidth	1104 Hz/Px
Echo Spacing	1.01 ms
Segmentation	3
EPI Factor	52

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Special

PAT ref. FA	3 deg
RF duration	2000 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Noise dummy shots	-1
CHECK FLIP ANGLE!	On
Integrated PC	Off
Invert PE	Off
Min. TE w/ PF	On
Dual-polarity	On
Ramp Sampling	On
Ext. trigger/shot	Off
Water Exc.	-none-
Phase Correction	per Series
EPI rise time factor	1.10
G. spoil dephasing[1]	0.0 pi
G. spoil dephasing[2]	4.0 pi
G. spoil dephasing[3]	2.0 pi
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	5000 /10^6
Slab Scale	-10 %
RF spoil scheme	Conventional

Sequence - Assistant

SAR Assistant	Off
---------------	-----

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250723_3rd_order\cmrr_es_1.0
1_connected

TA: 2:32 min Coil Selection: Manual Voxel Size: 0.8x0.8x0.8 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	36
Distance Factor	0 %
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.8 mm
TR	2760.0 ms
TE	28.00 ms
Averages	1
Multi-band accel. factor	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	2760.0 ms
TE	28.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	55 deg
Fat-Water Contrast	Fat Saturation
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	50
Delay in TR	0.00 ms

Resolution - Common

FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.8 mm
Base Resolution	208
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	GRAPPA
Reference scan mode	Segmented
Acceleration Factor PE	3
Reference Lines PE	108
Phase Partial Fourier	6/8

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Hamming	Off
Distortion Correction	Off
Static Field Correction	Off
Normalize	Off

Geometry - Common

Slice Group	1
Slices	36
Distance Factor	0 %
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.8 mm
TR	2760.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Multi-band accel. factor	1

Geometry - AutoAlign

Slice Group	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	R1.9 P2.5 H6.8
R	1.9 mm
P	2.5 mm
H	6.8 mm
Initial Orientation	Transversal

Geometry - AutoAlign

Initial Rotation	0.00 deg
------------------	----------

Geometry - Saturation

Special Saturation	None
--------------------	------

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

I Position	R1.9 P0.0 H6.2 mm
I Orientation	Transversal
I Rotation	0.00 deg
! A >> P	150 mm
! R >> L	175 mm
! F >> H	49 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Standard

System - Tx/Rx

Frequency 1H	297.118707 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2760.0 ms
Log Signals	Off
Multi-band accel. factor	1

BOLD

GLM Statistics	Off
Ignore Meas. at Start	0
Ignore After Transition	0
Model Transition States	On
Temp. Highpass Filter	On
Threshold	4.00
Paradigm Size	15
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
Motion Correction	Off
Spatial Filter	Off
Measurements	50
Delay in TR	0.00 ms

Sequence - Part 1

Sequence Name	epfid
Dimension	2D
Excitation	Standard
Gradient Mode	Normal
Flow Compensation	None
Bandwidth	1144 Hz/Px
Echo Spacing	1.01 ms
Free Echo Spacing	On
EPI Factor	208

Sequence - Part 2

Introduction	Off
RF Spoiling	Off

Sequence - Special

Excite pulse duration	4000 us
Min. prep scans	0
Delay before PC scans	0 us
SENSE1 coil combine	Off
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable B1 control loop	Off
Disable freq. update	Off
Suppress 16-bit DICOM	Off
Force equal slice timing	Off
FFT scale factor	1.00

Sequence - Special

Fat saturation FA	110.00 deg
Fat sat. offset	0.00 Hz
Sinc exc. pulse BWTP	5.20
Physio recording	Off
Triggering scheme	Standard

Sequence - Assistant

SAR Assistant	Off
---------------	-----

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250723_3rd_order\cmrr_es_1.0
1_unconnected

TA: 2:32 min Coil Selection: Manual Voxel Size: 0.8x0.8x0.8 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	36
Distance Factor	0 %
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.8 mm
TR	2760.0 ms
TE	28.00 ms
Averages	1
Multi-band accel. factor	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	2760.0 ms
TE	28.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	55 deg
Fat-Water Contrast	Fat Saturation
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	50
Delay in TR	0.00 ms

Resolution - Common

FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.8 mm
Base Resolution	208
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	GRAPPA
Reference scan mode	Segmented
Acceleration Factor PE	3
Reference Lines PE	108
Phase Partial Fourier	6/8

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Hamming	Off
Distortion Correction	Off
Static Field Correction	Off
Normalize	Off

Geometry - Common

Slice Group	1
Slices	36
Distance Factor	0 %
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.8 mm
TR	2760.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Multi-band accel. factor	1

Geometry - AutoAlign

Slice Group	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	R1.9 P2.5 H6.8
R	1.9 mm
P	2.5 mm
H	6.8 mm
Initial Orientation	Transversal

Geometry - AutoAlign

Initial Rotation	0.00 deg
------------------	----------

Geometry - Saturation

Special Saturation	None
--------------------	------

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

I Position	R1.9 P0.0 H6.2 mm
I Orientation	Transversal
I Rotation	0.00 deg
! A >> P	150 mm
! R >> L	175 mm
! F >> H	49 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Standard

System - Tx/Rx

Frequency 1H	297.118707 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2760.0 ms
Log Signals	Off
Multi-band accel. factor	1

BOLD

GLM Statistics	Off
Ignore Meas. at Start	0
Ignore After Transition	0
Model Transition States	On
Temp. Highpass Filter	On
Threshold	4.00
Paradigm Size	15
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
Motion Correction	Off
Spatial Filter	Off
Measurements	50
Delay in TR	0.00 ms

Sequence - Part 1

Sequence Name	epfid
Dimension	2D
Excitation	Standard
Gradient Mode	Normal
Flow Compensation	None
Bandwidth	1144 Hz/Px
Echo Spacing	1.01 ms
Free Echo Spacing	On
EPI Factor	208

Sequence - Part 2

Introduction	Off
RF Spoiling	Off

Sequence - Special

Excite pulse duration	4000 us
Min. prep scans	0
Delay before PC scans	0 us
SENSE1 coil combine	Off
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable B1 control loop	Off
Disable freq. update	Off
Suppress 16-bit DICOM	Off
Force equal slice timing	Off
FFT scale factor	1.00

Sequence - Special

Fat saturation FA	110.00 deg
Fat sat. offset	0.00 Hz
Sinc exc. pulse BWTP	5.20
Physio recording	Off
Triggering scheme	Standard

Sequence - Assistant

SAR Assistant	Off
---------------	-----

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250723_3rd_orderlep3d_uncon
nected

TA: 3:59 min Coil Selection: Auto Voxel Size: 0.8x0.8x0.8 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	36
Slice Oversampling	0.0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.84 mm
TR	58.3 ms
Vol. TR	2098.8 ms
TE 1	20.40 ms
Averages	1
Multi-echo Shots	1
AutoAlign	---

Contrast - Common

TR	58.3 ms
Vol. TR	2098.8 ms
TE 1	20.40 ms
Multi-echo spacing	53.40 ms
MTC	Off
Flip Angle	18 deg
Fat-Water Contrast	Standard
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	100
Pause after Meas.	0.0 s
Reordering	Linear

Resolution - Common

FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.84 mm
Base Resolution	206
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	CAIPIRINHA
CAIPIRINHA Mode	Free
Reference Scans	GRE/Separate
Acceleration Factor PE	1
Reference Lines PE	63
Acceleration Factor 3D	3
Reference Lines 3D	36
Reordering Shift 3D	1
Phase Partial Fourier	6/8
Slice Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	Off
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	36
Slice Oversampling	0.0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.84 mm
TR	58.3 ms
Vol. TR	2098.8 ms
Multi-echo Shots	1

Geometry - AutoAlign

Slab Group	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	R1.9 P2.5 H6.8

Geometry - AutoAlign

R	1.9 mm
P	2.5 mm
H	6.8 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Saturation Mode	Standard
-----------------	----------

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Auto Coil Select
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R1.9 P0.0 H6.2 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	175 mm
! F >> H	49 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	297.118707 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Sequence - Part 1

Sequence Name	ep 256d7d0
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Normal
Reordering	Linear
Bandwidth	1104 Hz/Px
Echo Spacing	1.01 ms
Segmentation	3
EPI Factor	52

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Special

PAT ref. FA	3 deg
RF duration	2000 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Noise dummy shots	-1
CHECK FLIP ANGLE!	On
Integrated PC	Off
Invert PE	Off
Min. TE w/ PF	On
Dual-polarity	On
Ramp Sampling	On
Ext. trigger/shot	Off
Water Exc.	-none-
Phase Correction	per Series
EPI rise time factor	1.10
G. spoil dephasing[1]	0.0 pi
G. spoil dephasing[2]	4.0 pi
G. spoil dephasing[3]	2.0 pi
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	5000 /10^6
Slab Scale	-10 %
RF spoil scheme	Conventional

Sequence - Assistant

SAR Assistant	Off
---------------	-----

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250723_3rd_orderlep3d_connected

TA: 3:59 min Coil Selection: Auto Voxel Size: 0.8x0.8x0.8 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	36
Slice Oversampling	0.0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.84 mm
TR	58.3 ms
Vol. TR	2098.8 ms
TE 1	20.40 ms
Averages	1
Multi-echo Shots	1
AutoAlign	---

Contrast - Common

TR	58.3 ms
Vol. TR	2098.8 ms
TE 1	20.40 ms
Multi-echo spacing	53.40 ms
MTC	Off
Flip Angle	18 deg
Fat-Water Contrast	Standard
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	100
Pause after Meas.	0.0 s
Reordering	Linear

Resolution - Common

FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.84 mm
Base Resolution	206
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	CAIPIRINHA
CAIPIRINHA Mode	Free
Reference Scans	GRE/Separate
Acceleration Factor PE	1
Reference Lines PE	63
Acceleration Factor 3D	3
Reference Lines 3D	36
Reordering Shift 3D	1
Phase Partial Fourier	6/8
Slice Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	Off
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	36
Slice Oversampling	0.0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.84 mm
TR	58.3 ms
Vol. TR	2098.8 ms
Multi-echo Shots	1

Geometry - AutoAlign

Slab Group	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	R1.9 P2.5 H6.8

Geometry - AutoAlign

R	1.9 mm
P	2.5 mm
H	6.8 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Saturation Mode	Standard
-----------------	----------

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Auto Coil Select
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R1.9 P0.0 H6.2 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	175 mm
! F >> H	49 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Slab-sel.

System - Tx/Rx

Frequency 1H	297.118707 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Sequence - Part 1

Sequence Name	ep 256d7d0
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Normal
Reordering	Linear
Bandwidth	1104 Hz/Px
Echo Spacing	1.01 ms
Segmentation	3
EPI Factor	52

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Special

PAT ref. FA	3 deg
RF duration	2000 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Noise dummy shots	-1
CHECK FLIP ANGLE!	On
Integrated PC	Off
Invert PE	Off
Min. TE w/ PF	On
Dual-polarity	On
Ramp Sampling	On
Ext. trigger/shot	Off
Water Exc.	-none-
Phase Correction	per Series
EPI rise time factor	1.10
G. spoil dephasing[1]	0.0 pi
G. spoil dephasing[2]	4.0 pi
G. spoil dephasing[3]	2.0 pi
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	5000 /10^6
Slab Scale	-10 %
RF spoil scheme	Conventional

Sequence - Assistant

SAR Assistant	Off
---------------	-----

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250723_3rd_orderlep2d_siemens_connected

TA: 2:44 min Coil Selection: Manual Voxel Size: 0.8x0.8x0.8 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	On
Load Images to Graphic Segments	On
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	36
Distance Factor	0 %
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.8 mm
TR	2570.0 ms
TE	25.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	2570.0 ms
TE	25.00 ms
MTC	Off
Flip Angle	55 deg
Fat-Water Contrast	Fat Saturation
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	50
Delay in TR	0.00 ms

Resolution - Common

FOV Read	175 mm
FOV Phase	100.0 %

Resolution - Common

Slice Thickness	0.8 mm
Base Resolution	208
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	GRAPPA
Reference Scans	GRE/Separate
Acceleration Factor PE	3
Reference Lines PE	126
Phase Partial Fourier	6/8

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Hamming	Off
Distortion Correction	Off
Normalize	Off

Geometry - Common

Slice Group	1
Slices	36
Distance Factor	0 %
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.8 mm
TR	2570.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	R1.9 P2.5 H6.8
R	1.9 mm
P	2.5 mm
H	6.8 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None
--------------------	------

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R1.9 P0.0 H6.2 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	175 mm
! F >> H	49 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Standard

System - Tx/Rx

Frequency 1H	297.118707 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2570.0 ms
Log Signals	Off
Concatenations	1

BOLD

GLM Statistics	Off
Ignore Meas. at Start	0

BOLD

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
Measurements	50
Delay in TR	0.00 ms

Sequence - Part 1

Sequence Name	epfid
Excitation	Standard
RF Pulse Type	Normal
Gradient Mode	Normal
Bandwidth	1144 Hz/Px
Echo Spacing	1.01 ms
Free Echo Spacing	On
EPI Factor	208

Sequence - Part 2

Introduction	On
--------------	----

Sequence - Assistant

SAR Assistant	Off
---------------	-----

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250723_3rd_orderlep2d_siemens_unconnected

TA: 2:44 min Coil Selection: Manual Voxel Size: 0.8x0.8x0.8 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	On
Load Images to Graphic Segments	On
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	36
Distance Factor	0 %
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.8 mm
TR	2570.0 ms
TE	25.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	2570.0 ms
TE	25.00 ms
MTC	Off
Flip Angle	55 deg
Fat-Water Contrast	Fat Saturation
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	50
Delay in TR	0.00 ms

Resolution - Common

FOV Read	175 mm
FOV Phase	100.0 %

Resolution - Common

Slice Thickness	0.8 mm
Base Resolution	208
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	GRAPPA
Reference Scans	GRE/Separate
Acceleration Factor PE	3
Reference Lines PE	126
Phase Partial Fourier	6/8

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Hamming	Off
Distortion Correction	Off
Normalize	Off

Geometry - Common

Slice Group	1
Slices	36
Distance Factor	0 %
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.8 mm
TR	2570.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	R1.9 P2.5 H6.8
R	1.9 mm
P	2.5 mm
H	6.8 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None
--------------------	------

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R1.9 P0.0 H6.2 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	175 mm
! F >> H	49 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Standard

System - Tx/Rx

Frequency 1H	297.118707 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2570.0 ms
Log Signals	Off
Concatenations	1

BOLD

GLM Statistics	Off
Ignore Meas. at Start	0

BOLD

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
Measurements	50
Delay in TR	0.00 ms

Sequence - Part 1

Sequence Name	epfid
Excitation	Standard
RF Pulse Type	Normal
Gradient Mode	Normal
Bandwidth	1144 Hz/Px
Echo Spacing	1.01 ms
Free Echo Spacing	On
EPI Factor	208

Sequence - Part 2

Introduction	On
--------------	----

Sequence - Assistant

SAR Assistant	Off
---------------	-----

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250723_3rd_order\DPG_FLEET_
disconnected

TA: 2:32 min Coil Selection: Manual Voxel Size: 0.8x0.8x0.8 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	36
Distance Factor	0 %
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.8 mm
TR	2600.0 ms
TE	25.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	2600.0 ms
TE	25.00 ms
MTC	Off
Flip Angle	60 deg
Fat-Water Contrast	Fat Saturation
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	50
Delay in TR	0.00 ms

Resolution - Common

FOV Read	175 mm
FOV Phase	100.0 %

Resolution - Common

Slice Thickness	0.8 mm
Base Resolution	208
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	GRAPPA
Reference Scans	EPI/Separate
Acceleration Factor PE	3
Reference Lines PE	102
Phase Partial Fourier	6/8

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Hamming	Off
Distortion Correction	Off
Normalize	Off

Geometry - Common

Slice Group	1
Slices	36
Distance Factor	0 %
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.8 mm
TR	2600.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	R1.9 P2.5 H6.8
R	1.9 mm
P	2.5 mm
H	6.8 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None
--------------------	------

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R1.9 P0.0 H6.2 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	175 mm
! F >> H	49 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Standard

System - Tx/Rx

Frequency 1H	297.118707 MHz
! Ref. Amplitude 1H	250.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2600.0 ms
Log Signals	Off
Concatenations	1

BOLD

GLM Statistics	Off
Ignore Meas. at Start	0

BOLD

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
Measurements	50
Delay in TR	0.00 ms

Sequence - Part 1

Sequence Name	epfid
Excitation	Standard
RF Pulse Type	Fast
Gradient Mode	Normal
Bandwidth	1144 Hz/Px
Echo Spacing	1.01 ms
Free Echo Spacing	On
EPI Factor	208

Sequence - Part 2

Introduction	Off
--------------	-----

Sequence - Special

Imaging Dummy TRs	4
SMS ACS Dummy TRs	-1
FLEET Dummy Pulses	0
CC Mode	Direct adj coil
RF Clip	0
VERSE Factor	1.00
ACS mode	GRAPPA FLEET
FLEET FA	10 deg
Kernel Size	5x5
Run Siemens DPG.	On

Sequence - Special

Wait for TCP/IP Trigger	Off
Reverse Phase Encoding	Off

Sequence - Assistant

SAR Assistant	Off
---------------	-----

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250723_3rd_order\DPG_FLEET_connected

TA: 2:32 min Coil Selection: Manual Voxel Size: 0.8×0.8×0.8 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	36
Distance Factor	0 %
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.8 mm
TR	2600.0 ms
TE	25.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	2600.0 ms
TE	25.00 ms
MTC	Off
Flip Angle	60 deg
Fat-Water Contrast	Fat Saturation
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	50
Delay in TR	0.00 ms

Resolution - Common

FOV Read	175 mm
FOV Phase	100.0 %

Resolution - Common

Slice Thickness	0.8 mm
Base Resolution	208
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	GRAPPA
Reference Scans	EPI/Separate
Acceleration Factor PE	3
Reference Lines PE	102
Phase Partial Fourier	6/8

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Hamming	Off
Distortion Correction	Off
Normalize	Off

Geometry - Common

Slice Group	1
Slices	36
Distance Factor	0 %
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	175 mm
FOV Phase	100.0 %
Slice Thickness	0.8 mm
TR	2600.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	R1.9 P2.5 H6.8 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	R1.9 P2.5 H6.8
R	1.9 mm
P	2.5 mm
H	6.8 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None
--------------------	------

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R1.9 P0.0 H6.2 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	150 mm
! R >> L	175 mm
! F >> H	49 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Standard

System - Tx/Rx

Frequency 1H	297.118707 MHz
! Ref. Amplitude 1H	250.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2600.0 ms
Log Signals	Off
Concatenations	1

BOLD

GLM Statistics	Off
Ignore Meas. at Start	0

BOLD

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
Measurements	50
Delay in TR	0.00 ms

Sequence - Part 1

Sequence Name	epfid
Excitation	Standard
RF Pulse Type	Fast
Gradient Mode	Normal
Bandwidth	1144 Hz/Px
Echo Spacing	1.01 ms
Free Echo Spacing	On
EPI Factor	208

Sequence - Part 2

Introduction	Off
--------------	-----

Sequence - Special

Imaging Dummy TRs	4
SMS ACS Dummy TRs	-1
FLEET Dummy Pulses	0
CC Mode	Direct adj coil
RF Clip	0
VERSE Factor	1.00
ACS mode	GRAPPA FLEET
FLEET FA	10 deg
Kernel Size	5x5
Run Siemens DPG.	On

Sequence - Special

Wait for TCP/IP Trigger	Off
Reverse Phase Encoding	Off

Sequence - Assistant

SAR Assistant	Off
---------------	-----

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250723_3rd_orderlep2d_bold_mgh_dpg_hatch_1p2_R3_SMS_siemensDPG_noFLEET_nodpg

TA: 2:59 min Coil Selection: Manual Voxel Size: 1.2x1.2x1.2 mm³ Acc:: 9 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	111
Distance Factor	0 %
Position	R7.0 A10.4 H1.2 mm
Orientation	T > C-7.2 > S0.7
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	192 mm
FOV Phase	100.0 %
Slice Thickness	1.2 mm
TR	2360.0 ms
TE	28.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	2360.0 ms
TE	28.00 ms
MTC	Off
Flip Angle	75 deg
Fat-Water Contrast	Fat Saturation
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	60
Delay in TR	0.00 ms

Resolution - Common

FOV Read	192 mm
FOV Phase	100.0 %

Resolution - Common

Slice Thickness	1.2 mm
Base Resolution	160
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	SMS
Reference Scans	EPI/Separate
Acceleration Factor PE	3
Reference Lines PE	126
SMS Factor	3
FOV Shift Factor	2
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Hamming	Off
Distortion Correction	Off
Normalize	Off

Geometry - Common

Slice Group	1
Slices	111
Distance Factor	0 %
Position	R7.0 A10.4 H1.2 mm
Orientation	T > C-7.2 > S0.7
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	192 mm
FOV Phase	100.0 %
Slice Thickness	1.2 mm
TR	2360.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	R7.0 A10.4 H1.2 mm
Orientation	T > C-7.2 > S0.7
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	R7.0 A10.4 H1.2
R	7.0 mm
A	10.4 mm
H	1.2 mm
Initial Orientation	T > C
T > C	-7.20

Geometry - AutoAlign

> S	0.70
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None
--------------------	------

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R6.8 A3.0 F1.2 mm
! Orientation	T > C-5.9 > S0.1
! Rotation	-0.08 deg
! A >> P	263 mm
! R >> L	350 mm
! F >> H	169 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Standard

System - Tx/Rx

Frequency 1H	297.118707 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2360.0 ms
Log Signals	Off
Concatenations	1

BOLD

GLM Statistics	Off
Ignore Meas. at Start	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
Measurements	60
Delay in TR	0.00 ms

Sequence - Part 1

Sequence Name	epfid
Excitation	Standard
RF Pulse Type	Fast
Gradient Mode	Normal*
Bandwidth	1644 Hz/Px
Echo Spacing	0.75 ms
Free Echo Spacing	On
EPI Factor	160

Sequence - Part 2

Introduction	Off
--------------	-----

Sequence - Special

Imaging Dummy TRs	4
SMS ACS Dummy TRs	-1
FLEET Dummy Pulses	0
CC Mode	Direct adj coil
RF Clip	0
VERSE Factor	1.00
ACS mode	Standard
Kernel Size	5x5

Sequence - Special

Run Siemens DPG.	Off
Wait for TCP/IP Trigger	Off
Reverse Phase Encoding	Off

Sequence - Assistant

SAR Assistant	Off
---------------	-----

\\MARTINOS DEVELOPER\HUBER\3rd_order_shim_tests_with_Gunjan\20250723_3rd_order\dpd_hatch_1p2_R3_SMS_siemensDPG_noFLEET_nodpg_disconnected

TA: 2:59 min Coil Selection: Manual Voxel Size: 1.2x1.2x1.2 mm³ Acc:: 9 Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Disable auto transfer to PACS	Off
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	111
Distance Factor	0 %
Position	R7.0 A10.4 H1.2 mm
Orientation	T > C-7.2 > S0.7
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	192 mm
FOV Phase	100.0 %
Slice Thickness	1.2 mm
TR	2360.0 ms
TE	28.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	AC

Contrast - Common

TR	2360.0 ms
TE	28.00 ms
MTC	Off
Flip Angle	75 deg
Fat-Water Contrast	Fat Saturation
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	60
Delay in TR	0.00 ms

Resolution - Common

FOV Read	192 mm
FOV Phase	100.0 %

Resolution - Common

Slice Thickness	1.2 mm
Base Resolution	160
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration Mode	SMS
Reference Scans	EPI/Separate
Acceleration Factor PE	3
Reference Lines PE	126
SMS Factor	3
FOV Shift Factor	2
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Hamming	Off
Distortion Correction	Off
Normalize	Off

Geometry - Common

Slice Group	1
Slices	111
Distance Factor	0 %
Position	R7.0 A10.4 H1.2 mm
Orientation	T > C-7.2 > S0.7
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FOV Read	192 mm
FOV Phase	100.0 %
Slice Thickness	1.2 mm
TR	2360.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	R7.0 A10.4 H1.2 mm
Orientation	T > C-7.2 > S0.7
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	R7.0 A10.4 H1.2
R	7.0 mm
A	10.4 mm
H	1.2 mm
Initial Orientation	T > C
T > C	-7.20

Geometry - AutoAlign

> S	0.70
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None
--------------------	------

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H

System - Miscellaneous

Coil Selection	Manual
Radial Sorting	Off
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Brain
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

! Position	R6.8 A3.0 F1.2 mm
! Orientation	T > C-5.9 > S0.1
! Rotation	-0.08 deg
! A >> P	263 mm
! R >> L	350 mm
! F >> H	169 mm
Reset	Off

System - pTx

B1 Shim	TrueForm
Excitation	Standard

System - Tx/Rx

Frequency 1H	297.118707 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2360.0 ms
Log Signals	Off
Concatenations	1

BOLD

GLM Statistics	Off
Ignore Meas. at Start	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
Measurements	60
Delay in TR	0.00 ms

Sequence - Part 1

Sequence Name	epfid
Excitation	Standard
RF Pulse Type	Fast
Gradient Mode	Normal*
Bandwidth	1644 Hz/Px
Echo Spacing	0.75 ms
Free Echo Spacing	On
EPI Factor	160

Sequence - Part 2

Introduction	Off
--------------	-----

Sequence - Special

Imaging Dummy TRs	4
SMS ACS Dummy TRs	-1
FLEET Dummy Pulses	0
CC Mode	Direct adj coil
RF Clip	0
VERSE Factor	1.00
ACS mode	Standard
Kernel Size	5x5

Sequence - Special

Run Siemens DPG.	Off
Wait for TCP/IP Trigger	Off
Reverse Phase Encoding	Off

Sequence - Assistant

SAR Assistant	Off
---------------	-----