\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\localizer_32ch-head-coil

TA: 0:17 PM: REF Voxel size: 1.6×1.6×1.6 mmPAT: 3 Rel. SNR: 1.00 : fl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	On
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
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 - Common

TR	4.00 ms
TE	1.53 ms
Flip angle	16.0 deg

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

Resolution - Common

FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
Base resolution	160
Phase resolution	100 %
Slice resolution	69 %
Phase partial Fourier	6/8
Slice partial Fourier	6/8
Trajectory	Cartesian

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	24
Accel. factor 3D	1

Resolution - iPAT

Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	On
Unfiltered images	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
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
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
A	10.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off

System - Adjustments

Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - PACE

Resp. control	Off
Concatenations	1

Inline - Common

Flip angle	16.0 deg
Measurements	1
Time to center	7.4 s

Inline - Inline

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - MIP

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

Inline - Composing

Distortion Corr.	Off

Sequence - Part 1

Introduction	On
Dimension	3D
Asymmetric echo	Weak
Contrasts	1
Multi-slice mode	Sequential
Bandwidth	540 Hz/Px

Sequence - Part 2

RF pulse type	Fast
Gradient mode	Normal
Excitation	Non-sel.
RF spoiling	On

Sequence - Nuclei

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz

Sequence - Nuclei

TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A32

Sequence - Assistant

Mode	Off

SIEMENS MAGNETOM Terra

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\localizer_32ch-head-coil_tra

TA: 0:17 PM: REF Voxel size: 1.6×1.6×1.6 mmPAT: 3 Rel. SNR: 1.00 : fl

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	On
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
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 - Common

TR	4.00 ms
TE	1.53 ms
Flip angle	16.0 deg

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

Resolution - Common

FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
Base resolution	160
Phase resolution	100 %
Slice resolution	69 %
Phase partial Fourier	6/8
Slice partial Fourier	6/8
Trajectory	Cartesian

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	24

Resolution - iPAT

Accel. factor 3D	1
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	On
Unfiltered images	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
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
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab group	1
Position	L0.0 A10.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Initial Position	L0.0 A10.0 H0.0
L	0.0 mm
A	10.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Tune up

System - Adjustments

B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - PACE

Resp. control	Off
Concatenations	1

Inline - Common

Flip angle	16.0 deg
Measurements	1
Time to center	7.4 s

Inline - Inline

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - MIP

MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On

Inline - Composing

Distortion Corr.	Off

Sequence - Part 1

Introduction	On
Dimension	3D
Asymmetric echo	Weak
Contrasts	1
Multi-slice mode	Sequential
Bandwidth	540 Hz/Px

Sequence - Part 2

RF pulse type	Fast
Gradient mode	Normal
Excitation	Non-sel.
RF spoiling	On

Sequence - Nuclei

TX/RX Nucleus	1H
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	A32

Sequence - Assistant

Mode	Off

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\NIH5p_866HzES1p26

TA: 0:24 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : nih5p

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Averages	1
Filter	None
Coil elements	A32

Contrast - Common

TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Multi-echo spacing	66.4 ms
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	4
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	1
Ref. lines PE	63
Acc. factor 3D	3
Ref. lines 3D	36
CAIPI 3D Shift	1
Reference Scan Mode	EPI/separate
CAIPI Mode (tooltip)	Skipped-CAIPI
Total PAT factor	3

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms

Geometry - AutoAlign

Slab group	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A13.9 H0.0
L	3.3 mm
A	13.9 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T

System - Miscellaneous

Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	175 mm
R >> L	175 mm
F >> H	31 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	0.300
Reset	Off
! Ref. amplitude 1H	215.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Echo spacing	1.26 ms
Bandwidth	866 Hz/Px

Sequence - Part 2

EPI factor	52
Segmentation	3
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	36

Sequence - Special

PATRef FA	3 deg
RF duration	2000 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Ramp Sampling	On

Sequence - Special

NORDIC	Off
SVDPC	Off
Sym VASO	Off
Dual-pol. EPI	On
Invert RO	Off
Invert 3D	Off
Disable PF reco	Off
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	50000 10^-6
Var. FA /MAGEC	0
MAGEC FA ratio	100
spoiler scale	1

Sequence - Assistant

Mode	Off

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\NIH5p_932ES1p18

TA: 0:24 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : nih5p

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Averages	1
Filter	None
Coil elements	A32

Contrast - Common

TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Multi-echo spacing	62.2 ms
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	4
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	1
Ref. lines PE	63
Acc. factor 3D	3
Ref. lines 3D	36
CAIPI 3D Shift	1
Reference Scan Mode	EPI/separate
CAIPI Mode (tooltip)	Skipped-CAIPI
Total PAT factor	3

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms

Geometry - AutoAlign

Slab group	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A13.9 H0.0
L	3.3 mm
A	13.9 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T

System - Miscellaneous

Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	175 mm
R >> L	175 mm
F >> H	31 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	0.300
Reset	Off
! Ref. amplitude 1H	215.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Echo spacing	1.18 ms
Bandwidth	934 Hz/Px

Sequence - Part 2

EPI factor	52
Segmentation	3
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	36

Sequence - Special

PATRef FA	3 deg
RF duration	2000 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Ramp Sampling	On

Sequence - Special

NORDIC	Off
SVDPC	Off
Sym VASO	Off
Dual-pol. EPI	On
Invert RO	Off
Invert 3D	Off
Disable PF reco	Off
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	50000 10^-6
Var. FA /MAGEC	0
MAGEC FA ratio	100
spoiler scale	1

Sequence - Assistant

Mode	Off

SIEMENS MAGNETOM Terra

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\NIH5p_1012ES1p09

TA: 0:23 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : nih5p

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Averages	1
Filter	None
Coil elements	A32

Contrast - Common

TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Multi-echo spacing	57.6 ms
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	4
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	1
Ref. lines PE	63
Acc. factor 3D	3
Ref. lines 3D	36
CAIPI 3D Shift	1
Reference Scan Mode	EPI/separate
CAIPI Mode (tooltip)	Skipped-CAIPI
Total PAT factor	3

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms

Geometry - AutoAlign

Slab group	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A13.9 H0.0
L	3.3 mm
A	13.9 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T

System - Miscellaneous

Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	175 mm
R >> L	175 mm
F >> H	31 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	0.300
Reset	Off
! Ref. amplitude 1H	215.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Echo spacing	1.09 ms
Bandwidth	1012 Hz/Px

Sequence - Part 2

EPI factor	52
Segmentation	3
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	36

Sequence - Special

PATRef FA	3 deg
RF duration	2000 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Ramp Sampling	On

Sequence - Special

NORDIC	Off
SVDPC	Off
Sym VASO	Off
Dual-pol. EPI	On
Invert RO	Off
Invert 3D	Off
Disable PF reco	Off
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	50000 10^-6
Var. FA /MAGEC	0
MAGEC FA ratio	100
spoiler scale	1

Sequence - Assistant

Mode	Off

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\NIH5p_1104ES1p01

TA: 0:23 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : nih5p

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Averages	1
Filter	None
Coil elements	A32

Contrast - Common

TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Multi-echo spacing	53.4 ms
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	4
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	1
Ref. lines PE	63
Acc. factor 3D	3
Ref. lines 3D	36
CAIPI 3D Shift	1
Reference Scan Mode	EPI/separate
CAIPI Mode (tooltip)	Skipped-CAIPI
Total PAT factor	3

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms

Geometry - AutoAlign

Slab group	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A13.9 H0.0
L	3.3 mm
A	13.9 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T

System - Miscellaneous

Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	175 mm
R >> L	175 mm
F >> H	31 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	0.300
Reset	Off
! Ref. amplitude 1H	215.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Echo spacing	1.01 ms
Bandwidth	1104 Hz/Px

Sequence - Part 2

EPI factor	52
Segmentation	3
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	36

Sequence - Special

PATRef FA	3 deg
RF duration	2000 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Ramp Sampling	On

Sequence - Special

NORDIC	Off
SVDPC	Off
Sym VASO	Off
Dual-pol. EPI	On
Invert RO	Off
Invert 3D	Off
Disable PF reco	Off
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	50000 10^-6
Var. FA /MAGEC	0
MAGEC FA ratio	100
spoiler scale	1

Sequence - Assistant

Mode	Off

SIEMENS MAGNETOM Terra

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\NIH5p_1516ES1p14

TA: 0:23 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : nih5p

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Averages	1
Filter	None
Coil elements	A32

Contrast - Common

TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Multi-echo spacing	60.2 ms
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	4
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	1
Ref. lines PE	63
Acc. factor 3D	3
Ref. lines 3D	36
CAIPI 3D Shift	1
Reference Scan Mode	EPI/separate
CAIPI Mode (tooltip)	Skipped-CAIPI
Total PAT factor	3

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms

Geometry - AutoAlign

Slab group	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A13.9 H0.0
L	3.3 mm
A	13.9 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T

System - Miscellaneous

Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	175 mm
R >> L	175 mm
F >> H	31 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	0.300
Reset	Off
! Ref. amplitude 1H	215.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Echo spacing	1.14 ms
Bandwidth	1516 Hz/Px

Sequence - Part 2

EPI factor	52
Segmentation	3
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	36

Sequence - Special

PATRef FA	3 deg
RF duration	2000 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Ramp Sampling	On

Sequence - Special

NORDIC	Off
SVDPC	Off
Sym VASO	Off
Dual-pol. EPI	On
Invert RO	Off
Invert 3D	Off
Disable PF reco	Off
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	50000 10^-6
Var. FA /MAGEC	0
MAGEC FA ratio	100
spoiler scale	1

Sequence - Assistant

Mode	Off

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\CMRR_866Hz1p26
TA: 0:32 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
TE	31.00 ms
Multi-band accel. factor	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.00 ms
MTC	Off
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	63
Reference scan mode	Segmented

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A13.9 H0.0
L	3.3 mm
A	13.9 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L0.4 A11.1 H0.3 mm
! Orientation	T > C0.4
! Rotation	90.00 deg
! R >> L	185 mm
! A >> P	179 mm
! F >> H	32 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Multi-band accel. factor	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.26 ms
Bandwidth	866 Hz/Px

Sequence - Part 2

EPI factor	204
Gradient mode	Fast
RF spoiling	On

Sequence - Special

Excite pulse duration	3640 us
EPI noise scans	0
SENSE1 coil combine	On
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable freq. update	Off
Force equal slice timing	Off
FFT scale factor	0.75
Fat saturation FA	110.0 deg
Physio recording	Off
Triggering scheme	Standard

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\CMRR_970Hz1p13

TA: 0:32 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
TE	31.00 ms
Multi-band accel. factor	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.00 ms
MTC	Off
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	63
Reference scan mode	Segmented

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A13.9 H0.0
L	3.3 mm
A	13.9 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L0.4 A11.1 H0.3 mm
! Orientation	T > C0.4
! Rotation	90.00 deg
! R >> L	185 mm
! A >> P	179 mm
! F >> H	32 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Multi-band accel. factor	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.13 ms
Bandwidth	970 Hz/Px

Sequence - Part 2

EPI factor	204
Gradient mode	Fast
RF spoiling	On

Sequence - Special

Excite pulse duration	3640 us
EPI noise scans	0
SENSE1 coil combine	On
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable freq. update	Off
Force equal slice timing	Off
FFT scale factor	0.75
Fat saturation FA	110.0 deg
Physio recording	Off
Triggering scheme	Standard

SIEMENS MAGNETOM Terra

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\CMRR_1104Hz1p01
TA: 0:32 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
TE	31.00 ms
Multi-band accel. factor	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.00 ms
MTC	Off
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	63
Reference scan mode	Segmented

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A13.9 H0.0
L	3.3 mm
A	13.9 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L0.4 A11.1 H0.3 mm
! Orientation	T > C0.4
! Rotation	90.00 deg
! R >> L	185 mm
! A >> P	179 mm
! F >> H	32 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Multi-band accel. factor	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.01 ms
Bandwidth	1104 Hz/Px

Sequence - Part 2

EPI factor	204
Gradient mode	Fast
RF spoiling	On

Sequence - Special

Excite pulse duration	3640 us
EPI noise scans	0
SENSE1 coil combine	On
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable freq. update	Off
Force equal slice timing	Off
FFT scale factor	0.75
Fat saturation FA	110.0 deg
Physio recording	Off
Triggering scheme	Standard

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\CMRR_1278Hz1p
TA: 0:32 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
TE	31.00 ms
Multi-band accel. factor	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.00 ms
MTC	Off
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	63
Reference scan mode	Segmented

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A13.9 H0.0
L	3.3 mm
A	13.9 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L0.4 A11.1 H0.3 mm
! Orientation	T > C0.4
! Rotation	90.00 deg
! R >> L	185 mm
! A >> P	179 mm
! F >> H	32 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Multi-band accel. factor	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1 ms
Bandwidth	1278 Hz/Px

Sequence - Part 2

EPI factor	204
Gradient mode	Fast
RF spoiling	On

Sequence - Special

Excite pulse duration	3640 us
EPI noise scans	0
SENSE1 coil combine	On
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable freq. update	Off
Force equal slice timing	Off
FFT scale factor	0.75
Fat saturation FA	110.0 deg
Physio recording	Off
Triggering scheme	Standard

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\CMRR_1516Hz1p08

TA: 0:32 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
TE	31.00 ms
Multi-band accel. factor	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.00 ms
MTC	Off
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	63
Reference scan mode	Segmented

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A13.9 H0.0
L	3.3 mm
A	13.9 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L0.4 A11.1 H0.3 mm
! Orientation	T > C0.4
! Rotation	90.00 deg
! R >> L	185 mm
! A >> P	179 mm
! F >> H	32 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Multi-band accel. factor	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.08 ms
Bandwidth	1516 Hz/Px

Sequence - Part 2

EPI factor	204
Gradient mode	Fast
RF spoiling	On

Sequence - Special

Excite pulse duration	3640 us
EPI noise scans	0
SENSE1 coil combine	On
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable freq. update	Off
Force equal slice timing	Off
FFT scale factor	0.75
Fat saturation FA	110.0 deg
Physio recording	Off
Triggering scheme	Standard

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\SIEMENS_866ES866

TA: 0:34 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
TE	31.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.0 ms
MTC	Off
Flip angle exc	60 deg
Flip angle fat sat	110 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

Accel. mode	GRAPPA
Accel. factor PE	3

Resolution - iPAT

Ref. lines PE	63
Reference scan mode	EPI/separate

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A13.9 H0.0
L	3.3 mm
A	13.9 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm

System - Adjustments

Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	175 mm
R >> L	175 mm
F >> H	29 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Concatenations	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	On

Sequence - Part 1

Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.26 ms
Bandwidth	866 Hz/Px

Sequence - Part 2

EPI factor	206
RF pulse type	Fast
Gradient mode	Fast

SIEMENS MAGNETOM Terra

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\SIEMENS_970ES1p13
TA: 0:34 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
TE	31.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.0 ms
MTC	Off
Flip angle exc	60 deg
Flip angle fat sat	110 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

Accel. mode	GRAPPA
Accel. factor PE	3

Resolution - iPAT

Ref. lines PE	63
Reference scan mode	EPI/separate

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A13.9 H0.0
L	3.3 mm
A	13.9 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm

System - Adjustments

Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	175 mm
R >> L	175 mm
F >> H	29 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Concatenations	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	On

Sequence - Part 1

Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.13 ms
Bandwidth	970 Hz/Px

Sequence - Part 2

EPI factor	206
RF pulse type	Fast
Gradient mode	Fast

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\SIEMENS_1104ES1p01

TA: 0:34 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
TE	31.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.0 ms
MTC	Off
Flip angle exc	60 deg
Flip angle fat sat	110 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

Accel. mode	GRAPPA
Accel. factor PE	3

Resolution - iPAT

Ref. lines PE	63
Reference scan mode	EPI/separate

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A13.9 H0.0
L	3.3 mm
A	13.9 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm

System - Adjustments

Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	175 mm
R >> L	175 mm
F >> H	29 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Concatenations	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	On

Sequence - Part 1

Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.01 ms
Bandwidth	1104 Hz/Px

Sequence - Part 2

EPI factor	206
RF pulse type	Fast
Gradient mode	Fast

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\SIEMENS_1278ES1p0

TA: 0:34 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
TE	31.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.0 ms
MTC	Off
Flip angle exc	60 deg
Flip angle fat sat	110 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

Accel. mode	GRAPPA
Accel. factor PE	3

Resolution - iPAT

Ref. lines PE	63
Reference scan mode	EPI/separate

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A13.9 H0.0
L	3.3 mm
A	13.9 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm

System - Adjustments

Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	175 mm
R >> L	175 mm
F >> H	29 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Concatenations	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	On

Sequence - Part 1

Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1 ms
Bandwidth	1278 Hz/Px

Sequence - Part 2

EPI factor	206
RF pulse type	Fast
Gradient mode	Fast

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\SIEMENS_1516ES1p08

TA: 0:34 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
TE	31.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.0 ms
MTC	Off
Flip angle exc	60 deg
Flip angle fat sat	110 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

Accel. mode	GRAPPA
Accel. factor PE	3

Resolution - iPAT

Ref. lines PE	63
Reference scan mode	EPI/separate

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A13.9 H0.0
L	3.3 mm
A	13.9 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm

System - Adjustments

Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A13.9 H0.0 mm
Orientation	Transversal
Rotation	0.00 deg
A >> P	175 mm
R >> L	175 mm
F >> H	29 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Concatenations	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	On

Sequence - Part 1

Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.08 ms
Bandwidth	1516 Hz/Px

Sequence - Part 2

EPI factor	206
RF pulse type	Fast
Gradient mode	Fast

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\NIH5p_866ES1p26_z

TA: 0:24 PM: REF Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : nih5p

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Averages	1
Filter	None
Coil elements	A32

Contrast - Common

TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Multi-echo spacing	66.4 ms
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	4
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	1
Ref. lines PE	63
Acc. factor 3D	3
Ref. lines 3D	36
CAIPI 3D Shift	1
Reference Scan Mode	EPI/separate
CAIPI Mode (tooltip)	Skipped-CAIPI
Total PAT factor	3

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms

Geometry - AutoAlign

Slab group	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A11.5 F11.6
L	3.3 mm
A	11.5 mm
F	11.6 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T

System - Miscellaneous

Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Rotation	0.00 deg
A >> P	175 mm
F >> H	175 mm
R >> L	31 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	0.300
Reset	Off
! Ref. amplitude 1H	215.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Echo spacing	1.26 ms
Bandwidth	866 Hz/Px

Sequence - Part 2

EPI factor	52
Segmentation	3
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	36

Sequence - Special

PATRef FA	3 deg
RF duration	2000 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Ramp Sampling	On

Sequence - Special

NORDIC	Off
SVDPC	Off
Sym VASO	Off
Dual-pol. EPI	On
Invert RO	Off
Invert 3D	Off
Disable PF reco	Off
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	50000 10^-6
Var. FA /MAGEC	0
MAGEC FA ratio	100
spoiler scale	1

Sequence - Assistant

Mode	Off

SIEMENS MAGNETOM Terra

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\NIH5p_932ES1p18_z

TA: 0:24 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : nih5p

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Averages	1
Filter	None
Coil elements	A32

Contrast - Common

TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Multi-echo spacing	62.2 ms
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	4
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	1
Ref. lines PE	63
Acc. factor 3D	3
Ref. lines 3D	36
CAIPI 3D Shift	1
Reference Scan Mode	EPI/separate
CAIPI Mode (tooltip)	Skipped-CAIPI
Total PAT factor	3

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms

Geometry - AutoAlign

Slab group	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A11.5 F11.6
L	3.3 mm
A	11.5 mm
F	11.6 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T

System - Miscellaneous

Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Rotation	0.00 deg
A >> P	175 mm
F >> H	175 mm
R >> L	31 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	0.300
Reset	Off
! Ref. amplitude 1H	215.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Echo spacing	1.18 ms
Bandwidth	934 Hz/Px

Sequence - Part 2

EPI factor	52
Segmentation	3
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	36

Sequence - Special

PATRef FA	3 deg
RF duration	2000 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Ramp Sampling	On

Sequence - Special

NORDIC	Off
SVDPC	Off
Sym VASO	Off
Dual-pol. EPI	On
Invert RO	Off
Invert 3D	Off
Disable PF reco	Off
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	50000 10^-6
Var. FA /MAGEC	0
MAGEC FA ratio	100
spoiler scale	1

Sequence - Assistant

Mode	Off

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\NIH5p_1012ES1p09_z

TA: 0:23 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : nih5p

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Averages	1
Filter	None
Coil elements	A32

Contrast - Common

TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Multi-echo spacing	57.6 ms
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	4
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	1
Ref. lines PE	63
Acc. factor 3D	3
Ref. lines 3D	36
CAIPI 3D Shift	1
Reference Scan Mode	EPI/separate
CAIPI Mode (tooltip)	Skipped-CAIPI
Total PAT factor	3

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms

Geometry - AutoAlign

Slab group	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A11.5 F11.6
L	3.3 mm
A	11.5 mm
F	11.6 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T

System - Miscellaneous

Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Rotation	0.00 deg
A >> P	175 mm
F >> H	175 mm
R >> L	31 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	0.300
Reset	Off
! Ref. amplitude 1H	215.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Echo spacing	1.09 ms
Bandwidth	1012 Hz/Px

Sequence - Part 2

EPI factor	52
Segmentation	3
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	36

Sequence - Special

PATRef FA	3 deg
RF duration	2000 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Ramp Sampling	On

Sequence - Special

NORDIC	Off
SVDPC	Off
Sym VASO	Off
Dual-pol. EPI	On
Invert RO	Off
Invert 3D	Off
Disable PF reco	Off
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	50000 10^-6
Var. FA /MAGEC	0
MAGEC FA ratio	100
spoiler scale	1

Sequence - Assistant

Mode	Off

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\NIH5p_1104ES1p01_z

TA: 0:23 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : nih5p

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Averages	1
Filter	None
Coil elements	A32

Contrast - Common

TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Multi-echo spacing	53.4 ms
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	4
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	1
Ref. lines PE	63
Acc. factor 3D	3
Ref. lines 3D	36
CAIPI 3D Shift	1
Reference Scan Mode	EPI/separate
CAIPI Mode (tooltip)	Skipped-CAIPI
Total PAT factor	3

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms

Geometry - AutoAlign

Slab group	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A11.5 F11.6
L	3.3 mm
A	11.5 mm
F	11.6 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T

System - Miscellaneous

Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Rotation	0.00 deg
A >> P	175 mm
F >> H	175 mm
R >> L	31 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	0.300
Reset	Off
! Ref. amplitude 1H	215.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Echo spacing	1.01 ms
Bandwidth	1104 Hz/Px

Sequence - Part 2

EPI factor	52
Segmentation	3
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	36

Sequence - Special

PATRef FA	3 deg
RF duration	2000 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Ramp Sampling	On

Sequence - Special

NORDIC	Off
SVDPC	Off
Sym VASO	Off
Dual-pol. EPI	On
Invert RO	Off
Invert 3D	Off
Disable PF reco	Off
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	50000 10^-6
Var. FA /MAGEC	0
MAGEC FA ratio	100
spoiler scale	1

Sequence - Assistant

Mode	Off

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\NIH5p_1516ES1p14_z

TA: 0:23 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : nih5p

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slab group	1
Slabs	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Averages	1
Filter	None
Coil elements	A32

Contrast - Common

TR 1	78.2 ms
TR 2	3142 ms
TE 1	25.50 ms
Multi-echo spacing	60.2 ms
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	Fat sat.
Magn. Prep. Shots	1

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	4
Pause after meas. 1	0.0 s
Pause after meas. 2	0.0 s
Pause after meas. 3	0.0 s

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	CAIPIRINHA
Acc. factor PE	1
Ref. lines PE	63
Acc. factor 3D	3
Ref. lines 3D	36
CAIPI 3D Shift	1
Reference Scan Mode	EPI/separate
CAIPI Mode (tooltip)	Skipped-CAIPI
Total PAT factor	3

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slab Scale	-10 %
Slices per slab	36
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.84 mm
TR 1	78.2 ms
TR 2	3142 ms

Geometry - AutoAlign

Slab group	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A11.5 F11.6
L	3.3 mm
A	11.5 mm
F	11.6 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Saturation mode	Standard
Fat suppr.	Fat sat.

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T

System - Miscellaneous

Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Rotation	0.00 deg
A >> P	175 mm
F >> H	175 mm
R >> L	31 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	0.300
Reset	Off
! Ref. amplitude 1H	215.000 V

Sequence - Part 1

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Echo spacing	1.14 ms
Bandwidth	1516 Hz/Px

Sequence - Part 2

EPI factor	52
Segmentation	3
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
Turbo factor	36

Sequence - Special

PATRef FA	3 deg
RF duration	2000 us
RF BWT product	8
Ernst T1	1200 ms
PATRef prep. shots	10
Volume dummy shots	0
Dummy Measurements	0
ETL per RTEB	1
Invert PE	Off
Min. TE if PF	On
Echo Time Shift	On
Ramp Sampling	On

Sequence - Special

NORDIC	Off
SVDPC	Off
Sym VASO	Off
Dual-pol. EPI	On
Invert RO	Off
Invert 3D	Off
Disable PF reco	Off
Disable PF reco	Off
Save sampling	Off
PE VComp	Off
Water Exc.	-none-
External PC	per Series
Saturation RF	per Shot
FIDNavs	-none-
EPI rise time factor	1.10
Mosaic DICOMs	On
Modify Ice Config	On
G-factor map	Off
GRAPPA Regularization	50000 10^-6
Var. FA /MAGEC	0
MAGEC FA ratio	100
spoiler scale	1

Sequence - Assistant

Mode	Off

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\CMRR_866Hz1p26_z

TA: 0:32 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
TE	31.00 ms
Multi-band accel. factor	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.00 ms
MTC	Off
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	63
Reference scan mode	Segmented

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A11.5 F11.6
L	3.3 mm
A	11.5 mm
F	11.6 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L0.4 A11.1 H0.3 mm
! Orientation	T > C0.4
! Rotation	90.00 deg
! R >> L	185 mm
! A >> P	179 mm
! F >> H	32 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Multi-band accel. factor	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.26 ms
Bandwidth	866 Hz/Px

Sequence - Part 2

EPI factor	204
Gradient mode	Fast
RF spoiling	On

Sequence - Special

Excite pulse duration	3640 us
EPI noise scans	0
SENSE1 coil combine	On
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable freq. update	Off
Force equal slice timing	Off
FFT scale factor	0.75
Fat saturation FA	110.0 deg
Physio recording	Off
Triggering scheme	Standard

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\CMRR_970Hz1p13_z

TA: 0:32 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
TE	31.00 ms
Multi-band accel. factor	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.00 ms
MTC	Off
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	63
Reference scan mode	Segmented

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A11.5 F11.6
L	3.3 mm
A	11.5 mm
F	11.6 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L0.4 A11.1 H0.3 mm
! Orientation	T > C0.4
! Rotation	90.00 deg
! R >> L	185 mm
! A >> P	179 mm
! F >> H	32 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Multi-band accel. factor	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.13 ms
Bandwidth	970 Hz/Px

Sequence - Part 2

EPI factor	204
Gradient mode	Fast
RF spoiling	On

Sequence - Special

Excite pulse duration	3640 us
EPI noise scans	0
SENSE1 coil combine	On
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable freq. update	Off
Force equal slice timing	Off
FFT scale factor	0.75
Fat saturation FA	110.0 deg
Physio recording	Off
Triggering scheme	Standard

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\CMRR_1104Hz1p01_z

TA: 0:32 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
TE	31.00 ms
Multi-band accel. factor	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.00 ms
MTC	Off
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	63
Reference scan mode	Segmented

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A11.5 F11.6
L	3.3 mm
A	11.5 mm
F	11.6 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L0.4 A11.1 H0.3 mm
! Orientation	T > C0.4
! Rotation	90.00 deg
! R >> L	185 mm
! A >> P	179 mm
! F >> H	32 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Multi-band accel. factor	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.01 ms
Bandwidth	1104 Hz/Px

Sequence - Part 2

EPI factor	204
Gradient mode	Fast
RF spoiling	On

Sequence - Special

Excite pulse duration	3640 us
EPI noise scans	0
SENSE1 coil combine	On
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable freq. update	Off
Force equal slice timing	Off
FFT scale factor	0.75
Fat saturation FA	110.0 deg
Physio recording	Off
Triggering scheme	Standard

SIEMENS MAGNETOM Terra

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\CMRR_1278Hz1p_z
TA: 0:32 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
TE	31.00 ms
Multi-band accel. factor	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.00 ms
MTC	Off
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	63
Reference scan mode	Segmented

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A11.5 F11.6
L	3.3 mm
A	11.5 mm
F	11.6 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L0.4 A11.1 H0.3 mm
! Orientation	T > C0.4
! Rotation	90.00 deg
! R >> L	185 mm
! A >> P	179 mm
! F >> H	32 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Multi-band accel. factor	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1 ms
Bandwidth	1278 Hz/Px

Sequence - Part 2

EPI factor	204
Gradient mode	Fast
RF spoiling	On

Sequence - Special

Excite pulse duration	3640 us
EPI noise scans	0
SENSE1 coil combine	On
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable freq. update	Off
Force equal slice timing	Off
FFT scale factor	0.75
Fat saturation FA	110.0 deg
Physio recording	Off
Triggering scheme	Standard

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\CMRR_1516Hz1p08_z

TA: 0:32 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
TE	31.00 ms
Multi-band accel. factor	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.00 ms
MTC	Off
Magn. preparation	None
Flip angle	60 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	63
Reference scan mode	Segmented

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	99.0 %
Slice thickness	0.84 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Multi-band accel. factor	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A11.5 F11.6
L	3.3 mm
A	11.5 mm
F	11.6 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L0.4 A11.1 H0.3 mm
! Orientation	T > C0.4
! Rotation	90.00 deg
! R >> L	185 mm
! A >> P	179 mm
! F >> H	32 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Multi-band accel. factor	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.08 ms
Bandwidth	1516 Hz/Px

Sequence - Part 2

EPI factor	204
Gradient mode	Fast
RF spoiling	On

Sequence - Special

Excite pulse duration	3640 us
EPI noise scans	0
SENSE1 coil combine	On
Invert RO/PE polarity	Off
PF omits higher k-space	Off
Disable freq. update	Off
Force equal slice timing	Off
FFT scale factor	0.75
Fat saturation FA	110.0 deg
Physio recording	Off
Triggering scheme	Standard

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\SIEMENS_866ES866_z

TA: 0:34 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
TE	31.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.0 ms
MTC	Off
Flip angle exc	60 deg
Flip angle fat sat	110 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

Accel. mode	GRAPPA
Accel. factor PE	3

Resolution - iPAT

Ref. lines PE	63
Reference scan mode	EPI/separate

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A11.5 F11.6
L	3.3 mm
A	11.5 mm
F	11.6 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm

System - Adjustments

Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Rotation	0.00 deg
A >> P	175 mm
F >> H	175 mm
R >> L	29 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Concatenations	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	On

Sequence - Part 1

Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.26 ms
Bandwidth	866 Hz/Px

Sequence - Part 2

EPI factor	206
RF pulse type	Fast
Gradient mode	Fast

SIEMENS MAGNETOM Terra

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\SIEMENS_970ES1p13_z

TA: 0:34 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
TE	31.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.0 ms
MTC	Off
Flip angle exc	60 deg
Flip angle fat sat	110 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

Accel. mode	GRAPPA
Accel. factor PE	3

Resolution - iPAT

Ref. lines PE	63
Reference scan mode	EPI/separate

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A11.5 F11.6
L	3.3 mm
A	11.5 mm
F	11.6 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm

SIEMENS MAGNETOM Terra

System - Adjustments

Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Rotation	0.00 deg
A >> P	175 mm
F >> H	175 mm
R >> L	29 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Concatenations	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	On

Sequence - Part 1

Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.13 ms
Bandwidth	970 Hz/Px

Sequence - Part 2

EPI factor	206
RF pulse type	Fast
Gradient mode	Fast

SIEMENS MAGNETOM Terra

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\SIEMENS_1104ES1p01_z

TA: 0:34 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
TE	31.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.0 ms
MTC	Off
Flip angle exc	60 deg
Flip angle fat sat	110 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

Accel. mode	GRAPPA

Resolution - iPAT

Accel. factor PE	3
Ref. lines PE	63
Reference scan mode	EPI/separate

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A11.5 F11.6
L	3.3 mm
A	11.5 mm
F	11.6 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Rotation	0.00 deg
A >> P	175 mm
F >> H	175 mm
R >> L	29 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Concatenations	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	On
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.01 ms
Bandwidth	1104 Hz/Px

Sequence - Part 2

EPI factor	206
RF pulse type	Fast
Gradient mode	Fast

SIEMENS MAGNETOM Terra

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\SIEMENS_1278ES1p0_z

TA: 0:34 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
TE	31.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.0 ms
MTC	Off
Flip angle exc	60 deg
Flip angle fat sat	110 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

Accel. mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	63
Reference scan mode	EPI/separate

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A11.5 F11.6
L	3.3 mm
A	11.5 mm
F	11.6 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm

System - Adjustments

Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Rotation	0.00 deg
A >> P	175 mm
F >> H	175 mm
R >> L	29 mm
Reset	Off

System - Tx/Rx

Frequency 1H	297.184950 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
! Ref. amplitude 1H	215.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
Concatenations	1

BOLD

GLM Statistics	Off
Dynamic t-maps	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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	On

Sequence - Part 1

Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1 ms
Bandwidth	1278 Hz/Px

Sequence - Part 2

EPI factor	206
RF pulse type	Fast
Gradient mode	Fast

SIEMENS MAGNETOM Terra

\\USER\FMRIF\[XT-ID:93-M-0170]Renzo\20240528_thirdordershim_siemens\SIEMENS_1516ES1p08_z
TA: 0:34 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 3 Rel. SNR: 1.00 : epfid

Properties

Prio recon	Off
Load images to viewer	On
Inline movie	Off
Auto store images	On
Load images to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Auto close inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	Single measurement

Routine

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
TE	31.0 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast - Common

TR	3590 ms
TE	31.0 ms
MTC	Off
Flip angle exc	60 deg
Flip angle fat sat	110 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	4
Delay in TR	0 ms
Multiple series	Off

Resolution - Common

FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
Base resolution	206
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

Accel. mode	GRAPPA

Resolution - iPAT

Accel. factor PE	3
Ref. lines PE	63
Reference scan mode	EPI/separate

Resolution - Filter Image

Distortion Corr.	Off
Prescan Normalize	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry - Common

Slice group	1
Slices	36
Dist. factor	0 %
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	175 mm
FoV phase	100.0 %
Slice thickness	0.8 mm
TR	3590 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
Position	L3.3 A11.5 F11.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L3.3 A11.5 F11.6
L	3.3 mm
A	11.5 mm
F	11.6 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Sum of Squares
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Brain
B1 Shim mode	TrueForm
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

Position	L3.3 A11.5 F11.6 mm
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Physio - Signal1

1st Signal/Mode	None
TR	3590 ms
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GLM Statistics	Off
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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	4
Delay in TR	0 ms
Multiple series	Off

Sequence - Part 1

Introduction	On
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	1.08 ms
Bandwidth	1516 Hz/Px

Sequence - Part 2

EPI factor	206
RF pulse type	Fast
Gradient mode	Fast