

# SIEMENS MAGNETOM Verio syngo MR B17

\\USER\head\c-VEDA\NEW PROTOCOL\Scout Image

TA: 0:13 PAT: Off Voxel size: 1.1x1.0x7.0 mm Rel. SNR: 1.00 SIEMENS: gre

## Properties

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

## Routine

Slice group 1	
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Slice group 2	
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Slice group 3	
Slices	1
Dist. factor	20 %
Position	Isocenter
Orientation	Coronal
Phase enc. dir.	R >> L
Rotation	0.00 deg
Phase oversampling	0 %
FoV read	250 mm
FoV phase	100.0 %
Slice thickness	7.0 mm
TR	8.6 ms
TE	4.00 ms
Averages	2
Concatenations	3
Filter	Prescan Normalize, Elliptical filter
Coil elements	HEA;HEP

## Contrast

TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Water suppr.	None
SWI	Off
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

## Resolution

Base resolution	256
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Phase resolution	90 %
Phase partial Fourier	Off
Interpolation	On
PAT mode	None
Matrix Coil Mode	Auto (CP)
Image Filter	Off
Distortion Corr.	Off
Unfiltered images	Off
Prescan Normalize	On
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	On
Mode	Inplane

## Geometry

Multi-slice mode	Sequential
Series	Interleaved
Saturation mode	Standard
Special sat.	None
Tim CT mode	Off

## System

Body	Off
HEP	On
HEA	On
Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
Auto Coil Select	Default
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm

## Physio

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

## Inline

Subtract	Off
Liver registration	Off
Std-Dev-Sag	Off

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Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
<hr/>	
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off

## Sequence

Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Allowed
Contrasts	1
Bandwidth	320 Hz/Px
Flow comp.	No
Allowed delay	0 s
<hr/>	
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
RF spoiling	On

# SIEMENS MAGNETOM Verio syngo MR B17

\\USER\head\c-VEDA\NEW PROTOCOL\3DT1 weighted volume

TA: 9:14 PAT: Off Voxel size: 1.1x1.1x1.2 mm Rel. SNR: 1.00 SIEMENS: tfl

## Properties

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

## Routine

Slab group 1	
Slabs	1
Dist. factor	50 %
Position	R8.2 P34.1 F1.3
Orientation	Sagittal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	176
FoV read	270 mm
FoV phase	93.8 %
Slice thickness	1.20 mm
TR	2300 ms
TE	2.93 ms
Averages	1
Concatenations	1
Filter	Prescan Normalize, Image Filter
Coil elements	HEA;HEP;NE2

## Contrast

Magn. preparation	Non-sel. IR
TI	900 ms
Flip angle	9 deg
Fat suppr.	None
Water suppr.	None
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

## Resolution

Base resolution	256
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off
Interpolation	On
PAT mode	None
Matrix Coil Mode	Auto (CP)
Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off

Distortion Corr.	Off
Unfiltered images	Off
Prescan Normalize	On
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off

## Geometry

Multi-slice mode	Single shot
Series	Interleaved

## System

Body	Off
NE2	On
HEP	On
HEA	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	Off
SP7	Off
SP5	Off
Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	L >> R
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	R8.2 P34.1 F1.3
Orientation	Sagittal
Rotation	0.00 deg
F >> H	270 mm
A >> P	254 mm
R >> L	212 mm

## Physio

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

## Inline

Subtract	Off
Std-Dev-Sag	Off
Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off

## SIEMENS MAGNETOM Verio syngo MR B17

MIP-Time	Off
Save original images	On

### Sequence

Introduction	On
Dimension	3D
Elliptical scanning	Off
Asymmetric echo	Off
Bandwidth	240 Hz/Px
Flow comp.	No
Echo spacing	7 ms
<hr/>	
RF pulse type	Fast
Gradient mode	Normal
Excitation	Non-sel.
RF spoiling	On

# SIEMENS MAGNETOM Verio syngo MR B17

\\USER\head\c-VEDA\NEW PROTOCOL\Resting state fMRI

TA: 6:09 PAT: 2 Voxel size: 3.4x3.4x2.4 mm Rel. SNR: 1.00 SIEMENS: ep2d\_bold

## Properties

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

## Routine

Slice group 1	
Slices	39
Dist. factor	42 %
Position	R4.8 P38.2 H28.4
Orientation	T > C-3.1
Phase enc. dir.	P >> A
Rotation	-180.00 deg
Phase oversampling	0 %
FoV read	218 mm
FoV phase	100.0 %
Slice thickness	2.4 mm
TR	2200 ms
TE	30 ms
Averages	1
Concatenations	1
Filter	Raw filter
Coil elements	HEA;HEP

## Contrast

MTC	Off
Flip angle	75 deg
Fat suppr.	Water excit. normal
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	164
Delay in TR	500 ms
Multiple series	Off

## Resolution

Base resolution	64
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off
PAT mode	mSENSE
Accel. factor PE	2
Ref. lines PE	24
Matrix Coil Mode	Triple
Reference scan mode	Separate
Distortion Corr.	Off
Prescan Normalize	Off
Raw filter	On
Intensity	Weak
Slope	25
Elliptical filter	Off
Hamming	Off

## Geometry

## Multi-slice mode

Series

## Interleaved

Descending

Special sat.

None

## System

Body	Off
NE2	Off
HEP	On
HEA	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	Off
SP7	Off
SP5	Off

## Positioning mode

REF

Table position

H

Table position

0 mm

MSMA

S - C - T

Sagittal

R >> L

Coronal

P >> A

Transversal

H >> F

Coil Combine Mode

Sum of Squares

Auto Coil Select

Default

## Shim mode

Standard

Adjust with body coil

Off

Confirm freq. adjustment

Off

Assume Silicone

Off

? Ref. amplitude 1H

0.000 V

Adjustment Tolerance

Auto

Adjust volume

Position

R4.8 P38.2 H28.4

Orientation

T > C-3.1

Rotation

-180.00 deg

R >> L

218 mm

A >> P

218 mm

F >> H

132 mm

## Physio

1st Signal/Mode

None

## BOLD

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

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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	On
Interpolation	3D-K-space
Spatial filter	Off

## Sequence

Introduction	On
Bandwidth	2004 Hz/Px
Free echo spacing	Off
Echo spacing	0.58 ms
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EPI factor	64
RF pulse type	Normal
Gradient mode	Fast*

# SIEMENS MAGNETOM Verio syngo MR B17

\\USER\head\c-VEDA\NEW PROTOCOL\B0 mapping

TA: 1:05

Voxel size: 4.0x4.0x4.0 mm

Rel. SNR: 1.00

SIEMENS: gre\_field\_mapping

## Properties

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

## Routine

Slice group 1	
Slices	36
Dist. factor	0 %
Position	R8.1 P39.1 H24.9
Orientation	Transversal
Phase enc. dir.	R >> L
Rotation	90.00 deg
Phase oversampling	0 %
FoV read	256 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	488 ms
TE 1	4.92 ms
TE 2	7.38 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HEA;HEP

## Contrast

MTC	Off
Flip angle	60 deg
Fat suppr.	None
Averaging mode	Long term
Reconstruction	Phase
Measurements	1
Multiple series	Off

## Resolution

Base resolution	64
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off
Matrix Coil Mode	Auto (CP)
Image Filter	Off
Distortion Corr.	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off

## Geometry

Multi-slice mode	Interleaved
Series	Interleaved
Special sat.	None

## System

Body	Off
NE2	Off
HEP	On
HEA	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	Off
SP7	Off
SP5	Off
Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	R8.1 P39.1 H24.9
Orientation	Transversal
Rotation	90.00 deg
A >> P	256 mm
R >> L	256 mm
F >> H	144 mm

## Sequence

Introduction	On
Dimension	2D
Asymmetric echo	Off
Contrasts	2
Bandwidth	260 Hz/Px
Flow comp.	Yes
RF pulse type	Normal
Gradient mode	Normal
RF spoiling	On

# SIEMENS MAGNETOM Verio syngo MR B17

\\USER\head\c-VEDA\NEW PROTOCOL\DTI

TA: 8:32 PAT: 2 Voxel size: 2.4x2.4x2.4 mm Rel. SNR: 1.00 SIEMENS: ep2d\_diff

## Properties

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

## Routine

Slice group 1	
Slices	60
Dist. factor	0 %
Position	R8.7 P31.4 H32.8
Orientation	Transversal
Phase enc. dir.	P >> A
Rotation	-180.00 deg
Phase oversampling	0 %
FoV read	307 mm
FoV phase	100.0 %
Slice thickness	2.4 mm
TR	15000 ms
TE	100 ms
Averages	1
Concatenations	1
Filter	Prescan Normalize
Coil elements	HEA;HEP

## Contrast

MTC	Off
Magn. preparation	None
Fat suppr.	Fat sat.
Averaging mode	Long term
Reconstruction	Magnitude
Delay in TR	0 ms
Multiple series	Off

## Resolution

Base resolution	128
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	38
Matrix Coil Mode	Auto (Triple)
Reference scan mode	Separate
Distortion Corr.	Off
Prescan Normalize	On
Raw filter	On
Elliptical filter	Off
Hamming	Off

## Geometry

Multi-slice mode	Interleaved
Series	Interleaved

## Special sat.

None

## System

Body	Off
NE2	Off
HEP	On
HEA	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	Off
SP7	Off
SP5	Off
Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	P >> A
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	R8.7 P31.4 H32.8
Orientation	Transversal
Rotation	-180.00 deg
R >> L	307 mm
A >> P	307 mm
F >> H	144 mm

## Physio

1st Signal/Mode	None
Resp. control	Off

## Diff

Diffusion mode	MDDW
Diff. weightings	2
b-value 1	0 s/mm <sup>2</sup>
b-value 2	1300 s/mm <sup>2</sup>
Diff. weighted images	On
Trace weighted images	On
Average ADC maps	On
Individual ADC maps	Off
FA maps	On
Mosaic	On
Tensor	On
Noise level	30
Diff. directions	30

## Sequence

Introduction	On
Bandwidth	1502 Hz/Px
Free echo spacing	Off
Echo spacing	0.73 ms
EPI factor	128



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RF pulse type  
Gradient mode

Low SAR  
Fast

# SIEMENS MAGNETOM Verio syngo MR B17

\\USER\head\c-VEDA\NEW PROTOCOL\DTI-reversed

TA: 2:32 PAT: 2 Voxel size: 2.4x2.4x2.4 mm Rel. SNR: 1.00 SIEMENS: ep2d\_diff

## Properties

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

## Routine

Slice group 1	
Slices	60
Dist. factor	0 %
Position	R7.2 P46.6 H29.3
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	-0.00 deg
Phase oversampling	0 %
FoV read	307 mm
FoV phase	100.0 %
Slice thickness	2.4 mm
TR	15000 ms
TE	100 ms
Averages	1
Concatenations	1
Filter	Prescan Normalize
Coil elements	HEA;HEP

## Contrast

MTC	Off
Magn. preparation	None
Fat suppr.	Fat sat.
Averaging mode	Long term
Reconstruction	Magnitude
Delay in TR	0 ms
Multiple series	Off

## Resolution

Base resolution	128
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	38
Matrix Coil Mode	Auto (Triple)
Reference scan mode	Separate
Distortion Corr.	Off
Prescan Normalize	On
Raw filter	On
Elliptical filter	Off
Hamming	Off

## Geometry

Multi-slice mode	Interleaved
Series	Interleaved

## Special sat.

None

## System

Body	Off
NE2	Off
HEP	On
HEA	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	Off
SP7	Off
SP5	Off

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	Adaptive Combine
Auto Coil Select	Default

Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	R7.2 P46.6 H29.3
Orientation	Transversal
Rotation	-0.00 deg
R >> L	307 mm
A >> P	307 mm
F >> H	144 mm

## Physio

1st Signal/Mode	None
Resp. control	Off

## Diff

Diffusion mode	MDDW
Diff. weightings	2
b-value 1	0 s/mm <sup>2</sup>
b-value 2	1300 s/mm <sup>2</sup>
Diff. weighted images	On
Trace weighted images	On
Average ADC maps	On
Individual ADC maps	Off
FA maps	On
Mosaic	On
Tensor	On
Noise level	30
Diff. directions	6

## Sequence

Introduction	On
Bandwidth	1502 Hz/Px
Free echo spacing	Off
Echo spacing	0.73 ms
EPI factor	128

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RF pulse type  
Gradient mode

Low SAR  
Fast

# SIEMENS MAGNETOM Verio syngo MR B17

\\USER\head\c-VEDA\NEW PROTOCOL\2D fast FLAIR

TA: 2:44 PAT: 2 Voxel size: 1.0x0.9x4.0 mm Rel. SNR: 1.00 SIEMENS: tse

## Properties

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

## Routine

Slice group 1	
Slices	38
Dist. factor	0 %
Position	L0.0 P41.0 H18.1
Orientation	T > C-2.9
Phase enc. dir.	R >> L
Rotation	90.00 deg
Phase oversampling	0 %
FoV read	220 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	9000 ms
TE	94.0 ms
Averages	1
Concatenations	2
Filter	Prescan Normalize, Elliptical filter
Coil elements	HEA;HEP;NE1,2

## Contrast

TD	0.0 ms
MTC	Off
Magn. preparation	Slice-sel. IR
TI	2500 ms
Freeze suppressed tissue	On
Flip angle	150 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Water suppr.	None
Restore magn.	Off
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

## Resolution

Base resolution	256
Phase resolution	90 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	On
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	26
Matrix Coil Mode	Auto (Triple)
Reference scan mode	Integrated

Image Filter	Off
Distortion Corr.	Off
Unfiltered images	Off
Prescan Normalize	On
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	On
Mode	Inplane

## Geometry

Multi-slice mode	Interleaved
Series	Interleaved
Special sat.	None
Tim CT mode	Off

## System

Body	Off
NE2	On
NE1	On
HEP	On
HEA	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	Off
SP7	Off
SP5	Off
Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	L0.0 P41.0 H18.1
Orientation	T > C-2.9
Rotation	90.00 deg
A >> P	220 mm
R >> L	220 mm
F >> H	152 mm

## Physio

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

## Inline

Subtract	Off
Std-Dev-Sag	Off

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

## Sequence

Introduction	On
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	On
Contrasts	1
Bandwidth	287 Hz/Px
Flow comp.	No
Allowed delay	60 s
Echo spacing	8.52 ms
<hr/>	
Define	Turbo factor
Turbo factor	16
Echo trains per slice	8
RF pulse type	Normal
Gradient mode	Fast

# SIEMENS MAGNETOM Verio syngo MR B17

\\USER\head\c-VEDA\NEW PROTOCOL\2D T2 weighted

TA: 2:57 PAT: 2 Voxel size: 0.8x0.8x4.0 mm Rel. SNR: 1.00 SIEMENS: tse

## Properties

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

## Routine

Slice group 1	
Slices	38
Dist. factor	0 %
Position	R7.2 P31.3 H30.1
Orientation	Transversal
Phase enc. dir.	L >> R
Rotation	-90.00 deg
Phase oversampling	30 %
FoV read	240 mm
FoV phase	75.0 %
Slice thickness	4.0 mm
TR	4380 ms
TE	54 ms
Averages	1
Concatenations	2
Filter	Prescan Normalize, Elliptical filter
Coil elements	HEA;HEP

## Contrast

TD	0.0 ms
MTC	Off
Magn. preparation	None
Flip angle	90 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

## Resolution

Base resolution	320
Phase resolution	90 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	On
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Matrix Coil Mode	Auto (Triple)
Reference scan mode	Integrated
Image Filter	Off
Distortion Corr.	Off
Unfiltered images	Off

Prescan Normalize	On
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	On
Mode	Inplane

## Geometry

Multi-slice mode	Interleaved
Series	Interleaved
Special sat.	None
Tim CT mode	Off

## System

Body	Off
NE2	Off
HEP	On
HEA	On
SP4	Off
SP2	Off
SP8	Off
SP6	Off
SP3	Off
SP1	Off
SP7	Off
SP5	Off
Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
Auto Coil Select	Default
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
? Ref. amplitude 1H	0.000 V
Adjustment Tolerance	Auto
Adjust volume	
Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm

## Physio

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

## Inline

Subtract	Off
Std-Dev-Sag	Off
Std-Dev-Cor	Off
Std-Dev-Tra	Off
Std-Dev-Time	Off
MIP-Sag	Off

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

## Sequence

Introduction	On
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	On
Contrasts	1
Bandwidth	156 Hz/Px
Flow comp.	No
Allowed delay	60 s
Echo spacing	13.6 ms
<hr/>	
Define	Turbo factor
Turbo factor	8
Echo trains per slice	19
RF pulse type	Normal
Gradient mode	Fast