

## SIEMENS MAGNETOM Aera syngo MR D13

\\USER\BRAIN\BRAIN ADULT\BRAIN TUMOR\loc tumor mets  
TA:0:16 PAT:3 Voxel size:1.6×1.6×1.6 mm Rel. SNR:1.00 :fl

### Properties

Prio Recon	Off
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
Wait for user to start	Off
Start measurements	single

### Routine

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Phase oversampling	0 %
Slice oversampling	0.0 %
FoV read	260 mm
FoV phase	100.0 %
Slice thickness	1.6 mm
TR	3.64 ms
TE	2.38 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	HE1-4
AutoAlign	Head

### Contrast

Flip angle	8 deg
Averaging mode	Short term
Measurements	1
Reconstruction	Magnitude

## Resolution

Base resolution	160
Phase resolution	100 %
Phase partial Fourier	6/8
PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	24
Reference scan mode	Integrated
Image Filter	Off
Distortion Corr.	On
Accel. factor 3D	1
Mode	2D
Unfiltered images	Off
Unfiltered images	Off
Prescan Normalize	On
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off
Slice resolution	69 %
Slice partial Fourier	6/8

## Geometry

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	L0.0 P20.0 H0.0 mm
Phase enc. dir.	A >> P
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	128
Multi-slice mode	Sequential
Series	Ascending
Nr. of sat. regions	0
Position mode	L-P-H
Special sat.	None
Set-n-Go Protocol	Off
Table position	P
Inline Composing	Off

## System

Body	Off
HE1	On
HE3	On
NE1	Off
HE2	On
HE4	On
NE2	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	L >> R
Coronal	P >> A
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
Coil Select Mode	On - AutoCoilSelect
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	Isocenter
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm
Frequency 1H	63.678990 MHz
Correction factor	1
SRFExcit 1H	47.704 V
Gain	Low
Table position	0 mm
Img. Scale. Cor.	1.000

## Physio

## Inline

Inline Composing	Off
Distortion correction	Off

## Sequence

Introduction	On
Dimension	3D
Averaging mode	Short term
Multi-slice mode	Sequential
Asymmetric echo	Weak
Contrasts	1
Bandwidth	540 Hz/Px
RF pulse type	Fast
Gradient mode	Normal
Excitation	Non-sel.
RF spoiling	On
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	HE1-4
Acquisition duration	0 ms
Mode	Off

## BOLD

Time to center	6.9 s
Subtract	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
MapIt	None
Contrasts	1
Save original images	On

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\BRAIN\BRAIN ADULT\BRAIN TUMOR\sag t2  
 TA:1:20 PAT:2 Voxel size:0.4x0.4x4.0 mm Rel. SNR:1.00 :tseR

## Properties

Prio Recon	Off
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	On
Load images to graphic segments	Off
Auto open inline display	Off
Wait for user to start	Off
Start measurements	single

## Routine

Nr. of slice groups	1
Slices	28
Dist. factor	25 %
Position	Isocenter
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	10 %
FoV read	230 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	3000.0 ms
TE	96.0 ms
Averages	1
Concatenations	2
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter
Coil elements	HE1-4

## Contrast

TD	0.0 ms
MTC	Off
Magn. preparation	None
Flip angle	150 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	On
Averaging mode	Short term
Measurements	1
Reconstruction	Magnitude
Multiple series	Each measurement

## Resolution

Base resolution	320
Phase resolution	80 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	On
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	30
Reference scan mode	Integrated
Image Filter	Off
Distortion Corr.	On
TD	0.0 ms
Mode	2D
Unfiltered images	Off
Unfiltered images	Off
Prescan Normalize	On
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	On
Mode	Inplane

## Geometry

Nr. of slice groups	1
Slices	28
Dist. factor	25 %
Position	Isocenter
Phase enc. dir.	A >> P
Phase oversampling	10 %
Multi-slice mode	Interleaved
Series	Interleaved
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Water suppr.	None
Special sat.	None
Special sat.	None
Set-n-Go Protocol	Off
Table position	P
Inline Composing	Off
Restore magn.	On

## System

Body	Off
HE1	On
HE3	On
NE1	Off
HE2	On
HE4	On
NE2	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	L >> R
Coronal	P >> A
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Coil Select Mode	On - AutoCoilSelect
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	Isocenter
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm
Frequency 1H	63.678990 MHz
Correction factor	1
Excit 1H	217.774 V
Gain	High
Table position	0 mm
Img. Scale. Cor.	1.000

## Physio

1st Signal/Mode	None
Magn. preparation	None
Dark blood	Off
Trajectory	Cartesian
Resp. control	Off

## Inline

Inline Composing	Off
Distortion correction	Off

## Sequence

Introduction	On
Dimension	2D
Compensate T2 decay	Off
Averaging mode	Short term
Multi-slice mode	Interleaved
Reduce Motion Sens.	On
Contrasts	1
Bandwidth	220 Hz/Px
Flow comp.	No
Allowed delay	30 s
Echo spacing	10.6 ms
Define	Turbo factor
Turbo factor	13
Echo trains per slice	12
RF pulse type	Low SAR
Gradient mode	Whisper
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	HE1-4
Acquisition duration	0 ms
Mode	Off

**BOLD**

Subtract	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Contrasts	1
Save original images	On

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\BRAIN\BRAIN ADULT\BRAIN TUMOR\ax spgr  
 TA:4:03 PAT:2 Voxel size:1.0×1.0×1.0 mm Rel. SNR:1.00 :tfl\_rs

**Properties**

Prio Recon	Off
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	On
Load images to graphic segments	Off
Auto open inline display	Off
Wait for user to start	On
Start measurements	single

## Routine

Nr. of slab groups	1
Slabs	1
Dist. factor	50 %
Position	R1.4 P3.8 H0.3 mm
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	8.3 %
FoV read	256 mm
FoV phase	81.3 %
Slice thickness	1.00 mm
TR	2100.0 ms
TE	2.81 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter, Image Filter
Coil elements	HE1-4;NE1,2

## Contrast

Magn. preparation	Non-sel. IR
TI	1100 ms
Flip angle	12 deg
Fat suppr.	None
Water suppr.	None
Averaging mode	Long term
Measurements	1
Reconstruction	Magnitude
Multiple series	Off

## Resolution

Base resolution	256
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated
Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Accel. factor 3D	1
Mode	2D
Unfiltered images	Off
Unfiltered images	Off
Prescan Normalize	On
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	On
Mode	Inplane
Slice resolution	100 %
Slice partial Fourier	Off

## Geometry

Nr. of slab groups	1
Slabs	1
Dist. factor	50 %
Position	R1.4 P3.8 F32.7 mm
Phase enc. dir.	R >> L
Phase oversampling	0 %
Slice oversampling	8.3 %
Slices per slab	192
Multi-slice mode	Single shot
Series	Ascending
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Water suppr.	None
Special sat.	None
Set-n-Go Protocol	Off
Table position	P
Inline Composing	Off

## System

Body	Off
HE1	On
HE3	On
NE1	On
HE2	On
HE4	On
NE2	On
SP5	Off
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	Off
SP3	Off
SP4	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	L >> R
Coronal	P >> A
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Coil Select Mode	On - AutoCoilSelect
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	Isocenter
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm
Frequency 1H	63.678990 MHz
Correction factor	1

SLoopIRns1 1H	321.602 V
Gain	Low
Table position	33 mm
Img. Scale. Cor.	1.000

#### Physio

1st Signal/Mode	None
Magn. preparation	Non-sel. IR
TI	1100 ms
Dark blood	Off
Resp. control	Off

#### Inline

Inline Composing	Off
Distortion correction	Off

#### Sequence

Introduction	On
Dimension	3D
Elliptical scanning	Off
Averaging mode	Long term
Multi-slice mode	Single shot
Reordering	Linear
Asymmetric echo	Allowed
Bandwidth	360 Hz/Px
Flow comp.	Slice
Echo spacing	5.6 ms
Turbo factor	208
RF pulse type	Fast
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	HE1-4;NE1,2
Acquisition duration	0 ms
Mode	Off

**BOLD**

Subtract	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
MapIt	None
Save original images	On

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\BRAIN\BRAIN ADULT\BRAIN TUMOR\ax diff  
 TA:2:39 PAT:2 Voxel size:1.3×1.3×4.0 mm Rel. SNR:1.00 :epse

**Properties**

Prio Recon	Off
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	On
Load images to graphic segments	Off
Auto open inline display	Off
Wait for user to start	On
Start measurements	single

## Routine

Nr. of slice groups	1
Slices	40
Dist. factor	0 %
Position	R0.1 A3.1 F0.2 mm
Orientation	T > C0.9
Phase enc. dir.	P >> A
AutoAlign	Head > Brain
Phase oversampling	0 %
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	8300 ms
TE	98.0 ms
Concatenations	1
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize
Coil elements	HE1-4;NE1,2

## Contrast

MTC	Off
Magn. preparation	None
Fat suppr.	Fat sat.
Fat sat. mode	Weak
Averaging mode	Long term
Measurements	1
Delay in TR	0 ms
Reconstruction	Magnitude

## Resolution

Base resolution	192
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	40
Reference scan mode	Separate
Distortion Corr.	On
Mode	2D
Prescan Normalize	On
Normalize	Off
Raw filter	On
Intensity	Weak
Slope	25
Elliptical filter	Off
Dynamic Field Corr.	Off

## Geometry

Nr. of slice groups	1
Slices	40
Dist. factor	0 %
Position	R0.1 A3.1 F7.2 mm
Phase enc. dir.	P >> A
Phase oversampling	0 %
Multi-slice mode	Interleaved
Series	Interleaved
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	Fat sat.
Special sat.	None
Fat sat. mode	Weak
Special sat.	None
Set-n-Go Protocol	Off
Table position	P
Inline Composing	Off

## System

Body	Off
HE1	On
HE3	On
NE1	On
HE2	On
HE4	On
NE2	On
SP5	Off
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	Off
SP3	Off
SP4	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	L >> R
Coronal	P >> A
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
AutoAlign	Head > Brain
Coil Select Mode	On - AutoCoilSelect
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	R0.1 A3.1 F7.2 mm
Rotation	-179.13 deg
R >> L	240 mm
A >> P	240 mm
F >> H	160 mm
Frequency 1H	63.678990 MHz
Correction factor	1
AddCSaCSatNS 1H	41.777 V

Gain	High
Table position	7 mm
Img. Scale. Cor.	1.000

**Physio**

1st Signal/Mode	None
Magn. preparation	None
Resp. control	Off

**Inline**

Inline Composing	Off
Distortion correction	Off

**Sequence**

Introduction	On
Averaging mode	Long term
Multi-slice mode	Interleaved
Bandwidth	1042 Hz/Px
Optimization	None
Free echo spacing	Off
Echo spacing	1.04 ms
EPI factor	192
RF pulse type	Normal
Gradient mode	Fast
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	HE1-4;NE1,2
Acquisition duration	0 ms

**BOLD**

Delay in TR	0 ms
Diffusion mode	3-Scan Trace
Diff. weightings	3
b-value 1	0 s/mm <sup>2</sup>
Diff. weighted images	Off
Trace weighted images	On
ADC maps	On
FA maps	Off
Mosaic	Off
Tensor	Off
Distortion Corr.	On
Mode	2D
b-Value >=	0 s/mm <sup>2</sup>
Exponential ADC Maps	On
Invert Gray Scale	Off
Calculated Image	Off

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\BRAIN\BRAIN ADULT\BRAIN TUMOR\ax flair  
 TA:2:26 PAT:2 Voxel size:0.7×0.8×4.0 mm Rel. SNR:1.00 :tir

**Properties**

Prio Recon	Off
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	On
Load images to graphic segments	Off
Auto open inline display	Off
Wait for user to start	On
Start measurements	single

## Routine

Nr. of slice groups	1
Slices	40
Dist. factor	0 %
Position	R0.1 A3.1 F0.2 mm
Orientation	T > C0.9
Phase enc. dir.	L >> R
AutoAlign	Head > Brain
Phase oversampling	0 %
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	9000.0 ms
TE	102.0 ms
Averages	1
Concatenations	2
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter
Coil elements	HE1-4;NE1,2

## Contrast

TD	0.0 ms
MTC	Off
Magn. preparation	Slice-sel. IR
TI	2499 ms
Freeze suppressed tissue	On
Flip angle	150 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Averaging mode	Short term
Measurements	1
Reconstruction	Magnitude
Multiple series	Each measurement

## Resolution

Base resolution	320
Phase resolution	70 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	42
Reference scan mode	Integrated
Image Filter	Off
Distortion Corr.	On
TD	0.0 ms
Mode	2D
Unfiltered images	Off
Unfiltered images	Off
Prescan Normalize	On
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	On
Mode	Inplane

## Geometry

Nr. of slice groups	1
Slices	40
Dist. factor	0 %
Position	R0.1 A3.1 F7.2 mm
Phase enc. dir.	L >> R
Phase oversampling	0 %
Multi-slice mode	Interleaved
Series	Interleaved
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Water suppr.	None
Special sat.	None
Special sat.	None
Set-n-Go Protocol	Off
Table position	P
Inline Composing	Off
Restore magn.	Off

## System

Body	Off
HE1	On
HE3	On
NE1	On
HE2	On
HE4	On
NE2	On
SP5	Off
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	Off
SP3	Off
SP4	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	L >> R
Coronal	P >> A
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	Head > Brain
Coil Select Mode	On - AutoCoilSelect
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	R0.1 A3.1 F7.2 mm
Rotation	-89.13 deg
A >> P	240 mm
R >> L	240 mm
F >> H	160 mm
Frequency 1H	63.678990 MHz
Correction factor	1

Excit 1H	394.997 V
Gain	High
Table position	7 mm
Img. Scale. Cor.	1.000

**Physio**

1st Signal/Mode	None
Magn. preparation	Slice-sel. IR
TI	2499 ms
Dark blood	Off
Trajectory	Cartesian
Resp. control	Off

**Inline**

Inline Composing	Off
Distortion correction	Off

**Sequence**

Introduction	On
Dimension	2D
Compensate T2 decay	Off
Averaging mode	Short term
Multi-slice mode	Interleaved
Reduce Motion Sens.	On
Contrasts	1
Bandwidth	198 Hz/Px
Flow comp.	No
Allowed delay	30 s
Echo spacing	7.82 ms
Define	Turbo factor
Turbo factor	19
Echo trains per slice	7
RF pulse type	Fast
Gradient mode	Fast
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	HE1-4;NE1,2
Acquisition duration	0 ms
Mode	Off

**BOLD**

Subtract	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Contrasts	1
Save original images	On

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\BRAIN\BRAIN ADULT\BRAIN TUMOR\ax t2 +c  
 TA:2:25 PAT:2 Voxel size:0.4x0.4x4.0 mm Rel. SNR:1.00 :tse

**Properties**

Prio Recon	Off
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	On
Load images to graphic segments	Off
Auto open inline display	Off
Wait for user to start	On
Start measurements	single

## Routine

Nr. of slice groups	1
Slices	40
Dist. factor	0 %
Position	R0.1 A3.1 F0.2 mm
Orientation	T > C0.9
Phase enc. dir.	L >> R
AutoAlign	Head > Brain
Phase oversampling	0 %
FoV read	240 mm
FoV phase	100.0 %
Slice thickness	4.0 mm
TR	3420.0 ms
TE	91.0 ms
Averages	2
Concatenations	2
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter
Coil elements	HE1-4;NE1,2

## Contrast

TD	0.0 ms
MTC	Off
Magn. preparation	None
Flip angle	150 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Averaging mode	Short term
Measurements	1
Reconstruction	Magnitude
Multiple series	Each measurement

## Resolution

Base resolution	320
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	On
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	32
Reference scan mode	Self-calibration
Image Filter	Off
Distortion Corr.	On
TD	0.0 ms
Mode	2D
Unfiltered images	Off
Unfiltered images	Off
Prescan Normalize	On
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	On
Mode	Inplane

## Geometry

Nr. of slice groups	1
Slices	40
Dist. factor	0 %
Position	R0.1 A3.1 F7.2 mm
Phase enc. dir.	L >> R
Phase oversampling	0 %
Multi-slice mode	Interleaved
Series	Interleaved
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Water suppr.	None
Special sat.	None
Special sat.	None
Set-n-Go Protocol	Off
Table position	P
Inline Composing	Off
Restore magn.	Off

## System

Body	Off
HE1	On
HE3	On
NE1	On
HE2	On
HE4	On
NE2	On
SP5	Off
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	Off
SP3	Off
SP4	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	L >> R
Coronal	P >> A
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	Head > Brain
Coil Select Mode	On - AutoCoilSelect
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	Isocenter
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm
Frequency 1H	63.678990 MHz
Correction factor	1

Excit 1H	299.439 V
Gain	High
Table position	7 mm
Img. Scale. Cor.	1.000

**Physio**

1st Signal/Mode	None
Magn. preparation	None
Dark blood	Off
Trajectory	Cartesian
Resp. control	Off

**Inline**

Inline Composing	Off
Distortion correction	Off

**Sequence**

Introduction	On
Dimension	2D
Compensate T2 decay	Off
Averaging mode	Short term
Multi-slice mode	Interleaved
Reduce Motion Sens.	On
Contrasts	1
Bandwidth	191 Hz/Px
Flow comp.	No
Allowed delay	30 s
Echo spacing	10.2 ms
Define	Turbo factor
Turbo factor	16
Echo trains per slice	10
RF pulse type	Normal
Gradient mode	Normal
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	HE1-4;NE1,2
Acquisition duration	0 ms
Mode	Off

**BOLD**

Subtract	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Contrasts	1
Save original images	On

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\BRAIN\BRAIN ADULT\BRAIN TUMOR\ax spgr +c  
 TA:4:03 PAT:2 Voxel size:1.0×1.0×1.0 mm Rel. SNR:1.00 :tfl\_rs

**Properties**

Prio Recon	Off
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	On
Load images to graphic segments	Off
Auto open inline display	Off
Wait for user to start	On
Start measurements	single

## Routine

Nr. of slab groups	1
Slabs	1
Dist. factor	50 %
Position	R1.4 P3.8 H0.3 mm
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	8.3 %
FoV read	256 mm
FoV phase	81.3 %
Slice thickness	1.00 mm
TR	2100.0 ms
TE	2.81 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter, Image Filter
Coil elements	HE1-4;NE1,2

## Contrast

Magn. preparation	Non-sel. IR
TI	1100 ms
Flip angle	12 deg
Fat suppr.	None
Water suppr.	None
Averaging mode	Long term
Measurements	1
Reconstruction	Magnitude
Multiple series	Off

## Resolution

Base resolution	256
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated
Image Filter	On
! Intensity	Medium
Edge Enhancement	3
Smoothing	2
Unfiltered images	Off
Distortion Corr.	On
Accel. factor 3D	1
Mode	2D
Unfiltered images	Off
Unfiltered images	Off
Prescan Normalize	On
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	On
Mode	Inplane
Slice resolution	100 %
Slice partial Fourier	Off

## Geometry

Nr. of slab groups	1
Slabs	1
Dist. factor	50 %
Position	R1.4 P3.8 F32.7 mm
Phase enc. dir.	R >> L
Phase oversampling	0 %
Slice oversampling	8.3 %
Slices per slab	192
Multi-slice mode	Single shot
Series	Ascending
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Water suppr.	None
Special sat.	None
Set-n-Go Protocol	Off
Table position	P
Inline Composing	Off

## System

Body	Off
HE1	On
HE3	On
NE1	On
HE2	On
HE4	On
NE2	On
SP5	Off
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	Off
SP3	Off
SP4	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	L >> R
Coronal	P >> A
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Coil Select Mode	Off - All
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	Isocenter
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm
Frequency 1H	63.678990 MHz
Correction factor	1

SLoopIRns1 1H	321.602 V
Gain	Low
Table position	33 mm
Img. Scale. Cor.	1.000

#### Physio

1st Signal/Mode	None
Magn. preparation	Non-sel. IR
TI	1100 ms
Dark blood	Off
Resp. control	Off

#### Inline

Inline Composing	Off
Distortion correction	Off

#### Sequence

Introduction	On
Dimension	3D
Elliptical scanning	Off
Averaging mode	Long term
Multi-slice mode	Single shot
Reordering	Linear
Asymmetric echo	Allowed
Bandwidth	360 Hz/Px
Flow comp.	Slice
Echo spacing	5.6 ms
Turbo factor	208
RF pulse type	Fast
Gradient mode	Fast
Excitation	Slab-sel.
RF spoiling	On
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	HE1-4;NE1,2
Acquisition duration	0 ms
Mode	Off

**BOLD**

Subtract	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
MapIt	None
Save original images	On

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\BRAIN\BRAIN ADULT\BRAIN TUMOR\ax t1 +c  
 TA:3:21 Voxel size:0.4×0.4×4.0 mm Rel. SNR:1.00 :se

**Properties**

Prio Recon	Off
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	On
Load images to graphic segments	Off
Auto open inline display	Off
Wait for user to start	On
Start measurements	single

## Routine

Nr. of slice groups	1
Slices	40
Dist. factor	0 %
Position	R0.1 A3.1 F0.2 mm
Orientation	T > C0.9
Phase enc. dir.	L >> R
AutoAlign	Head > Brain
Phase oversampling	0 %
FoV read	240 mm
FoV phase	81.3 %
Slice thickness	4.0 mm
TR	500.0 ms
TE	8.0 ms
Averages	1
Concatenations	2
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter
Coil elements	HE1-4;NE1,2

## Contrast

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

## Resolution

Base resolution	320
Phase resolution	75 %
Phase partial Fourier	Off
Interpolation	On
Image Filter	Off
Distortion Corr.	On
TD	0.0 ms
Mode	2D
Unfiltered images	Off
Unfiltered images	Off
Prescan Normalize	On
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	On
Mode	Inplane

## Geometry

Nr. of slice groups	1
Slices	40
Dist. factor	0 %
Position	R0.1 A3.1 F7.2 mm
Phase enc. dir.	L >> R
Phase oversampling	0 %
Multi-slice mode	Interleaved
Series	Interleaved
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Water suppr.	None
Special sat.	None
Special sat.	None
Set-n-Go Protocol	Off
Table position	P
Inline Composing	Off

## System

Body	Off
HE1	On
HE3	On
NE1	On
HE2	On
HE4	On
NE2	On
SP5	Off
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	Off
SP3	Off
SP4	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	L >> R
Coronal	P >> A
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	Head > Brain
Coil Select Mode	On - AutoCoilSelect
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	Isocenter
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm
Frequency 1H	63.678990 MHz
Correction factor	1

VExcit IH	456.968 V
Gain	High
Table position	7 mm
Img. Scale. Cor.	1.000

**Physio**

1st Signal/Mode	None
Magn. preparation	None
Dark blood	Off

**Inline**

Inline Composing	Off
Distortion correction	Off

**Sequence**

Introduction	On
Averaging mode	Long term
Multi-slice mode	Interleaved
Asymmetric echo	Allowed
Contrasts	1
Bandwidth	150 Hz/Px
Allowed delay	30 s
RF pulse type	Fast
Gradient mode	Fast
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	HE1-4;NE1,2
Acquisition duration	0 ms
Mode	Off

**BOLD**

Subtract	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Contrasts	1
Save original images	On