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800um\_MPM\_64ch

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\\USER\FIL\ROUTINE\800um\_MPM\_64ch\localizer\_64ch

TA: 0:13 PM: REF Voxel size: 0.5×0.5×7.0 mmPAT: Off 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	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	1
Dist. factor	20 %
Position	L0.0 A20.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	1
Dist. factor	20 %
Position	L0.0 A24.1 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Slices	1
Dist. factor	20 %
Position	L0.0 A24.1 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
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	Elliptical filter
Coil elements	HC1-7

**Contrast - Common**

TR	8.6 ms
TE	4.00 ms
TD	0 ms
MTC	Off
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Water suppr.	None
SWI	Off

**Contrast - Dynamic**

Averages	2
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1

**Contrast - Dynamic**

Multiple series	Each measurement
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**Resolution - Common**

FoV read	250 mm
FoV phase	100.0 %
Slice thickness	7.0 mm
Base resolution	256
Phase resolution	90 %
Phase partial Fourier	Off
Interpolation	On

**Resolution - iPAT**

PAT mode	None
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**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	On

**Geometry - Common**

Slice group	1
Slices	1
Dist. factor	20 %
Position	L0.0 A20.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Slices	1
Dist. factor	20 %
Position	L0.0 A24.1 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	3
Slices	1
Dist. factor	20 %
Position	L0.0 A24.1 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	250 mm
FoV phase	100.0 %
Slice thickness	7.0 mm
TR	8.6 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	3

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 A20.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	2
Position	L0.0 A24.1 H0.0 mm
Orientation	Transversal

**Geometry - AutoAlign**

Phase enc. dir.	A >> P
Slice group	3
Position	L0.0 A24.1 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	L0.0 A20.0 H0.0
L	0.0 mm
A	20.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

**Geometry - Saturation**

Saturation mode	Standard
Fat suppr.	None
Water suppr.	None
Special sat.	None

**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
AutoAlign	---
Coil Select Mode	Off - All

**System - Adjustments**

B0 Shim mode	Tune up
B1 Shim mode	TrueForm
Adjust with body coil	Off
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 - pTx Volumes**

B1 Shim mode	TrueForm
Excitation	Slice-sel.

**System - Tx/Rx**

Frequency 1H	123.249642 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Physio - Signal1**

1st Signal/Mode	None
TR	8.6 ms
Concatenations	3
Segments	1

**Physio - Cardiac**

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	250 mm
FoV phase	100.0 %
Phase resolution	90 %

**Physio - PACE**

Resp. control	Off
Concatenations	3

**Inline - Common**

Subtract	Off
Measurements	1
StdDev	Off
Liver registration	Off
Save original images	On

**Inline - MIP**

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

**Inline - Soft Tissue**

Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off
Measurements	1

**Inline - Composing**

Distortion Corr.	Off
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**Sequence - Part 1**

Introduction	On
Dimension	2D
Phase stabilisation	Off
Asymmetric echo	Allowed
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Bandwidth	320 Hz/Px

**Sequence - Part 2**

Segments	1
Acoustic noise reduction	None
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
RF spoiling	On

**Sequence - Assistant**

Mode	Off
Allowed delay	0 s

\\USER\FIL\ROUTINE\800um\_MPM\_64ch\mfc\_seste\_b1map\_v1e

TA: 3:00 PM: REF Voxel size: 4.0×4.0×4.0 mmPAT: 4 Rel. SNR: 1.00 : seste1e

**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	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	48
FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.0 mm
TR	500.00 ms
TE 1	39.06 ms
TE 2	130.00 ms
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1,2

**Contrast - Common**

TR	500.00 ms
TE 1	39.06 ms
TE 2	130.00 ms
Fat suppr.	Fat sat.

**Contrast - Dynamic**

Reconstruction	Magnitude
Measurements	11

**Resolution - Common**

FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.0 mm
Base resolution	64
Phase resolution	100 %
Slice resolution	100 %

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	48
Accel. factor 3D	2
Ref. lines 3D	48
Reference scan mode	GRE/separate

**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	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
Slice oversampling	0.0 %
Slices per slab	48
FoV read	256 mm
FoV phase	75.0 %
Slice thickness	4.0 mm
TR	500.00 ms
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Rotation	90.00 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
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	Isocenter
Orientation	Transversal
Rotation	90.00 deg
R >> L	192 mm
A >> P	256 mm
F >> H	192 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
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**System - Tx/Rx**

Frequency 1H	123.249642 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Sequence - Part 1**

Dimension	3D
Contrasts	2
Bandwidth	2298 Hz/Px

**Sequence - Part 2**

Gradient mode	Performance
RF spoiling	Off

**Sequence - Special**

VoxDepth	24 2pi
SpoilAmp	10 mT/m
EddCurr0	1000 usec
EddCurr1	2000 usec
TRamp	140 usec
TFlat	260 usec
BWT	6 No unit
SlabGradScale	15.0
Refoc. Corr	6.0
IceProgram	IceProgram2DiPatOffline3D
Noise Adjust	Off
RF Spoil Basic Inc	50.0 deg
Trigger Type	Cogent
TM	33800 us

**Sequence - Assistant**

Mode	Off
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\\USER\FIL\ROUTINE\800um\_MPM\_64ch\gre\_field\_mapping\_1acq\_rl

TA: 2:14 PM: REF Voxel size: 3.0×3.0×2.0 mmRel. SNR: 1.00 : fm\_r

**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	On
Start measurements	Single measurement

**Routine**

Slice group	1
Slices	64
Dist. factor	50 %
Position	L0.0 A2.4 F0.6 mm
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	1020.0 ms
TE 1	10.00 ms
TE 2	12.46 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1,2

**Contrast - Common**

TR	1020.0 ms
TE 1	10.00 ms
TE 2	12.46 ms
MTC	Off
Flip angle	90 deg
Fat suppr.	None

**Contrast - Dynamic**

Averages	1
Averaging mode	Long term
Reconstruction	Magn./Phase
Measurements	1
Multiple series	Off

**Resolution - Common**

FoV read	192 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
Base resolution	64
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off

**Resolution - Filter Image**

Prescan Normalize	Off
Normalize	Off
B1 filter	Off

**Resolution - Filter Rawdata**

Raw filter	Off
Elliptical filter	Off

**Geometry - Common**

Slice group	1
Slices	64
Dist. factor	50 %
Position	L0.0 A2.4 F0.6 mm
Orientation	Transversal
Phase enc. dir.	R >> L
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	1020.0 ms
Multi-slice mode	Interleaved
Series	Descending
Concatenations	1

**Geometry - AutoAlign**

Slice group	1
Position	L0.0 A2.4 F0.6 mm
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Initial Position	L0.0 A2.4 F0.6
L	0.0 mm
A	2.4 mm
F	0.6 mm
Initial Rotation	90.00 deg
Initial Orientation	Transversal

**Geometry - Saturation**

Fat suppr.	None
Special sat.	None

**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
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off

**System - Adjustments**

Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

! Position	Isocenter
! Orientation	Transversal
! Rotation	90.00 deg
! R >> L	192 mm
! A >> P	256 mm
! F >> H	192 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
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**System - Tx/Rx**

Frequency 1H	123.249642 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Sequence - Part 1**

Introduction	On
Dimension	2D
Asymmetric echo	Off
Contrasts	2
Flow comp.	Yes
Multi-slice mode	Interleaved
Bandwidth	260 Hz/Px

**Sequence - Part 2**

RF pulse type	Normal
Gradient mode	Fast
RF spoiling	On

**Sequence - Assistant**

Mode	Off
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\\USER\FIL\ROUTINE\800um\_MPM\_64ch\mfc\_smaps\_v1a\_Array

TA: 5.9 s PM: FIX Voxel size: 8.0×8.0×8.0 mmPAT: Off Rel. SNR: 1.00 : sm3d\_1a

**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	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	22
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
TR	6.00 ms
TE 1	2.20 ms
TE 2	0.00 ms
TE 3	0.00 ms
TE 4	0.00 ms
TE 5	0.00 ms
TE 6	0.00 ms
TE 7	0.00 ms
TE 8	0.00 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1,2

**Contrast - Common**

TR	6.00 ms
TE 1	2.20 ms
TE 2	0.00 ms
TE 3	0.00 ms
TE 4	0.00 ms
TE 5	0.00 ms
TE 6	0.00 ms
TE 7	0.00 ms
TE 8	0.00 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
MTC	Off
Flip angle	6 deg

**Contrast - Dynamic**

Reconstruction	Magnitude
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**Resolution - Common**

FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
Base resolution	32
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off

**Resolution - iPAT**

PAT mode	None
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**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	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	22
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
TR	6.00 ms
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
Position	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A6.6 H6.6
L	0.0 mm
A	6.6 mm
H	6.6 mm
Initial Rotation	30.00 deg
Initial Orientation	Sagittal

**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	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Rotation	30.00 deg
A >> P	224 mm
F >> H	256 mm
R >> L	176 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
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**System - Tx/Rx**

Frequency 1H	123.249642 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Sequence - Part 1**

Dimension	3D
Elliptical scanning	Off
Contrasts	1
Bandwidth	488 Hz/Px

**Sequence - Part 2**

Gradient mode	Performance
RF spoiling	On

**Sequence - Special**

Noise Adjust	On
RF Spoiling Increment	137.0 Degrees
Trajectory	Partitions in Lines
Prewinder (PE, RO) Ramp.	220 us
Prewinder (PE, RO) Dur.	610 us
Readout Ramp	110 us
RF Pulse Duration	160 us
Excitation	Selective
Reconstruction	ICE
Bandwidth Time Product	6.0
Rx on QBC Only	Off

**Sequence - Assistant**

Mode	Off
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\\USER\FIL\ROUTINE\800um\_MPM\_64ch\mfc\_smaps\_v1a\_Body

TA: 5.9 s PM: FIX Voxel size: 8.0×8.0×8.0 mmPAT: Off Rel. SNR: 1.00 : sm3d\_1a

**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	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	22
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
TR	6.00 ms
TE 1	2.20 ms
TE 2	0.00 ms
TE 3	0.00 ms
TE 4	0.00 ms
TE 5	0.00 ms
TE 6	0.00 ms
TE 7	0.00 ms
TE 8	0.00 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
Concatenations	1
Filter	None
Coil elements	BC

**Contrast - Common**

TR	6.00 ms
TE 1	2.20 ms
TE 2	0.00 ms
TE 3	0.00 ms
TE 4	0.00 ms
TE 5	0.00 ms
TE 6	0.00 ms
TE 7	0.00 ms
TE 8	0.00 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
MTC	Off
Flip angle	6 deg

**Contrast - Dynamic**

Reconstruction	Magnitude
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**Resolution - Common**

FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
Base resolution	32
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off

**Resolution - iPAT**

PAT mode	None
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**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	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	22
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
TR	6.00 ms
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
Position	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A6.6 H6.6
L	0.0 mm
A	6.6 mm
H	6.6 mm
Initial Rotation	30.00 deg
Initial Orientation	Sagittal

**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	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Rotation	30.00 deg
A >> P	224 mm
F >> H	256 mm
R >> L	176 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
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**System - Tx/Rx**

Frequency 1H	123.249642 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Sequence - Part 1**

Dimension	3D
Elliptical scanning	Off
Contrasts	1
Bandwidth	488 Hz/Px

**Sequence - Part 2**

Gradient mode	Performance
RF spoiling	On

**Sequence - Special**

Noise Adjust	On
RF Spoiling Increment	137.0 Degrees
Trajectory	Partitions in Lines
Prewinder (PE, RO) Ramp.	220 us
Prewinder (PE, RO) Dur.	610 us
Readout Ramp	110 us
RF Pulse Duration	160 us
Excitation	Selective
Reconstruction	ICE
Bandwidth Time Product	6.0
Rx on QBC Only	On

**Sequence - Assistant**

Mode	Off
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\\USER\FIL\ROUTINE\800um\_MPM\_64ch\t1w\_mfc\_3dflash\_v1I\_R4

TA: 7:08 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 4 Rel. SNR: 1.00 : f13d\_1l

**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	L0.0 A42.2 H5.4 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	224
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	0.80 mm
TR	25.00 ms
TE 1	2.30 ms
TE 2	4.60 ms
TE 3	6.90 ms
TE 4	9.20 ms
TE 5	11.50 ms
TE 6	13.80 ms
TE 7	16.10 ms
TE 8	18.40 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1,2

**Contrast - Common**

TR	25.00 ms
TE 1	2.30 ms
TE 2	4.60 ms
TE 3	6.90 ms
TE 4	9.20 ms
TE 5	11.50 ms
TE 6	13.80 ms
TE 7	16.10 ms
TE 8	18.40 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
MTC	Off
Flip angle	21 deg

**Contrast - Dynamic**

Reconstruction	Magnitude
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**Resolution - Common**

FoV read	256 mm
FoV phase	87.5 %
Slice thickness	0.80 mm
Base resolution	320
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	40
Accel. factor 3D	2
Ref. lines 3D	40
Reference scan mode	Integrated

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off

**Resolution - Filter Image**

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	L0.0 A42.2 H5.4 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	224
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	0.80 mm
TR	25.00 ms
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
Position	L0.0 A42.2 H5.4 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A42.2 H5.4
L	0.0 mm
A	42.2 mm
H	5.4 mm
Initial Rotation	30.00 deg
Initial Orientation	Sagittal

**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
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - All

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 A42.2 H5.4 mm
Orientation	Sagittal
Rotation	30.00 deg
A >> P	224 mm
F >> H	256 mm

**System - Adjust Volume**

R >> L	180 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
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**System - Tx/Rx**

Frequency 1H	123.249642 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Sequence - Part 1**

Dimension	3D
Elliptical scanning	Off
Contrasts	8
Bandwidth	488 Hz/Px

**Sequence - Part 2**

Gradient mode	Performance
RF spoiling	On

**Sequence - Special**

Noise Adjust	On
RF Spoiling Increment	137.0 Degrees
Trajectory	Partitions in Lines
Prewinder (PE, RO) Ramp.	220 us
Prewinder (PE, RO) Dur.	610 us
Readout Ramp	110 us
RF Pulse Duration	540 us
Excitation	Non-Selective
Reconstruction	ICE
Bandwidth Time Product	6.0
QBC Allowed?	Off

**Sequence - Assistant**

Mode	Off
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\\USER\FIL\ROUTINE\800um\_MPM\_64ch\mfc\_smaps\_v1a\_Array

TA: 5.9 s PM: FIX Voxel size: 8.0×8.0×8.0 mmPAT: Off Rel. SNR: 1.00 : sm3d\_1a

**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	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	22
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
TR	6.00 ms
TE 1	2.20 ms
TE 2	0.00 ms
TE 3	0.00 ms
TE 4	0.00 ms
TE 5	0.00 ms
TE 6	0.00 ms
TE 7	0.00 ms
TE 8	0.00 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1,2

**Contrast - Common**

TR	6.00 ms
TE 1	2.20 ms
TE 2	0.00 ms
TE 3	0.00 ms
TE 4	0.00 ms
TE 5	0.00 ms
TE 6	0.00 ms
TE 7	0.00 ms
TE 8	0.00 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
MTC	Off
Flip angle	6 deg

**Contrast - Dynamic**

Reconstruction	Magnitude
----------------	-----------

**Resolution - Common**

FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
Base resolution	32
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off

**Resolution - iPAT**

PAT mode	None
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**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	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	22
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
TR	6.00 ms
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
Position	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A6.6 H6.6
L	0.0 mm
A	6.6 mm
H	6.6 mm
Initial Rotation	30.00 deg
Initial Orientation	Sagittal

**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	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Rotation	30.00 deg
A >> P	224 mm
F >> H	256 mm
R >> L	176 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
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**System - Tx/Rx**

Frequency 1H	123.249642 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Sequence - Part 1**

Dimension	3D
Elliptical scanning	Off
Contrasts	1
Bandwidth	488 Hz/Px

**Sequence - Part 2**

Gradient mode	Performance
RF spoiling	On

**Sequence - Special**

Noise Adjust	On
RF Spoiling Increment	137.0 Degrees
Trajectory	Partitions in Lines
Prewinder (PE, RO) Ramp.	220 us
Prewinder (PE, RO) Dur.	610 us
Readout Ramp	110 us
RF Pulse Duration	160 us
Excitation	Selective
Reconstruction	ICE
Bandwidth Time Product	6.0
Rx on QBC Only	Off

**Sequence - Assistant**

Mode	Off
------	-----

\\USER\FIL\ROUTINE\800um\_MPM\_64ch\mfc\_smaps\_v1a\_Body

TA: 5.9 s PM: FIX Voxel size: 8.0×8.0×8.0 mmPAT: Off Rel. SNR: 1.00 : sm3d\_1a

**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	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	22
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
TR	6.00 ms
TE 1	2.20 ms
TE 2	0.00 ms
TE 3	0.00 ms
TE 4	0.00 ms
TE 5	0.00 ms
TE 6	0.00 ms
TE 7	0.00 ms
TE 8	0.00 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
Concatenations	1
Filter	None
Coil elements	BC

**Contrast - Common**

TR	6.00 ms
TE 1	2.20 ms
TE 2	0.00 ms
TE 3	0.00 ms
TE 4	0.00 ms
TE 5	0.00 ms
TE 6	0.00 ms
TE 7	0.00 ms
TE 8	0.00 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
MTC	Off
Flip angle	6 deg

**Contrast - Dynamic**

Reconstruction	Magnitude
----------------	-----------

**Resolution - Common**

FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
Base resolution	32
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off

**Resolution - iPAT**

PAT mode	None
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**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	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	22
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
TR	6.00 ms
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
Position	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A6.6 H6.6
L	0.0 mm
A	6.6 mm
H	6.6 mm
Initial Rotation	30.00 deg
Initial Orientation	Sagittal

**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	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Rotation	30.00 deg
A >> P	224 mm
F >> H	256 mm
R >> L	176 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
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**System - Tx/Rx**

Frequency 1H	123.249642 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Sequence - Part 1**

Dimension	3D
Elliptical scanning	Off
Contrasts	1
Bandwidth	488 Hz/Px

**Sequence - Part 2**

Gradient mode	Performance
RF spoiling	On

**Sequence - Special**

Noise Adjust	On
RF Spoiling Increment	137.0 Degrees
Trajectory	Partitions in Lines
Prewinder (PE, RO) Ramp.	220 us
Prewinder (PE, RO) Dur.	610 us
Readout Ramp	110 us
RF Pulse Duration	160 us
Excitation	Selective
Reconstruction	ICE
Bandwidth Time Product	6.0
Rx on QBC Only	On

**Sequence - Assistant**

Mode	Off
------	-----

\\USER\FIL\ROUTINE\800um\_MPM\_64ch\pdw\_mfc\_3dflash\_v1l\_R4

TA: 7:08 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 4 Rel. SNR: 1.00 : fl3d\_1l

**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	L0.0 A42.2 H5.4 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	224
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	0.80 mm
TR	25.00 ms
TE 1	2.30 ms
TE 2	4.60 ms
TE 3	6.90 ms
TE 4	9.20 ms
TE 5	11.50 ms
TE 6	13.80 ms
TE 7	16.10 ms
TE 8	18.40 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1,2

**Contrast - Common**

TR	25.00 ms
TE 1	2.30 ms
TE 2	4.60 ms
TE 3	6.90 ms
TE 4	9.20 ms
TE 5	11.50 ms
TE 6	13.80 ms
TE 7	16.10 ms
TE 8	18.40 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
MTC	Off
Flip angle	6 deg

**Contrast - Dynamic**

Reconstruction	Magnitude
----------------	-----------

**Resolution - Common**

FoV read	256 mm
FoV phase	87.5 %
Slice thickness	0.80 mm
Base resolution	320
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	40
Accel. factor 3D	2
Ref. lines 3D	40
Reference scan mode	Integrated

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off

**Resolution - Filter Image**

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	L0.0 A42.2 H5.4 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	224
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	0.80 mm
TR	25.00 ms
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
Position	L0.0 A42.2 H5.4 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A42.2 H5.4
L	0.0 mm
A	42.2 mm
H	5.4 mm
Initial Rotation	30.00 deg
Initial Orientation	Sagittal

**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
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - All

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 A42.2 H5.4 mm
Orientation	Sagittal
Rotation	30.00 deg
A >> P	224 mm
F >> H	256 mm

**System - Adjust Volume**

R >> L	180 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
--------------	----------

**System - Tx/Rx**

Frequency 1H	123.249642 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Sequence - Part 1**

Dimension	3D
Elliptical scanning	Off
Contrasts	8
Bandwidth	488 Hz/Px

**Sequence - Part 2**

Gradient mode	Performance
RF spoiling	On

**Sequence - Special**

Noise Adjust	On
RF Spoiling Increment	137.0 Degrees
Trajectory	Partitions in Lines
Prewinder (PE, RO) Ramp.	220 us
Prewinder (PE, RO) Dur.	610 us
Readout Ramp	110 us
RF Pulse Duration	160 us
Excitation	Non-Selective
Reconstruction	ICE
Bandwidth Time Product	6.0
QBC Allowed?	Off

**Sequence - Assistant**

Mode	Off
------	-----

\\USER\FIL\ROUTINE\800um\_MPM\_64ch\mfc\_smaps\_v1a\_Array

TA: 5.9 s PM: FIX Voxel size: 8.0×8.0×8.0 mmPAT: Off Rel. SNR: 1.00 : sm3d\_1a

**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	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	22
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
TR	6.00 ms
TE 1	2.20 ms
TE 2	0.00 ms
TE 3	0.00 ms
TE 4	0.00 ms
TE 5	0.00 ms
TE 6	0.00 ms
TE 7	0.00 ms
TE 8	0.00 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1,2

**Contrast - Common**

TR	6.00 ms
TE 1	2.20 ms
TE 2	0.00 ms
TE 3	0.00 ms
TE 4	0.00 ms
TE 5	0.00 ms
TE 6	0.00 ms
TE 7	0.00 ms
TE 8	0.00 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
MTC	Off
Flip angle	6 deg

**Contrast - Dynamic**

Reconstruction	Magnitude
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**Resolution - Common**

FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
Base resolution	32
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off

**Resolution - iPAT**

PAT mode	None
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**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	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	22
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
TR	6.00 ms
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
Position	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A6.6 H6.6
L	0.0 mm
A	6.6 mm
H	6.6 mm
Initial Rotation	30.00 deg
Initial Orientation	Sagittal

**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	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Rotation	30.00 deg
A >> P	224 mm
F >> H	256 mm
R >> L	176 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
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**System - Tx/Rx**

Frequency 1H	123.249642 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Sequence - Part 1**

Dimension	3D
Elliptical scanning	Off
Contrasts	1
Bandwidth	488 Hz/Px

**Sequence - Part 2**

Gradient mode	Performance
RF spoiling	On

**Sequence - Special**

Noise Adjust	On
RF Spoiling Increment	137.0 Degrees
Trajectory	Partitions in Lines
Prewinder (PE, RO) Ramp.	220 us
Prewinder (PE, RO) Dur.	610 us
Readout Ramp	110 us
RF Pulse Duration	160 us
Excitation	Selective
Reconstruction	ICE
Bandwidth Time Product	6.0
Rx on QBC Only	Off

**Sequence - Assistant**

Mode	Off
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\\USER\FIL\ROUTINE\800um\_MPM\_64ch\mfc\_smaps\_v1a\_Body

TA: 5.9 s PM: FIX Voxel size: 8.0×8.0×8.0 mmPAT: Off Rel. SNR: 1.00 : sm3d\_1a

**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	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	22
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
TR	6.00 ms
TE 1	2.20 ms
TE 2	0.00 ms
TE 3	0.00 ms
TE 4	0.00 ms
TE 5	0.00 ms
TE 6	0.00 ms
TE 7	0.00 ms
TE 8	0.00 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
Concatenations	1
Filter	None
Coil elements	BC

**Contrast - Common**

TR	6.00 ms
TE 1	2.20 ms
TE 2	0.00 ms
TE 3	0.00 ms
TE 4	0.00 ms
TE 5	0.00 ms
TE 6	0.00 ms
TE 7	0.00 ms
TE 8	0.00 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
MTC	Off
Flip angle	6 deg

**Contrast - Dynamic**

Reconstruction	Magnitude
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**Resolution - Common**

FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
Base resolution	32
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off

**Resolution - iPAT**

PAT mode	None
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**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	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	22
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	8.00 mm
TR	6.00 ms
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
Position	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A6.6 H6.6
L	0.0 mm
A	6.6 mm
H	6.6 mm
Initial Rotation	30.00 deg
Initial Orientation	Sagittal

**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	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 A6.6 H6.6 mm
Orientation	Sagittal
Rotation	30.00 deg
A >> P	224 mm
F >> H	256 mm
R >> L	176 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
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**System - Tx/Rx**

Frequency 1H	123.249642 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Sequence - Part 1**

Dimension	3D
Elliptical scanning	Off
Contrasts	1
Bandwidth	488 Hz/Px

**Sequence - Part 2**

Gradient mode	Performance
RF spoiling	On

**Sequence - Special**

Noise Adjust	On
RF Spoiling Increment	137.0 Degrees
Trajectory	Partitions in Lines
Prewinder (PE, RO) Ramp.	220 us
Prewinder (PE, RO) Dur.	610 us
Readout Ramp	110 us
RF Pulse Duration	160 us
Excitation	Selective
Reconstruction	ICE
Bandwidth Time Product	6.0
Rx on QBC Only	On

**Sequence - Assistant**

Mode	Off
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\\USER\FIL\ROUTINE\800um\_MPM\_64ch\mtw\_mfc\_3dflash\_v1l\_R4

TA: 7:08 PM: FIX Voxel size: 0.8×0.8×0.8 mmPAT: 4 Rel. SNR: 1.00 : fl3d\_1l

**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	L0.0 A42.2 H5.4 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Slice oversampling	0.0 %
Slices per slab	224
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	0.80 mm
TR	25.00 ms
TE 1	2.30 ms
TE 2	4.60 ms
TE 3	6.90 ms
TE 4	9.20 ms
TE 5	11.50 ms
TE 6	13.80 ms
TE 7	0.00 ms
TE 8	0.00 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
Concatenations	1
Filter	None
Coil elements	HC1-7;NC1,2

**Contrast - Common**

TR	25.00 ms
TE 1	2.30 ms
TE 2	4.60 ms
TE 3	6.90 ms
TE 4	9.20 ms
TE 5	11.50 ms
TE 6	13.80 ms
TE 7	0.00 ms
TE 8	0.00 ms
TE 9	0.00 ms
TE 10	0.00 ms
TE 11	0.00 ms
TE 12	0.00 ms
TE 13	0.00 ms
TE 14	0.00 ms
TE 15	0.00 ms
TE 16	0.00 ms
TE 17	0.00 ms
TE 18	0.00 ms
TE 19	0.00 ms
TE 20	0.00 ms
TE 21	0.00 ms
TE 22	0.00 ms
TE 23	0.00 ms
TE 24	0.00 ms
TE 25	0.00 ms
TE 26	0.00 ms
TE 27	0.00 ms
TE 28	0.00 ms
TE 29	0.00 ms
TE 30	0.00 ms
TE 31	0.00 ms
TE 32	0.00 ms
MTC	On
Flip angle	6 deg

**Contrast - Dynamic**

Reconstruction	Magnitude
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**Resolution - Common**

FoV read	256 mm
FoV phase	87.5 %
Slice thickness	0.80 mm
Base resolution	320
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off

**Resolution - iPAT**

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	40
Accel. factor 3D	2
Ref. lines 3D	40
Reference scan mode	Integrated

**Resolution - Filter Image**

Image Filter	Off
Distortion Corr.	Off



**Resolution - Filter Image**

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	L0.0 A42.2 H5.4 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice oversampling	0.0 %
Slices per slab	224
FoV read	256 mm
FoV phase	87.5 %
Slice thickness	0.80 mm
TR	25.00 ms
Concatenations	1

**Geometry - AutoAlign**

Slab group	1
Position	L0.0 A42.2 H5.4 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Initial Position	L0.0 A42.2 H5.4
L	0.0 mm
A	42.2 mm
H	5.4 mm
Initial Rotation	30.00 deg
Initial Orientation	Sagittal

**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
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - All

**System - Adjustments**

B0 Shim mode	Standard
B1 Shim mode	TrueForm
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

**System - Adjust Volume**

Position	L0.0 A42.2 H5.4 mm
Orientation	Sagittal
Rotation	30.00 deg
A >> P	224 mm
F >> H	256 mm

**System - Adjust Volume**

R >> L	180 mm
Reset	Off

**System - pTx Volumes**

B1 Shim mode	TrueForm
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**System - Tx/Rx**

Frequency 1H	123.249642 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

**Sequence - Part 1**

Dimension	3D
Elliptical scanning	Off
Contrasts	6
Bandwidth	488 Hz/Px

**Sequence - Part 2**

Gradient mode	Performance
RF spoiling	On

**Sequence - Special**

Noise Adjust	On
RF Spoiling Increment	137.0 Degrees
Trajectory	Partitions in Lines
Prewinder (PE, RO) Ramp.	220 us
Prewinder (PE, RO) Dur.	610 us
Readout Ramp	110 us
RF Pulse Duration	160 us
Excitation	Non-Selective
Reconstruction	ICE
Bandwidth Time Product	6.0
QBC Allowed?	Off

**Sequence - Assistant**

Mode	Off
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