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\\spr

BODY

SPR_abdomen_library

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\\spr\BODY\SPR_abdomen_library\t1\AX T1 VIBE DIXON BH *

TA: 15 sec Coil Selection: Auto Voxel Size: 1.3×1.3×5.0 mm³ Acc:: 4 Rel. SNR: 1.00**Properties**

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

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	56
Phase Oversampling	0 %
Slice Oversampling	28.6 %
FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	6.2 ms
TE 1	2.39 ms
TE 2	4.77 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BO1-3;SP2,3

Contrast - Common

TR	6.2 ms
TE 1	2.39 ms
TE 2	4.77 ms
Flip Angle	9 deg
Fat-Water Contrast	Dixon
Lines per Shot	40
Contrasts	2
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Measurements	1
Multiple Series	Off
3D Reordering	Standard
Reordering	Linear
Time to Center	8.2 s
Burn Time to Center	Off

Resolution - Common

FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	288

Resolution - Common

Phase Resolution	75 %
Slice Resolution	61 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	CAIPIRINHA
CAIPIRINHA Mode	Body Tra
Total Factor	4
Reference Scans	GRE/Separate
Acceleration Factor PE	2
Reference Lines PE	24
Acceleration Factor 3D	2
Reference Lines 3D	24
Reordering Shift 3D	1
Phase Partial Fourier	Off
Slice Partial Fourier	7/8
Asymmetric Echo	Weak
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	56
Phase Oversampling	0 %
Slice Oversampling	28.6 %
FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	6.2 ms
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	Parallel F/H
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Geometry - Saturation

Gap	10.00 mm
Thickness	60.00 mm

Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	380 mm
R >> L	380 mm
F >> H	280 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Breath-hold
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Flip Angle	9 deg
Measurements	1
Multiple Series	Off
3D Reordering	Standard
Time to Center	8.2 s
Burn Time to Center	Off

Inline - Liver

Liver Registration	Off
Save Original Images	On
Dixon Evaluation	Off
Fat Fraction (2pt)	Off

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
Contrasts	2
TE 1	2.39 ms
TE 2	4.77 ms
TR	6.2 ms

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
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Inline - MapIt

MapIt	None
Flip Angle	9 deg
Measurements	1
Contrasts	2
TE 1	2.39 ms
TE 2	4.77 ms
TR	6.2 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Fast
Readout Mode	Bipolar
Gradient Mode	Fast
Reordering	Linear
Bandwidth	1090 Hz/Px
Asymmetric Echo	Weak
Optimization	Opp/In

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	On

Sequence - Assistant

SAR Assistant	Off
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Sequence - Assistant

Optimization	Opp/In
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\\spr\BODY\SPR_abdomen_library\t1\AX T1 VIBE FS BH *

TA: 14 sec Coil Selection: Auto Voxel Size: 1.2×1.2×3.0 mm³ Acc:: 2 Rel. SNR: 1.00**Properties**

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

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	64
Phase Oversampling	0 %
Slice Oversampling	12.5 %
FoV Read	380 mm
FoV Phase	84.4 %
Slice Thickness	3.0 mm
TR	2.8 ms
TE	1.10 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BO1,2;SP1-3

Contrast - Common

TR	2.8 ms
TE	1.10 ms
Flip Angle	9 deg
Fat-Water Contrast	Fast Fat Saturation
Lines per Shot	41
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Reordering	Linear
Time to Center	6.6 s
Burn Time to Center	Off

Resolution - Common

FoV Read	380 mm
FoV Phase	84.4 %
Slice Thickness	3.0 mm
Base Resolution	320
Phase Resolution	70 %
Slice Resolution	64 %

Resolution - Common

Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	GRAPPA
Total Factor	2
Reference Scans	GRE/Separate
Acceleration Factor PE	2
Reference Lines PE	24
Acceleration Factor 3D	1
Reference Lines 3D	24
Phase Partial Fourier	7/8
Slice Partial Fourier	7/8
Asymmetric Echo	Weak
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	64
Phase Oversampling	0 %
Slice Oversampling	12.5 %
FoV Read	380 mm
FoV Phase	84.4 %
Slice Thickness	3.0 mm
TR	2.8 ms
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None
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Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm

Geometry - Tim Planning Suite

Table Position	H
Inline Composing	Off

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	321 mm
R >> L	380 mm
F >> H	192 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Breath-hold
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Flip Angle	9 deg
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Time to Center	6.6 s
Burn Time to Center	Off

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
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Inline - Cardiac

Contrasts	1
TE	1.10 ms
TR	2.8 ms

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
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Inline - MapIt

MapIt	None
Flip Angle	9 deg
Measurements	1
Contrasts	1
TE	1.10 ms
TR	2.8 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Fast
Gradient Mode	Fast
Reordering	Linear
Bandwidth	710 Hz/Px
Asymmetric Echo	Weak
Optimization	Min. TE

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Off
Optimization	Min. TE

\\spr\BODY\SPR_abdomen_library\t1\AX T1 STARVIBE FS ISO *

TA: 5:10 min Coil Selection: Auto Voxel Size: 1.3×1.3×1.3 mm³ Acc.: None Rel. SNR: 1.00**Properties**

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

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
Slices per Slab	192
Phase Oversampling	0 %
Slice Oversampling	16.7 %
FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	1.3 mm
TR	3.1 ms
TE	1.38 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BO1;SP1

Contrast - Common

TR	3.1 ms
TE	1.38 ms
Flip Angle	5 deg
Fat-Water Contrast	SPAIR
Lines per Shot	125
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Reordering	Centric
Burn Time to Center	Off

Resolution - Common

FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	1.3 mm
Base Resolution	288
Slice Resolution	70 %
Trajectory	Radial
Radial Views	600

Resolution - Common

Motion Scan	Off
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Slice Partial Fourier	6/8
Asymmetric Echo	Off
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
Slices per Slab	192
Phase Oversampling	0 %
Slice Oversampling	16.7 %
FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	1.3 mm
TR	3.1 ms
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	90.00 deg

Geometry - Saturation

Saturation Region	1
Thickness	80.00 mm
Position	R220.0 P0.0 H0.0 mm
Orientation	Sagittal
Saturation Region	2
Thickness	80.00 mm
Position	R220.0 P0.0 H0.0 mm
Orientation	Sagittal
Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
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Geometry - Tim Planning Suite

Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	90.00 deg
R >> L	380 mm
A >> P	380 mm
F >> H	250 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Flip Angle	5 deg
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Burn Time to Center	Off

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
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Inline - Cardiac

Contrasts	1
TE	1.38 ms
TR	3.1 ms

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
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Inline - MapIt

MapIt	None
Flip Angle	5 deg
Measurements	1
Contrasts	1
TE	1.38 ms
TR	3.1 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Fast
Gradient Mode	Fast
Reordering	Centric
Bandwidth	870 Hz/Px
Asymmetric Echo	Off
Optimization	Min. TE

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Off
Optimization	Min. TE

\\spr\BODY\SPR_abdomen_library\t1\AX T1 TSE FS BH *

TA: 56 sec Coil Selection: Auto Voxel Size: 1.1×1.1×4.0 mm³ Acc:: 2 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Reference Scans	Integrated
Acceleration Factor PE	2
Reference Lines PE	26
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Routine

Slice Group	1
Slices	32
Distance Factor	10 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	380 mm
FoV Phase	76.2 %
Slice Thickness	4.0 mm
TR	650.0 ms
TE	11.00 ms
Averages	1
Concatenations	4
AutoAlign	---
Coil Elements	BO1-3;SP2,3

Geometry - Common

Slice Group	1
Slices	32
Distance Factor	10 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	380 mm
FoV Phase	76.2 %
Slice Thickness	4.0 mm
TR	650.0 ms
Multi-Slice Mode	Interleaved
Series	Interl. in B.-h.
Concatenations	4

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Contrast - Common

TR	650.0 ms
TE	11.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	130 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Geometry - Navigator**Contrast - Dynamic**

Dynamic Mode	Standard
Measurements	1
Multiple Series	Off

Resolution - Common

FoV Read	380 mm
FoV Phase	76.2 %
Slice Thickness	4.0 mm
Base Resolution	336
Phase Resolution	68 %
Trajectory	Cartesian
Interpolation	Off

Geometry - Saturation

Saturation Region	1
Thickness	50.00 mm
Position	Isocenter
Orientation	Transversal
Shape	Standard
Special Saturation	Parallel F
Gap	11.00 mm
Thickness	50.00 mm

Geometry - Tim Planning Suite

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

Resolution - Acceleration

Acceleration mode	GRAPPA
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System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	290 mm
R >> L	380 mm
F >> H	141 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	650.0 ms
Concatenations	4

Physio - Cardiac

Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
FoV Read	380 mm
FoV Phase	76.2 %
Phase Resolution	68 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Breath-hold
Concatenations	4

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	11.00 ms

Inline - Cardiac

TR	650.0 ms
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Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse_rs
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Normal
Flow Compensation	Slice
Bandwidth	201 Hz/Px
Echo Spacing	11.4 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	5
Echo Trains per Slice	20

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Reduce Motion Sens.	On

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	30 s

\\spr\BODY\SPR_abdomen_library\t1\AX T1 FS MULTINEX GAD *

TA: 4:55 min Coil Selection: Auto Voxel Size: 1.2×1.2×4.5 mm³ Acc:: 3 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Self-calibration
Acceleration Factor PE	3
Reference Lines PE	32
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Routine

Slice Group	1
Slices	44
Distance Factor	0 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	340 mm
FoV Phase	81.3 %
Slice Thickness	4.5 mm
TR	550.0 ms
TE	8.70 ms
Averages	6
Concatenations	9
AutoAlign	---
Coil Elements	BO1,2;SP2-4

Geometry - Common

Slice Group	1
Slices	44
Distance Factor	0 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	340 mm
FoV Phase	81.3 %
Slice Thickness	4.5 mm
TR	550.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	9

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.19 deg

Contrast - Common

TR	550.0 ms
TE	8.70 ms
TD	2000.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	130 deg
Fat-Water Contrast	Fat Saturation
Fat Saturation	Weak
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Off

Resolution - Common

FoV Read	340 mm
FoV Phase	81.3 %
Slice Thickness	4.5 mm
Base Resolution	288
Phase Resolution	100 %
Trajectory	Cartesian
Interpolation	Off

Geometry - Navigator**Geometry - Saturation**

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	L >> R
Coronal	P >> A
Transversal	H >> F
Coil Combination	Adaptive Combine

System - Miscellaneous

Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.19 deg
A >> P	277 mm
R >> L	340 mm
F >> H	198 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	550.0 ms
Concatenations	9

Physio - Cardiac

Fat-Water Contrast	Fat Saturation
Magn. Preparation	None
Dark Blood	Off
FoV Read	340 mm
FoV Phase	81.3 %
Phase Resolution	100 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Off
Concatenations	9

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	8.70 ms
TR	550.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
Dimension	2D
RF Pulse Type	Low SAR
Gradient Mode	Normal
Flow Compensation	None
Bandwidth	334 Hz/Px
Echo Spacing	8.74 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	9
Echo Trains per Slice	9

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Reduce Motion Sens.	On

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	150 deg
Allowed Delay	30 s

\\spr\BODY\SPR_abdomen_library\t1\AX T1 STARVIBE FS *

TA: 2:33 min Coil Selection: Auto Voxel Size: 1.3×1.3×3.0 mm³ Acc:: None Rel. SNR: 1.00**Properties**

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

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	72
Phase Oversampling	0 %
Slice Oversampling	44.4 %
FoV Read	340 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
TR	2.4 ms
TE	1.31 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BO1,2;SP2-4

Contrast - Common

TR	2.4 ms
TE	1.31 ms
Flip Angle	9 deg
Fat-Water Contrast	SPAIR
Lines per Shot	47
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Reordering	Linear
Burn Time to Center	Off

Resolution - Common

FoV Read	340 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
Base Resolution	256
Slice Resolution	50 %
Trajectory	Radial
Radial Views	860

Resolution - Common

Motion Scan	Off
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Slice Partial Fourier	7/8
Asymmetric Echo	Off
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	72
Phase Oversampling	0 %
Slice Oversampling	44.4 %
FoV Read	340 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
TR	2.4 ms
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.19 deg

Geometry - Saturation

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Auto Coil Select
MSMA	S - C - T
Sagittal	L >> R

System - Miscellaneous

Coronal	P >> A
Transversal	H >> F
Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

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

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.19 deg
! A >> P	340 mm
! R >> L	340 mm
! F >> H	216 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Flip Angle	9 deg
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Burn Time to Center	Off

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
Contrasts	1
TE	1.31 ms
TR	2.4 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
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Inline - MapIt

MapIt	None
Flip Angle	9 deg
Measurements	1
Contrasts	1
TE	1.31 ms
TR	2.4 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Fast
Gradient Mode	Fast
Reordering	Linear
Bandwidth	1220 Hz/Px
Asymmetric Echo	Off
Optimization	Min. TE

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Off
Optimization	Min. TE

\\spr\BODY\SPR_abdomen_library\t1\AX T1 GRASP SFS DYN GAD FB *

TA: 2:54 min Coil Selection: Auto Voxel Size: 1.6×1.6×3.0 mm³ Acc:: None Rel. SNR: 1.00**Properties**

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

Contrast - Dynamic

Liver Auto Bolus Detection	On
Delay After Bolus	5.00

Resolution - Common

FoV Read	350 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
Base Resolution	224
Slice Resolution	50 %
Trajectory	Radial
Radial Views	1148
Motion Scan	Off
Interpolation	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	72
Phase Oversampling	0 %
Slice Oversampling	22.2 %
FoV Read	350 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
TR	3.5 ms
TE	1.52 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BO1;SP2

Resolution - Acceleration

Acceleration mode	None
Slice Partial Fourier	5/8
Asymmetric Echo	Off
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	On

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	72
Phase Oversampling	0 %
Slice Oversampling	22.2 %
FoV Read	350 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
TR	3.5 ms
Series	Ascending
Concatenations	1

Contrast - Common

TR	3.5 ms
TE	1.52 ms
Flip Angle	12 deg
Fat-Water Contrast	SPAIR
Lines per Shot	31
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	GRASP
Reconstruction	Reduced Series
Phases	3
Duration 1	50 s
Duration 2	29 s
Duration 3	60 s
Temporal Resolution 1	21.7 s
Temporal Resolution 2	8.3 s
Temporal Resolution 3	21.7 s
Reconstructed Volumes 1	1
Reconstructed Volumes 2	3
Reconstructed Volumes 3	1
Workflow	Liver
Liver Gating	On
Preview	Off
Reordering	Linear

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Saturation Region	1
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Geometry - Saturation

Thickness	100.00 mm
Position	L220.0 P0.0 H0.0 mm
Orientation	Sagittal
Saturation Region	2
Thickness	100.00 mm
Position	L220.0 P0.0 H0.0 mm
Orientation	Sagittal
Special Saturation	None

Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	350 mm
R >> L	350 mm
F >> H	216 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Dynamic

Dynamic Mode	GRASP
Flip Angle	12 deg

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
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Inline - Subtraction

StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
Contrasts	1
TE	1.52 ms
TR	3.5 ms

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
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Inline - MapIt

MapIt	None
Flip Angle	12 deg
Contrasts	1
TE	1.52 ms
TR	3.5 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Fast
Gradient Mode	Fast
Reordering	Linear
Bandwidth	590 Hz/Px
Asymmetric Echo	Off
Optimization	None

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	10 deg
Optimization	None

\\spr\BODY\SPR_abdomen_library\t1\AX T1 VIBE DIXON BH *

TA: 17 sec Coil Selection: Auto Voxel Size: 1.2×1.2×5.0 mm³ Acc:: 4 Rel. SNR: 1.00**Properties**

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

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	48
Phase Oversampling	0 %
Slice Oversampling	25.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	6.2 ms
TE 1	2.39 ms
TE 2	4.77 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BO1-3;SP2,3

Contrast - Common

TR	6.2 ms
TE 1	2.39 ms
TE 2	4.77 ms
Flip Angle	9 deg
Fat-Water Contrast	Dixon
Lines per Shot	42
Contrasts	2
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Measurements	1
Multiple Series	Off
3D Reordering	Standard
Reordering	Linear
Time to Center	9.1 s
Burn Time to Center	Off

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	256

Resolution - Common

Phase Resolution	90 %
Slice Resolution	70 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	CAIPIRINHA
CAIPIRINHA Mode	Body Tra
Total Factor	4
Reference Scans	GRE/Separate
Acceleration Factor PE	2
Reference Lines PE	24
Acceleration Factor 3D	2
Reference Lines 3D	24
Reordering Shift 3D	1
Phase Partial Fourier	Off
Slice Partial Fourier	Off
Asymmetric Echo	Weak
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	48
Phase Oversampling	0 %
Slice Oversampling	25.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	6.2 ms
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	Parallel F/H
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Geometry - Saturation

Gap	10.00 mm
Thickness	60.00 mm

Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	300 mm
R >> L	300 mm
F >> H	240 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Breath-hold
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Flip Angle	9 deg
Measurements	1
Multiple Series	Off
3D Reordering	Standard
Time to Center	9.1 s
Burn Time to Center	Off

Inline - Liver

Liver Registration	Off
Save Original Images	On
Dixon Evaluation	Off
Fat Fraction (2pt)	Off

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
Contrasts	2
TE 1	2.39 ms
TE 2	4.77 ms
TR	6.2 ms

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
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Inline - MapIt

MapIt	None
Flip Angle	9 deg
Measurements	1
Contrasts	2
TE 1	2.39 ms
TE 2	4.77 ms
TR	6.2 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Fast
Readout Mode	Bipolar
Gradient Mode	Fast
Reordering	Linear
Bandwidth	1090 Hz/Px
Asymmetric Echo	Weak
Optimization	Opp/In

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Off
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Sequence - Assistant

Optimization	Opp/In
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\\sprlBODY\SPR_abdomen_library\t1\AX T1 VIBE FS BH *

TA: 14 sec Coil Selection: Auto Voxel Size: 1.0×1.0×3.0 mm³ Acc:: 2 Rel. SNR: 1.00**Properties**

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

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	60
Phase Oversampling	0 %
Slice Oversampling	6.7 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
TR	2.9 ms
TE	1.16 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BO1,2;SP1-3

Contrast - Common

TR	2.9 ms
TE	1.16 ms
Flip Angle	9 deg
Fat-Water Contrast	Fast Fat Saturation
Lines per Shot	36
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Reordering	Linear
Time to Center	6.9 s
Burn Time to Center	Off

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
Base Resolution	288
Phase Resolution	75 %
Slice Resolution	63 %

Resolution - Common

Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	GRAPPA
Total Factor	2
Reference Scans	GRE/Separate
Acceleration Factor PE	2
Reference Lines PE	24
Acceleration Factor 3D	1
Reference Lines 3D	24
Phase Partial Fourier	7/8
Slice Partial Fourier	7/8
Asymmetric Echo	Weak
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	60
Phase Oversampling	0 %
Slice Oversampling	6.7 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
TR	2.9 ms
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None
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Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm

Geometry - Tim Planning Suite

Table Position	H
Inline Composing	Off

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	300 mm
R >> L	300 mm
F >> H	180 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Breath-hold
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Flip Angle	9 deg
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Time to Center	6.9 s
Burn Time to Center	Off

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
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Inline - Cardiac

Contrasts	1
TE	1.16 ms
TR	2.9 ms

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
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Inline - MapIt

MapIt	None
Flip Angle	9 deg
Measurements	1
Contrasts	1
TE	1.16 ms
TR	2.9 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Fast
Gradient Mode	Fast
Reordering	Linear
Bandwidth	720 Hz/Px
Asymmetric Echo	Weak
Optimization	Min. TE

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Off
Optimization	Min. TE

\\spr\BODY\SPR_abdomen_library\t1\AX T1 STARVIBE FS ISO *

TA: 3:59 min Coil Selection: Auto Voxel Size: 1.3×1.3×1.3 mm³ Acc:: None Rel. SNR: 1.00**Properties**

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

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
Slices per Slab	176
Phase Oversampling	0 %
Slice Oversampling	9.1 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	1.3 mm
TR	3.1 ms
TE	1.38 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BO1,2;SP1,2

Contrast - Common

TR	3.1 ms
TE	1.38 ms
Flip Angle	5 deg
Fat-Water Contrast	SPAIR
Lines per Shot	93
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Reordering	Centric
Burn Time to Center	Off

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	1.3 mm
Base Resolution	224
Slice Resolution	60 %
Trajectory	Radial
Radial Views	575

Resolution - Common

Motion Scan	Off
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Slice Partial Fourier	6/8
Asymmetric Echo	Off
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
Slices per Slab	176
Phase Oversampling	0 %
Slice Oversampling	9.1 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	1.3 mm
TR	3.1 ms
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	90.00 deg

Geometry - Saturation

Saturation Region	1
Thickness	80.00 mm
Position	R220.0 P0.0 H0.0 mm
Orientation	Sagittal
Saturation Region	2
Thickness	80.00 mm
Position	R220.0 P0.0 H0.0 mm
Orientation	Sagittal
Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
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Geometry - Tim Planning Suite

Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	90.00 deg
R >> L	300 mm
A >> P	300 mm
F >> H	229 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Flip Angle	5 deg
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Burn Time to Center	Off

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
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Inline - Cardiac

Contrasts	1
TE	1.38 ms
TR	3.1 ms

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
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Inline - MapIt

MapIt	None
Flip Angle	5 deg
Measurements	1
Contrasts	1
TE	1.38 ms
TR	3.1 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Fast
Gradient Mode	Fast
Reordering	Centric
Bandwidth	860 Hz/Px
Asymmetric Echo	Off
Optimization	Min. TE

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Off
Optimization	Min. TE

\\spr\BODY\SPR_abdomen_library\t1\AX T1 TSE FS BH *

TA: 51 sec Coil Selection: Auto Voxel Size: 1.0×1.0×4.0 mm³ Acc:: 2 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Reference Scans	Integrated
Acceleration Factor PE	2
Reference Lines PE	27
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	32
Distance Factor	10 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	75.0 %
Slice Thickness	4.0 mm
TR	650.0 ms
Multi-Slice Mode	Interleaved
Series	Interl. in B.-h.
Concatenations	4

Routine

Slice Group	1
Slices	32
Distance Factor	10 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	75.0 %
Slice Thickness	4.0 mm
TR	650.0 ms
TE	11.00 ms
Averages	1
Concatenations	4
AutoAlign	---
Coil Elements	BO1-3;SP2,3

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Contrast - Common

TR	650.0 ms
TE	11.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	130 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Geometry - Navigator**Contrast - Dynamic**

Dynamic Mode	Standard
Measurements	1
Multiple Series	Off

Geometry - Saturation

Saturation Region	1
Thickness	50.00 mm
Position	Isocenter
Orientation	Transversal
Shape	Standard
Special Saturation	Parallel F
Gap	11.00 mm
Thickness	50.00 mm

Resolution - Common

FoV Read	300 mm
FoV Phase	75.0 %
Slice Thickness	4.0 mm
Base Resolution	288
Phase Resolution	70 %
Trajectory	Cartesian
Interpolation	Off

Geometry - Tim Planning Suite

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

Resolution - Acceleration

Acceleration mode	GRAPPA
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System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	225 mm
R >> L	300 mm
F >> H	141 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	650.0 ms
Concatenations	4

Physio - Cardiac

Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
FoV Read	300 mm
FoV Phase	75.0 %
Phase Resolution	70 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Breath-hold
Concatenations	4

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	11.00 ms

Inline - Cardiac

TR	650.0 ms
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Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse_rs
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Normal
Flow Compensation	Slice
Bandwidth	200 Hz/Px
Echo Spacing	11.5 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	5
Echo Trains per Slice	18

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Reduce Motion Sens.	On

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	30 s

\\spr\BODY\SPR_abdomen_library\1\AX T1 FS GAD 6 NSA *

TA: 4:26 min Coil Selection: Auto Voxel Size: 1.0×1.0×4.0 mm³ Acc.: 2 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Self-calibration
Acceleration Factor PE	2
Reference Lines PE	32
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Routine

Slice Group	1
Slices	26
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	78.5 %
Slice Thickness	4.0 mm
TR	530.0 ms
TE	8.70 ms
Averages	6
Concatenations	6
AutoAlign	---
Coil Elements	BO1,2;SP3-5

Geometry - Common

Slice Group	1
Slices	26
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	78.5 %
Slice Thickness	4.0 mm
TR	530.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	6

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Contrast - Common

TR	530.0 ms
TE	8.70 ms
TD	2000.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	130 deg
Fat-Water Contrast	Fat Saturation
Fat Saturation	Weak
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Off

Resolution - Common

FoV Read	300 mm
FoV Phase	78.5 %
Slice Thickness	4.0 mm
Base Resolution	288
Phase Resolution	100 %
Trajectory	Cartesian
Interpolation	Off

Geometry - Navigator**Geometry - Saturation**

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	L >> R
Coronal	P >> A
Transversal	F >> H
Coil Combination	Adaptive Combine

System - Miscellaneous

Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	236 mm
R >> L	300 mm
F >> H	124 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	530.0 ms
Concatenations	6

Physio - Cardiac

Fat-Water Contrast	Fat Saturation
Magn. Preparation	None
Dark Blood	Off
FoV Read	300 mm
FoV Phase	78.5 %
Phase Resolution	100 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Off
Concatenations	6

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	8.70 ms
TR	530.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
Dimension	2D
RF Pulse Type	Low SAR
Gradient Mode	Normal
Flow Compensation	None
Bandwidth	334 Hz/Px
Echo Spacing	8.74 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	9
Echo Trains per Slice	13

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Reduce Motion Sens.	On

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	150 deg
Allowed Delay	30 s

\\spr\BODY\SPR_abdomen_library\t1\AX T1 STARVIBE FS *

TA: 1:04 min Coil Selection: Auto Voxel Size: 1.3×1.3×3.0 mm³ Acc:: None Rel. SNR: 1.00**Properties**

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

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	40
Phase Oversampling	0 %
Slice Oversampling	40.0 %
FoV Read	240 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
TR	2.4 ms
TE	1.34 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BO1,2;SP3,4

Contrast - Common

TR	2.4 ms
TE	1.34 ms
Flip Angle	9 deg
Fat-Water Contrast	SPAIR
Lines per Shot	25
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Reordering	Linear
Burn Time to Center	Off

Resolution - Common

FoV Read	240 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
Base Resolution	192
Slice Resolution	50 %
Trajectory	Radial
Radial Views	670

Resolution - Common

Motion Scan	Off
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Slice Partial Fourier	7/8
Asymmetric Echo	Off
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	40
Phase Oversampling	0 %
Slice Oversampling	40.0 %
FoV Read	240 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
TR	2.4 ms
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Auto Coil Select
MSMA	S - C - T
Sagittal	L >> R

System - Miscellaneous

Coronal	P >> A
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

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

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	192 mm
! R >> L	340 mm
! F >> H	120 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Flip Angle	9 deg
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Burn Time to Center	Off

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
Contrasts	1
TE	1.34 ms
TR	2.4 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
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Inline - MapIt

MapIt	None
Flip Angle	9 deg
Measurements	1
Contrasts	1
TE	1.34 ms
TR	2.4 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Fast
Gradient Mode	Fast
Reordering	Linear
Bandwidth	1240 Hz/Px
Asymmetric Echo	Off
Optimization	Min. TE

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Off
Optimization	Min. TE

\\spr\BODY\SPR_abdomen_library\1\AX_T1_GRASP_SFS_DYN_GAD_FB *

TA: 2:54 min Coil Selection: Auto Voxel Size: 1.6×1.6×3.0 mm³ Acc:: None Rel. SNR: 1.00**Properties**

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

Contrast - Dynamic

Liver Auto Bolus Detection	On
Delay After Bolus	5.00

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
Base Resolution	192
Slice Resolution	50 %
Trajectory	Radial
Radial Views	1148
Motion Scan	Off
Interpolation	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	72
Phase Oversampling	0 %
Slice Oversampling	22.2 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
TR	3.5 ms
TE	1.51 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BO1;SP2

Resolution - Acceleration

Acceleration mode	None
Slice Partial Fourier	5/8
Asymmetric Echo	Off
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	On

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	72
Phase Oversampling	0 %
Slice Oversampling	22.2 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
TR	3.5 ms
Series	Ascending
Concatenations	1

Contrast - Common

TR	3.5 ms
TE	1.51 ms
Flip Angle	12 deg
Fat-Water Contrast	SPAIR
Lines per Shot	31
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	GRASP
Reconstruction	Reduced Series
Phases	3
Duration 1	50 s
Duration 2	29 s
Duration 3	60 s
Temporal Resolution 1	21.7 s
Temporal Resolution 2	8.3 s
Temporal Resolution 3	21.7 s
Reconstructed Volumes 1	1
Reconstructed Volumes 2	3
Reconstructed Volumes 3	1
Workflow	Liver
Liver Gating	On
Preview	Off
Reordering	Linear

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Saturation Region	1
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Geometry - Saturation

Thickness	100.00 mm
Position	L220.0 P0.0 H0.0 mm
Orientation	Sagittal
Saturation Region	2
Thickness	100.00 mm
Position	L220.0 P0.0 H0.0 mm
Orientation	Sagittal
Special Saturation	None

Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	300 mm
R >> L	300 mm
F >> H	216 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Dynamic

Dynamic Mode	GRASP
Flip Angle	12 deg

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
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Inline - Subtraction

StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
Contrasts	1
TE	1.51 ms
TR	3.5 ms

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
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Inline - MapIt

MapIt	None
Flip Angle	12 deg
Contrasts	1
TE	1.51 ms
TR	3.5 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Fast
Gradient Mode	Fast
Reordering	Linear
Bandwidth	590 Hz/Px
Asymmetric Echo	Off
Optimization	None

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	10 deg
Optimization	None

\\spr\BODY\SPR_abdomen_library\1\AX T1 VIBE DIXON *

TA: 57 sec Coil Selection: Auto Voxel Size: 1.3×1.3×5.0 mm³ Acc:: 4 Rel. SNR: 1.00**Properties**

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

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	48
Phase Oversampling	0 %
Slice Oversampling	25.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	6.2 ms
TE 1	2.39 ms
TE 2	4.77 ms
Averages	4
Concatenations	1
AutoAlign	---
Coil Elements	BO1-3;SP2,3

Contrast - Common

TR	6.2 ms
TE 1	2.39 ms
TE 2	4.77 ms
Flip Angle	9 deg
Fat-Water Contrast	Dixon
Lines per Shot	42
Contrasts	2
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Measurements	1
Multiple Series	Off
3D Reordering	Standard
Reordering	Linear
Time to Center	8.3 s
Burn Time to Center	Off

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	224

Resolution - Common

Phase Resolution	90 %
Slice Resolution	70 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	CAIPIRINHA
CAIPIRINHA Mode	Body Tra
Total Factor	4
Reference Scans	GRE/Separate
Acceleration Factor PE	2
Reference Lines PE	24
Acceleration Factor 3D	2
Reference Lines 3D	24
Reordering Shift 3D	1
Phase Partial Fourier	Off
Slice Partial Fourier	Off
Asymmetric Echo	Weak
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	48
Phase Oversampling	0 %
Slice Oversampling	25.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	6.2 ms
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	Parallel F/H
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Geometry - Saturation

Gap	10.00 mm
Thickness	60.00 mm

Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	300 mm
R >> L	300 mm
F >> H	240 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Breath-hold
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Flip Angle	9 deg
Measurements	1
Multiple Series	Off
3D Reordering	Standard
Time to Center	8.3 s
Burn Time to Center	Off

Inline - Liver

Liver Registration	Off
Save Original Images	On
Dixon Evaluation	Off
Fat Fraction (2pt)	Off

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
Contrasts	2
TE 1	2.39 ms
TE 2	4.77 ms
TR	6.2 ms

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
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Inline - MapIt

MapIt	None
Flip Angle	9 deg
Measurements	1
Contrasts	2
TE 1	2.39 ms
TE 2	4.77 ms
TR	6.2 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Fast
Readout Mode	Bipolar
Gradient Mode	Fast
Reordering	Linear
Bandwidth	1060 Hz/Px
Asymmetric Echo	Weak
Optimization	Opp/In

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Off
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Sequence - Assistant

Optimization	Opp/In
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\\spr\BODY\SPR_abdomen_library\t1\AX T1 VIBE DIXON BH *

TA: 20 sec Coil Selection: Auto Voxel Size: 1.2×1.2×3.0 mm³ Acc:: 2 Rel. SNR: 1.00**Properties**

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

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	60
Phase Oversampling	0 %
Slice Oversampling	6.7 %
FoV Read	230 mm
FoV Phase	84.4 %
Slice Thickness	3.0 mm
TR	6.3 ms
TE 1	2.39 ms
TE 2	4.77 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BO1-3;SP2,3

Contrast - Common

TR	6.3 ms
TE 1	2.39 ms
TE 2	4.77 ms
Flip Angle	9 deg
Fat-Water Contrast	Dixon
Lines per Shot	32
Contrasts	2
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Measurements	1
Multiple Series	Off
3D Reordering	Standard
Reordering	Linear
Time to Center	9.9 s
Burn Time to Center	Off

Resolution - Common

FoV Read	230 mm
FoV Phase	84.4 %
Slice Thickness	3.0 mm
Base Resolution	192

Resolution - Common

Phase Resolution	100 %
Slice Resolution	50 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	GRAPPA
Total Factor	2
Reference Scans	Integrated
Acceleration Factor PE	2
Reference Lines PE	24
Acceleration Factor 3D	1
Phase Partial Fourier	Off
Slice Partial Fourier	Off
Asymmetric Echo	Weak
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	60
Phase Oversampling	0 %
Slice Oversampling	6.7 %
FoV Read	230 mm
FoV Phase	84.4 %
Slice Thickness	3.0 mm
TR	6.3 ms
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	Parallel F/H
Gap	10.00 mm
Thickness	60.00 mm

Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	195 mm
R >> L	230 mm
F >> H	180 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Breath-hold
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Flip Angle	9 deg
Measurements	1
Multiple Series	Off
3D Reordering	Standard
Time to Center	9.9 s
Burn Time to Center	Off

Inline - Liver

Liver Registration	Off
Save Original Images	On
Dixon Evaluation	Off
Fat Fraction (2pt)	Off

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off

Inline - Subtraction

Save Original Images	On
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Inline - Cardiac

Save Original Images	On
Contrasts	2
TE 1	2.39 ms
TE 2	4.77 ms
TR	6.3 ms

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
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Inline - MapIt

MapIt	None
Flip Angle	9 deg
Measurements	1
Contrasts	2
TE 1	2.39 ms
TE 2	4.77 ms
TR	6.3 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Fast
Readout Mode	Bipolar
Gradient Mode	Fast
Reordering	Linear
Bandwidth	1000 Hz/Px
Asymmetric Echo	Weak
Optimization	Opp/In

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Off
Optimization	Opp/In

\\sprl\BODY\SPR_abdomen_library\t1\AX T1 VIBE FS BH *

TA: 12 sec Coil Selection: Auto Voxel Size: 1.1×1.1×3.0 mm³ Acc:: 2 Rel. SNR: 1.00**Properties**

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

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	60
Phase Oversampling	0 %
Slice Oversampling	6.7 %
FoV Read	220 mm
FoV Phase	88.5 %
Slice Thickness	3.0 mm
TR	2.8 ms
TE	1.11 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BO1,2;SP1-3

Contrast - Common

TR	2.8 ms
TE	1.11 ms
Flip Angle	9 deg
Fat-Water Contrast	Fast Fat Saturation
Lines per Shot	42
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Reordering	Linear
Time to Center	6.6 s
Burn Time to Center	Off

Resolution - Common

FoV Read	220 mm
FoV Phase	88.5 %
Slice Thickness	3.0 mm
Base Resolution	192
Phase Resolution	80 %
Slice Resolution	66 %

Resolution - Common

Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	GRAPPA
Total Factor	2
Reference Scans	GRE/Separate
Acceleration Factor PE	2
Reference Lines PE	24
Acceleration Factor 3D	1
Reference Lines 3D	24
Phase Partial Fourier	Off
Slice Partial Fourier	Off
Asymmetric Echo	Weak
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	60
Phase Oversampling	0 %
Slice Oversampling	6.7 %
FoV Read	220 mm
FoV Phase	88.5 %
Slice Thickness	3.0 mm
TR	2.8 ms
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None
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Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm

Geometry - Tim Planning Suite

Table Position	H
Inline Composing	Off

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	195 mm
R >> L	220 mm
F >> H	180 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Breath-hold
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Flip Angle	9 deg
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Time to Center	6.6 s
Burn Time to Center	Off

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
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Inline - Cardiac

Contrasts	1
TE	1.11 ms
TR	2.8 ms

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
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Inline - MapIt

MapIt	None
Flip Angle	9 deg
Measurements	1
Contrasts	1
TE	1.11 ms
TR	2.8 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Fast
Gradient Mode	Fast
Reordering	Linear
Bandwidth	700 Hz/Px
Asymmetric Echo	Weak
Optimization	Min. TE

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Off
Optimization	Min. TE

\\spr\BODY\SPR_abdomen_library\t1\AX T1 STARVIBE FS ISO *

TA: 4:24 min Coil Selection: Auto Voxel Size: 1.2×1.2×1.2 mm³ Acc:: None Rel. SNR: 1.00**Properties**

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

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
Slices per Slab	192
Phase Oversampling	0 %
Slice Oversampling	8.3 %
FoV Read	230 mm
FoV Phase	100.0 %
Slice Thickness	1.2 mm
TR	3.1 ms
TE	1.43 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BO1,2;SP1,2

Contrast - Common

TR	3.1 ms
TE	1.43 ms
Flip Angle	5 deg
Fat-Water Contrast	SPAIR
Lines per Shot	112
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Reordering	Centric
Burn Time to Center	Off

Resolution - Common

FoV Read	230 mm
FoV Phase	100.0 %
Slice Thickness	1.2 mm
Base Resolution	192
Slice Resolution	60 %
Trajectory	Radial
Radial Views	550

Resolution - Common

Motion Scan	Off
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Slice Partial Fourier	7/8
Asymmetric Echo	Off
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
Slices per Slab	192
Phase Oversampling	0 %
Slice Oversampling	8.3 %
FoV Read	230 mm
FoV Phase	100.0 %
Slice Thickness	1.2 mm
TR	3.1 ms
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	90.00 deg

Geometry - Saturation

Saturation Region	1
Thickness	80.00 mm
Position	R220.0 P0.0 H0.0 mm
Orientation	Sagittal
Saturation Region	2
Thickness	80.00 mm
Position	R220.0 P0.0 H0.0 mm
Orientation	Sagittal
Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
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Geometry - Tim Planning Suite

Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	90.00 deg
R >> L	230 mm
A >> P	230 mm
F >> H	231 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Flip Angle	5 deg
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Burn Time to Center	Off

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
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Inline - Cardiac

Contrasts	1
TE	1.43 ms
TR	3.1 ms

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
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Inline - MapIt

MapIt	None
Flip Angle	5 deg
Measurements	1
Contrasts	1
TE	1.43 ms
TR	3.1 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Fast
Gradient Mode	Fast
Reordering	Centric
Bandwidth	870 Hz/Px
Asymmetric Echo	Off
Optimization	Min. TE

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Off
Optimization	Min. TE

\\spr\BODY\SPR_abdomen_library\t1\AX T1 TSE FS BH *

TA: 43 sec Coil Selection: Auto Voxel Size: 1.0×1.0×4.0 mm³ Acc:: 2 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Reference Scans	Integrated
Acceleration Factor PE	2
Reference Lines PE	24
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Routine

Slice Group	1
Slices	32
Distance Factor	10 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	230 mm
FoV Phase	75.0 %
Slice Thickness	4.0 mm
TR	650.0 ms
TE	11.00 ms
Averages	1
Concatenations	4
AutoAlign	---
Coil Elements	BO1-3;SP2,3

Geometry - Common

Slice Group	1
Slices	32
Distance Factor	10 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	230 mm
FoV Phase	75.0 %
Slice Thickness	4.0 mm
TR	650.0 ms
Multi-Slice Mode	Interleaved
Series	Interl. in B.-h.
Concatenations	4

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Contrast - Common

TR	650.0 ms
TE	11.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	130 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Off

Resolution - Common

FoV Read	230 mm
FoV Phase	75.0 %
Slice Thickness	4.0 mm
Base Resolution	224
Phase Resolution	75 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	GRAPPA
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Geometry - Navigator**Geometry - Saturation**

Saturation Region	1
Thickness	50.00 mm
Position	Isocenter
Orientation	Transversal
Shape	Standard
Special Saturation	Parallel F
Gap	11.00 mm
Thickness	50.00 mm

Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	173 mm
R >> L	230 mm
F >> H	141 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	650.0 ms
Concatenations	4

Physio - Cardiac

Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
FoV Read	230 mm
FoV Phase	75.0 %
Phase Resolution	75 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Breath-hold
Concatenations	4

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	11.00 ms

Inline - Cardiac

TR	650.0 ms
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Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse_rs
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Normal
Flow Compensation	Slice
Bandwidth	201 Hz/Px
Echo Spacing	11.4 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	5
Echo Trains per Slice	15

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Reduce Motion Sens.	On

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	30 s

\\spr\BODY\SPR_abdomen_library\1\AX T1 FS GAD 6 NSA *

TA: 4:14 min Coil Selection: Auto Voxel Size: 0.8×0.8×4.0 mm³ Acc.: 2 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Self-calibration
Acceleration Factor PE	2
Reference Lines PE	32
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Routine

Slice Group	1
Slices	26
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	200 mm
FoV Phase	78.1 %
Slice Thickness	4.0 mm
TR	660.0 ms
TE	9.40 ms
Averages	6
Concatenations	5
AutoAlign	---
Coil Elements	BO1,2;SP2-4

Geometry - Common

Slice Group	1
Slices	26
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	200 mm
FoV Phase	78.1 %
Slice Thickness	4.0 mm
TR	660.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	5

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Contrast - Common

TR	660.0 ms
TE	9.40 ms
TD	2000.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	130 deg
Fat-Water Contrast	Fat Saturation
Fat Saturation	Weak
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Off

Resolution - Common

FoV Read	200 mm
FoV Phase	78.1 %
Slice Thickness	4.0 mm
Base Resolution	256
Phase Resolution	100 %
Trajectory	Cartesian
Interpolation	Off

Geometry - Navigator**Geometry - Saturation**

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	L >> R
Coronal	P >> A
Transversal	F >> H
Coil Combination	Adaptive Combine

System - Miscellaneous

Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	157 mm
R >> L	200 mm
F >> H	124 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	660.0 ms
Concatenations	5

Physio - Cardiac

Fat-Water Contrast	Fat Saturation
Magn. Preparation	None
Dark Blood	Off
FoV Read	200 mm
FoV Phase	78.1 %
Phase Resolution	100 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Off
Concatenations	5

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	9.40 ms
TR	660.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
Dimension	2D
RF Pulse Type	Low SAR
Gradient Mode	Normal
Flow Compensation	None
Bandwidth	331 Hz/Px
Echo Spacing	9.38 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	9
Echo Trains per Slice	12

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Reduce Motion Sens.	On

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	150 deg
Allowed Delay	30 s

\\spr\BODY\SPR_abdomen_library\t1\AX T1 STARVIBE FS *

TA: 1:21 min Coil Selection: Auto Voxel Size: 1.1×1.1×3.0 mm³ Acc:: None Rel. SNR: 1.00**Properties**

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

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	40
Phase Oversampling	0 %
Slice Oversampling	40.0 %
FoV Read	210 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
TR	2.7 ms
TE	1.47 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BO1,2;SP2,3

Contrast - Common

TR	2.7 ms
TE	1.47 ms
Flip Angle	9 deg
Fat-Water Contrast	SPAIR
Lines per Shot	25
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Reordering	Linear
Burn Time to Center	Off

Resolution - Common

FoV Read	210 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
Base Resolution	192
Slice Resolution	50 %
Trajectory	Radial
Radial Views	768

Resolution - Common

Motion Scan	Off
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Slice Partial Fourier	7/8
Asymmetric Echo	Off
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	40
Phase Oversampling	0 %
Slice Oversampling	40.0 %
FoV Read	210 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
TR	2.7 ms
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Auto Coil Select
MSMA	S - C - T
Sagittal	L >> R

System - Miscellaneous

Coronal	P >> A
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

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

System - Adjust Volume

! Position	Isocenter
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	157 mm
! R >> L	200 mm
! F >> H	120 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Flip Angle	9 deg
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Burn Time to Center	Off

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
Contrasts	1
TE	1.47 ms
TR	2.7 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
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Inline - MapIt

MapIt	None
Flip Angle	9 deg
Measurements	1
Contrasts	1
TE	1.47 ms
TR	2.7 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Fast
Gradient Mode	Fast
Reordering	Linear
Bandwidth	960 Hz/Px
Asymmetric Echo	Off
Optimization	Min. TE

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Off
Optimization	Min. TE

\\spr\BODY\SPR_abdomen_library\t1\AX T1 GRASP SFS DYN GAD FB *

TA: 2:55 min Coil Selection: Auto Voxel Size: 1.6×1.6×3.0 mm³ Acc:: None Rel. SNR: 1.00**Properties**

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

Contrast - Dynamic

Liver Auto Bolus Detection	On
Delay After Bolus	5.00

Resolution - Common

FoV Read	200 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
Base Resolution	128
Slice Resolution	50 %
Trajectory	Radial
Radial Views	1135
Motion Scan	Off
Interpolation	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	72
Phase Oversampling	0 %
Slice Oversampling	22.2 %
FoV Read	200 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
TR	3.5 ms
TE	1.51 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BO1;SP2

Resolution - Acceleration

Acceleration mode	None
Slice Partial Fourier	5/8
Asymmetric Echo	Off
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	On

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	72
Phase Oversampling	0 %
Slice Oversampling	22.2 %
FoV Read	200 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
TR	3.5 ms
Series	Ascending
Concatenations	1

Contrast - Common

TR	3.5 ms
TE	1.51 ms
Flip Angle	12 deg
Fat-Water Contrast	SPAIR
Lines per Shot	31
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	GRASP
Reconstruction	Reduced Series
Phases	3
Duration 1	50 s
Duration 2	29 s
Duration 3	60 s
Temporal Resolution 1	22.1 s
Temporal Resolution 2	5.2 s
Temporal Resolution 3	22.1 s
Reconstructed Volumes 1	1
Reconstructed Volumes 2	3
Reconstructed Volumes 3	1
Workflow	Liver
Liver Gating	On
Preview	Off
Reordering	Linear

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Saturation Region	1
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Geometry - Saturation

Thickness	100.00 mm
Position	L220.0 P0.0 H0.0 mm
Orientation	Sagittal
Saturation Region	2
Thickness	100.00 mm
Position	L220.0 P0.0 H0.0 mm
Orientation	Sagittal
Special Saturation	None

Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	200 mm
R >> L	200 mm
F >> H	216 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Dynamic

Dynamic Mode	GRASP
Flip Angle	12 deg

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
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Inline - Subtraction

StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
Contrasts	1
TE	1.51 ms
TR	3.5 ms

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
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Inline - MapIt

MapIt	None
Flip Angle	12 deg
Contrasts	1
TE	1.51 ms
TR	3.5 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Fast
Gradient Mode	Fast
Reordering	Linear
Bandwidth	590 Hz/Px
Asymmetric Echo	Off
Optimization	None

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	10 deg
Optimization	None

\\spr\BODY\SPR_abdomen_library\t1\AX T1 VIBE DIXON IN OUT PHASE DYN GAD *

TA: 26 sec Coil Selection: Auto Voxel Size: 1.3×1.3×3.0 mm³ Acc:: 3 Rel. SNR: 1.00**Properties**

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

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	40
Phase Oversampling	0 %
Slice Oversampling	40.0 %
FoV Read	340 mm
FoV Phase	56.3 %
Slice Thickness	3.0 mm
TR	6.2 ms
TE 1	2.39 ms
TE 2	4.77 ms
Averages	3
Concatenations	1
AutoAlign	---
Coil Elements	BO1,2;SP3,4

Contrast - Common

TR	6.2 ms
TE 1	2.39 ms
TE 2	4.77 ms
Flip Angle	9 deg
Fat-Water Contrast	Dixon
Contrasts	2
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Measurements	1
Multiple Series	Off
3D Reordering	Standard
Time to Center	5.6 s
Burn Time to Center	Off

Resolution - Common

FoV Read	340 mm
FoV Phase	56.3 %
Slice Thickness	3.0 mm
Base Resolution	256
Phase Resolution	100 %
Slice Resolution	50 %

Resolution - Common

Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	CAIPIRINHA
CAIPIRINHA Mode	Free
Total Factor	3
Reference Scans	GRE/Separate
Acceleration Factor PE	1
Reference Lines PE	24
Acceleration Factor 3D	3
Reference Lines 3D	24
Reordering Shift 3D	2
Phase Partial Fourier	Off
Slice Partial Fourier	Off
Asymmetric Echo	Weak
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	40
Phase Oversampling	0 %
Slice Oversampling	40.0 %
FoV Read	340 mm
FoV Phase	56.3 %
Slice Thickness	3.0 mm
TR	6.2 ms
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	192 mm
R >> L	340 mm
F >> H	120 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Flip Angle	9 deg
Measurements	1
Multiple Series	Off
3D Reordering	Standard
Time to Center	5.6 s
Burn Time to Center	Off

Inline - Liver

Liver Registration	Off
Save Original Images	On
Dixon Evaluation	Off
Fat Fraction (2pt)	Off

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off

Inline - Subtraction

Save Original Images	On
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Inline - Cardiac

Save Original Images	On
Contrasts	2
TE 1	2.39 ms
TE 2	4.77 ms
TR	6.2 ms

Inline - MIP

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

Inline - Soft Tissue

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

Inline - Composing

Inline Composing	Off
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Inline - MapIt

MapIt	None
Flip Angle	9 deg
Measurements	1
Contrasts	2
TE 1	2.39 ms
TE 2	4.77 ms
TR	6.2 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Fast
Readout Mode	Bipolar
Gradient Mode	Fast
Bandwidth	1030 Hz/Px
Asymmetric Echo	Weak
Optimization	Opp/In

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Off
Optimization	Opp/In

\\spr\BODY\SPR_abdomen_library\t2\COR T2 3D SPACE NAV *

TA: 3:00 min Coil Selection: Auto Voxel Size: 1.1×1.1×1.1 mm³ Acc:: 4 Rel. SNR: 1.00

Properties

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

Resolution - Common

Interpolation	Off
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Resolution - Acceleration

Acceleration mode	GRAPPA
Total Factor	4
Reference Scans	Integrated
Acceleration Factor PE	2
Reference Lines PE	24
Acceleration Factor 3D	2
Reference Lines 3D	24
Phase Partial Fourier	Off
Slice Partial Fourier	Off
Elliptical Scanning	Off

Routine

Slab Group	1
Slabs	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Slices per Slab	88
Phase Oversampling	60 %
Slice Oversampling	9.1 %
FoV Read	340 mm
FoV Phase	100.0 %
Slice Thickness	1.06 mm
TR	2000.0 ms
TE	700.00 ms
Averages	1.4
Concatenations	1
AutoAlign	---
Coil Elements	BO1-3;SP2,3

Resolution - Filter

Raw Filter	On
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Slices per Slab	88
Phase Oversampling	60 %
Slice Oversampling	9.1 %
FoV Read	340 mm
FoV Phase	100.0 %
Slice Thickness	1.06 mm
TR	2000.0 ms
Concatenations	1

Contrast - Common

TR	2000.0 ms
TE	700.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle Mode	Constant
Flip Angle	120 deg
Fat-Water Contrast	SPAIR
Fat Saturation	Strong
Dark Blood	Off
Blood Suppression	Off
Wrap-up Magn.	Restore
Reconstruction	Magnitude

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Coronal
Initial Rotation	0.00 deg

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement
Reordering	Linear

Geometry - Navigator**Geometry - Saturation**

Special Saturation	None
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Resolution - Common

FoV Read	340 mm
FoV Phase	100.0 %
Slice Thickness	1.06 mm
Base Resolution	320
Phase Resolution	90 %
Slice Resolution	60 %

Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
R >> L	340 mm
F >> H	340 mm
A >> P	94 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
Trigger Delay	0 ms
TR	2000.0 ms
Concatenations	1

Physio - Cardiac

Fat-Water Contrast	SPAIR
Magn. Preparation	None
Dark Blood	Off
FoV Read	340 mm
FoV Phase	100.0 %
Phase Resolution	90 %
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Position Trigger Level	Automatic
Minimum Trigger Level	20 %
Acquisition Window	2010 ms
Scout Type	Phase Scout
Position Navigator	Automatic
Trigger Pulse	1
Concatenations	1
Store Profile Images	On

Inline - Subtraction

Subtract	Off
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Inline - Subtraction

Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
TE	700.00 ms
TR	2000.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	spcR
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Reordering	Linear
Bandwidth	355 Hz/Px
Echo Spacing	4.70 ms
Turbo Factor	200
Echo Train Duration	949 ms

Sequence - Part 2

Introduction	On
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Sequence - Assistant

SAR Assistant	Off
Allowed Delay	30 s

\\spr\BODY\SPR_abdomen_library\t2\COR_T2_HASTE_BH *

TA: 52 sec Coil Selection: Auto Voxel Size: 1.4×1.4×4.0 mm³ Acc:: 3 Rel. SNR: 1.00

Properties

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

Resolution - Acceleration

Reference Scans	Integrated
Acceleration Factor PE	3
Reference Lines PE	26
Phase Partial Fourier	5/8

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Routine

Slice Group	1
Slices	40
Distance Factor	13 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	50 %
FoV Read	340 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	1300.0 ms
TE	86.00 ms
Averages	1
Concatenations	3
AutoAlign	---
Coil Elements	BO1-3;SP2-4

Geometry - Common

Slice Group	1
Slices	40
Distance Factor	13 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	50 %
FoV Read	340 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	1300.0 ms
Multi-Slice Mode	Single Shot
Series	Interl. in B.-h.
Concatenations	3

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Coronal
Initial Rotation	-0.70 deg

Contrast - Common

TR	1300.0 ms
TE	86.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	120 deg
Fat-Water Contrast	SPAIR
Fat Saturation	Weak
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Off

Resolution - Common

FoV Read	340 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
Base Resolution	240
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	GRAPPA
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Geometry - Navigator**Geometry - Saturation**

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Miscellaneous

Coil Focus	Flat
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System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Coronal
Rotation	-0.70 deg
R >> L	340 mm
F >> H	340 mm
A >> P	181 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	1300.0 ms
Concatenations	3

Physio - Cardiac

Fat-Water Contrast	SPAIR
Magn. Preparation	None
Dark Blood	Off
FoV Read	340 mm
FoV Phase	100.0 %
Phase Resolution	100 %
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Breath-hold
Concatenations	3

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	86.00 ms
TR	1300.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off

Inline - MIP

Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	h
Dimension	2D
RF Pulse Type	Fast
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	694 Hz/Px
Echo Spacing	3.74 ms
Turbo Factor	240

Sequence - Part 2

Introduction	Off
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Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	140 deg
Allowed Delay	30 s

\\spr\BODY\SPR_abdomen_library\t2\COR T2 FS BLADE *

TA: 1:44 min Coil Selection: Auto Voxel Size: 1.4×1.4×4.0 mm³ Acc.: 3 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	3
Reference Lines PE	12

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	32
Distance Factor	25 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	50.0 %
FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	2320.0 ms
Multi-Slice Mode	Interleaved
Series	Interl. in B.-h.
Concatenations	4

Routine

Slice Group	1
Slices	32
Distance Factor	25 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	50.0 %
FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	2320.0 ms
TE	89.00 ms
Averages	1
Concatenations	4
AutoAlign	---
Coil Elements	BO1-3;SP2-4

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Coronal
Initial Rotation	0.00 deg

Contrast - Common

TR	2320.0 ms
TE	89.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	130 deg
Fat-Water Contrast	SPAIR
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
Base Resolution	272
Trajectory	BLADE
BLADE Coverage	87.5 %
Interpolation	Off

Geometry - Navigator**Geometry - Saturation**

Special Saturation	Parallel A/P
Gap	10.00 mm
Thickness	60.00 mm

Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Auto Coil Select
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	H >> F

System - Miscellaneous

Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	SliceAdjust
B0 Shim	Standard
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Always
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
R >> L	380 mm
F >> H	380 mm
A >> P	159 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2320.0 ms
Concatenations	4

Physio - Cardiac

Fat-Water Contrast	SPAIR
Magn. Preparation	None
Dark Blood	Off
FoV Read	380 mm
FoV Phase	100.0 %
BLADE Coverage	87.5 %
Trajectory	BLADE
Dynamic Mode	Standard
Motion Correction	Off

Physio - PACE

Resp. Control	Breath-hold
Concatenations	4

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Motion Correction	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	89.00 ms
TR	2320.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tseB
Dimension	2D
RF Pulse Type	Fast
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	438 Hz/Px
Echo Spacing	4.96 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	35
Echo Trains per Slice	7

Sequence - Part 2

Introduction	Off
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Motion Correction	Off

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	30 s

\\spr\BODY\SPR_abdomen_library\t2\AX T2 FS BLADE *

TA: 2:08 min Coil Selection: Auto Voxel Size: 1.4×1.4×5.0 mm³ Acc.: 3 Rel. SNR: 1.00

Properties

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	3
Reference Lines PE	12

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Routine

Slice Group	1
Slices	40
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	25.0 %
FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	2500.0 ms
TE	89.00 ms
Averages	1
Concatenations	5
AutoAlign	---
Coil Elements	BO1-3;SP2-4

Geometry - Common

Slice Group	1
Slices	40
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	25.0 %
FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	2500.0 ms
Multi-Slice Mode	Interleaved
Series	Interl. in B.-h.
Concatenations	5

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Contrast - Common

TR	2500.0 ms
TE	89.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	130 deg
Fat-Water Contrast	SPAIR
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	272
Trajectory	BLADE
BLADE Coverage	85.7 %
Interpolation	Off

Geometry - Navigator**Geometry - Saturation**

Special Saturation	Parallel F/H
Gap	10.00 mm
Thickness	60.00 mm

Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Auto Coil Select
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	H >> F

System - Miscellaneous

Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	SliceAdjust
B0 Shim	Standard
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Always
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	380 mm
R >> L	380 mm
F >> H	239 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2500.0 ms
Concatenations	5

Physio - Cardiac

Fat-Water Contrast	SPAIR
Magn. Preparation	None
Dark Blood	Off
FoV Read	380 mm
FoV Phase	100.0 %
BLADE Coverage	85.7 %
Trajectory	BLADE
Dynamic Mode	Standard
Motion Correction	Off

Physio - PACE

Resp. Control	Breath-hold
Concatenations	5

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Motion Correction	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	89.00 ms
TR	2500.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tseB
Dimension	2D
RF Pulse Type	Fast
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	438 Hz/Px
Echo Spacing	4.96 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	35
Echo Trains per Slice	6

Sequence - Part 2

Introduction	Off
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Motion Correction	Off

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	30 s

\\spr\BODY\SPR_abdomen_library\t2\COR_T2_HASTE_NAV *

TA: 3:20 min Coil Selection: Auto Voxel Size: 1.4×1.4×4.0 mm³ Acc.: 3 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	3
Reference Lines PE	26
Phase Partial Fourier	5/8

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Routine

Slice Group	1
Slices	40
Distance Factor	13 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	50 %
FoV Read	340 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	1300.0 ms
TE	86.00 ms
Averages	1
Concatenations	2
AutoAlign	---
Coil Elements	BO1-3;SP2-4

Geometry - Common

Slice Group	1
Slices	40
Distance Factor	13 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	50 %
FoV Read	340 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	1300.0 ms
Multi-Slice Mode	Single Shot
Series	Interleaved
Concatenations	2

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Coronal
Initial Rotation	-0.70 deg

Contrast - Common

TR	1300.0 ms
TE	86.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	120 deg
Fat-Water Contrast	SPAIR
Fat Saturation	Weak
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Off

Resolution - Common

FoV Read	340 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
Base Resolution	240
Phase Resolution	100 %
Interpolation	Off

Geometry - Navigator

Navigator	1
Position	R59.8 P30.0 H110.7 mm
Orientation	Coronal
Rotation	0.00 deg
FoV Phase	32 mm
FoV Read	96 mm
Thickness	10 mm

Geometry - Saturation

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Coronal
Rotation	-0.70 deg
R >> L	340 mm
F >> H	340 mm
A >> P	181 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	1300.0 ms
Concatenations	2

Physio - Cardiac

Fat-Water Contrast	SPAIR
Magn. Preparation	None
Dark Blood	Off
FoV Read	340 mm
FoV Phase	100.0 %
Phase Resolution	100 %
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Accept Window ±	2.0 mm
Position Accept Window	Automatic
Acquisition Window	1200 ms
Scout Type	Liver Dome Scout
Trigger Pulse	1
Concatenations	2
Store Profile Images	Off

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off

Inline - Subtraction

Save Original Images	On
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Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	86.00 ms
TR	1300.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	h
Dimension	2D
RF Pulse Type	Fast
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	563 Hz/Px
Echo Spacing	4.08 ms
Turbo Factor	240

Sequence - Part 2

Introduction	Off
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Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	140 deg
Allowed Delay	30 s

\\spr\BODY\SPR_abdomen_library\t2\COR T2 DIXON NAV *

TA: 4:20 min Coil Selection: Auto Voxel Size: 1.0×1.0×4.0 mm³ Acc.: 2 Rel. SNR: 1.00

Properties

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	2
Reference Lines PE	34
Phase Partial Fourier	Allowed
Asymmetric Echo	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	On
Distortion Correction	2D
Normalize	Prescan
Image Filter	On

Routine

Slice Group	1
Slices	18
Distance Factor	0 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	80 %
FoV Read	340 mm
FoV Phase	90.9 %
Slice Thickness	4.0 mm
TR	2000.0 ms
TE	105.00 ms
Averages	1
Concatenations	4
AutoAlign	---
Coil Elements	PeN;SP1;UFS

Geometry - Common

Slice Group	1
Slices	18
Distance Factor	0 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	80 %
FoV Read	340 mm
FoV Phase	90.9 %
Slice Thickness	4.0 mm
TR	2000.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	4

Contrast - Common

TR	2000.0 ms
TE	105.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	160 deg
Fat-Water Contrast	Fast Dixon
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Coronal
Initial Rotation	0.00 deg

Geometry - Navigator**Geometry - Saturation**

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Auto Coil Select
MSMA	S - C - T
Sagittal	L >> R
Coronal	A >> P
Transversal	F >> H

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	340 mm
FoV Phase	90.9 %
Slice Thickness	4.0 mm
Base Resolution	352
Phase Resolution	90 %
Trajectory	Cartesian
Interpolation	Off

System - Miscellaneous

Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Always
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
R >> L	310 mm
F >> H	340 mm
A >> P	72 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2000.0 ms
Concatenations	4

Physio - Cardiac

Fat-Water Contrast	Fast Dixon
Magn. Preparation	None
Dark Blood	Off
FoV Read	340 mm
FoV Phase	90.9 %
Phase Resolution	90 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Accept Window \pm	15.0 %
Position Accept Window	Automatic
Select Acquisition Window	Automatic
Acquisition Window	35 %
Scout Type	Phase Scout
Position Navigator	Automatic
Trigger Pulse	1
Concatenations	4
Store Profile Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	105.00 ms
TR	2000.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	618 Hz/Px
Echo Spacing	10.52 ms
Asymmetric Echo	Off
Define	Turbo Factor
Turbo Factor	23
Echo Trains per Slice	12

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Red. EC Sensitivity	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	120 deg
Allowed Delay	30 s

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TA: 2:55 min Coil Selection: Auto Voxel Size: 1.2×1.2×4.5 mm³ Acc:: 3 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	3
Reference Lines PE	34
Phase Partial Fourier	Off
Asymmetric Echo	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	On
Distortion Correction	2D
Normalize	Prescan
Image Filter	On

Routine

Slice Group	1
Slices	44
Distance Factor	0 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	350 mm
FoV Phase	72.2 %
Slice Thickness	4.5 mm
TR	1900.0 ms
TE	101.00 ms
Averages	1
Concatenations	7
AutoAlign	---
Coil Elements	BO1,2;SP2-4

Geometry - Common

Slice Group	1
Slices	44
Distance Factor	0 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	350 mm
FoV Phase	72.2 %
Slice Thickness	4.5 mm
TR	1900.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	7

Contrast - Common

TR	1900.0 ms
TE	101.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	153 deg
Fat-Water Contrast	Fast Dixon
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.19 deg

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Geometry - Navigator

Navigator	1
Position	R59.8 P30.0 H57.7 mm
Orientation	Coronal
Rotation	0.00 deg
FoV Phase	32 mm
FoV Read	96 mm
Thickness	10 mm

Resolution - Common

FoV Read	350 mm
FoV Phase	72.2 %
Slice Thickness	4.5 mm
Base Resolution	288
Phase Resolution	100 %
Trajectory	Cartesian
Interpolation	Off

Geometry - Saturation

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.19 deg
A >> P	253 mm
R >> L	350 mm
F >> H	198 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	1900.0 ms
Concatenations	7

Physio - Cardiac

Fat-Water Contrast	Fast Dixon
Magn. Preparation	None
Dark Blood	Off
FoV Read	350 mm
FoV Phase	72.2 %
Phase Resolution	100 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Accept Window ±	2.0 mm
Position Accept Window	Automatic
Select Acquisition Window	Automatic
Acquisition Window	35 %
Scout Type	Liver Dome Scout
Trigger Pulse	1
Concatenations	7
Store Profile Images	Off

Inline - Subtraction

Subtract	Off
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Inline - Subtraction

Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	101.00 ms
TR	1900.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	868 Hz/Px
Echo Spacing	10.06 ms
Asymmetric Echo	Off
Define	Turbo Factor
Turbo Factor	23
Echo Trains per Slice	4

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Red. EC Sensitivity	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	120 deg
Allowed Delay	30 s

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TA: 4:15 min Coil Selection: Auto Voxel Size: 1.2×1.2×4.0 mm³ Acc.: 3 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	3
Reference Lines PE	12

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Routine

Slice Group	1
Slices	30
Distance Factor	25 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	50.0 %
FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	2500.0 ms
TE	85.00 ms
Averages	1
Concatenations	7
AutoAlign	---
Coil Elements	BO1-3;SP2,3

Geometry - Common

Slice Group	1
Slices	30
Distance Factor	25 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	50.0 %
FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	2500.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	7

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Coronal
Initial Rotation	0.00 deg

Contrast - Common

TR	2500.0 ms
TE	85.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	130 deg
Fat-Water Contrast	SPAIR
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
Base Resolution	320
Trajectory	BLADE
BLADE Coverage	100.0 %
Interpolation	Off

Geometry - Navigator**Geometry - Saturation**

Special Saturation	Parallel A/P
Gap	10.00 mm
Thickness	60.00 mm

Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Auto Coil Select
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	H >> F

System - Miscellaneous

Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Always
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
R >> L	380 mm
F >> H	380 mm
A >> P	149 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2500.0 ms
Concatenations	7

Physio - Cardiac

Fat-Water Contrast	SPAIR
Magn. Preparation	None
Dark Blood	Off
FoV Read	380 mm
FoV Phase	100.0 %
BLADE Coverage	100.0 %
Trajectory	BLADE
Dynamic Mode	Standard
Motion Correction	Off

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	242 ms
Accept Window ±	15.0 %
Position Accept Window	Automatic
Select Acquisition Window	Automatic
Acquisition Window	35 %
Scout Type	Phase Scout
Position Navigator	Automatic
Trigger Pulse	1
Concatenations	7
Store Profile Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Motion Correction	Off

Inline - Subtraction

Save Original Images	On
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Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	85.00 ms
TR	2500.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tseB
Dimension	2D
RF Pulse Type	Fast
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	446 Hz/Px
Echo Spacing	4.98 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	33
Echo Trains per Slice	11

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Motion Correction	Off

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	30 s

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TA: 4:00 min Coil Selection: Auto Voxel Size: 1.3×1.3×4.0 mm³ Acc.: 3 Rel. SNR: 1.00

Properties

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	3
Reference Lines PE	12

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Routine

Slice Group	1
Slices	40
Distance Factor	25 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
Phase Oversampling	50.0 %
FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	2500.0 ms
TE	84.00 ms
Averages	1
Concatenations	7
AutoAlign	---
Coil Elements	BO1-3;SP2,3

Geometry - Common

Slice Group	1
Slices	40
Distance Factor	25 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
Phase Oversampling	50.0 %
FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	2500.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	7

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	90.00 deg

Contrast - Common

TR	2500.0 ms
TE	84.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	140 deg
Fat-Water Contrast	SPAIR
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	380 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
Base Resolution	288
Trajectory	BLADE
BLADE Coverage	100.0 %
Interpolation	Off

Geometry - Navigator**Geometry - Saturation**

Special Saturation	Parallel F/H
Gap	10.00 mm
Thickness	60.00 mm

Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Auto Coil Select
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	H >> F

System - Miscellaneous

Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Always
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	90.00 deg
R >> L	380 mm
A >> P	380 mm
F >> H	199 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2500.0 ms
Concatenations	7

Physio - Cardiac

Fat-Water Contrast	SPAIR
Magn. Preparation	None
Dark Blood	Off
FoV Read	380 mm
FoV Phase	100.0 %
BLADE Coverage	100.0 %
Trajectory	BLADE
Dynamic Mode	Standard
Motion Correction	Off

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	240 ms
Accept Window ±	15.0 %
Position Accept Window	Automatic
Select Acquisition Window	Automatic
Acquisition Window	35 %
Scout Type	Phase Scout
Position Navigator	Automatic
Trigger Pulse	1
Concatenations	7
Store Profile Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Motion Correction	Off

Inline - Subtraction

Save Original Images	On
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Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	84.00 ms
TR	2500.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tseB
Dimension	2D
RF Pulse Type	Fast
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	445 Hz/Px
Echo Spacing	4.92 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	33
Echo Trains per Slice	10

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Motion Correction	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	115 deg
Allowed Delay	30 s

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TA: 5:00 min Coil Selection: Auto Voxel Size: 0.8×0.8×4.0 mm³ Acc:: 2 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	2
Reference Lines PE	51
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Routine

Slice Group	1
Slices	30
Distance Factor	25 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	80 %
FoV Read	280 mm
FoV Phase	78.4 %
Slice Thickness	4.0 mm
TR	2500.0 ms
TE	111.00 ms
Averages	1
Concatenations	6
AutoAlign	---
Coil Elements	BO1-3;SP1-3

Geometry - Common

Slice Group	1
Slices	30
Distance Factor	25 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	80 %
FoV Read	280 mm
FoV Phase	78.4 %
Slice Thickness	4.0 mm
TR	2500.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	6

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Coronal
Initial Rotation	0.00 deg

Contrast - Common

TR	2500.0 ms
TE	111.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	160 deg
Fat-Water Contrast	Fat Saturation
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	280 mm
FoV Phase	78.4 %
Slice Thickness	4.0 mm
Base Resolution	352
Phase Resolution	80 %
Trajectory	Cartesian
Interpolation	Off

Geometry - Navigator**Geometry - Saturation**

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	L >> R
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine

System - Miscellaneous

Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
R >> L	220 mm
F >> H	280 mm
A >> P	149 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2500.0 ms
Concatenations	6

Physio - Cardiac

Fat-Water Contrast	Fat Saturation
Magn. Preparation	None
Dark Blood	Off
FoV Read	280 mm
FoV Phase	78.4 %
Phase Resolution	80 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Accept Window \pm	15.0 %
Position Accept Window	Automatic
Select Acquisition Window	Automatic
Acquisition Window	25 %
Scout Type	Phase Scout
Position Navigator	Automatic
Trigger Pulse	1
Concatenations	6
Store Profile Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	111.00 ms
TR	2500.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	229 Hz/Px
Echo Spacing	8.52 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	25
Echo Trains per Slice	9

Sequence - Part 2

Introduction	Off
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	140 deg
Allowed Delay	30 s

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TA: 4:40 min Coil Selection: Auto Voxel Size: 0.8×0.8×4.0 mm³ Acc.: 2 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	2
Reference Lines PE	34
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Routine

Slice Group	1
Slices	36
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	30 %
FoV Read	280 mm
FoV Phase	81.3 %
Slice Thickness	4.0 mm
TR	2200.0 ms
TE	116.00 ms
Averages	1
Concatenations	7
AutoAlign	---
Coil Elements	BO1-3;SP2,3

Geometry - Common

Slice Group	1
Slices	36
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	30 %
FoV Read	280 mm
FoV Phase	81.3 %
Slice Thickness	4.0 mm
TR	2200.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	7

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Contrast - Common

TR	2200.0 ms
TE	116.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	160 deg
Fat-Water Contrast	Fat Saturation
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	280 mm
FoV Phase	81.3 %
Slice Thickness	4.0 mm
Base Resolution	352
Phase Resolution	81 %
Trajectory	Cartesian
Interpolation	Off

Geometry - Navigator**Geometry - Saturation**

Saturation Region	1
Thickness	50.00 mm
Position	Isocenter
Orientation	Transversal
Shape	Standard
Special Saturation	Parallel F/H
Gap	10.00 mm
Thickness	60.00 mm

Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	228 mm
R >> L	280 mm
F >> H	172 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2200.0 ms
Concatenations	7

Physio - Cardiac

Fat-Water Contrast	Fat Saturation
Magn. Preparation	None
Dark Blood	Off
FoV Read	280 mm
FoV Phase	81.3 %
Phase Resolution	81 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Accept Window ±	15.0 %
Position Accept Window	Automatic
Select Acquisition Window	Automatic
Acquisition Window	25 %
Scout Type	Phase Scout
Position Navigator	Automatic
Trigger Pulse	1
Concatenations	7
Store Profile Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	116.00 ms
TR	2200.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	241 Hz/Px
Echo Spacing	8.30 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	24
Echo Trains per Slice	7

Sequence - Part 2

Introduction	Off
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	140 deg
Allowed Delay	30 s

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TA: 4:05 min Coil Selection: Auto Voxel Size: 0.8×0.8×4.0 mm³ Acc.: 2 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	2
Reference Lines PE	26
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Routine

Slice Group	1
Slices	40
Distance Factor	20 %
Position	Isocenter
Orientation	Sagittal
Phase Encoding Dir.	A >> P
Phase Oversampling	30 %
FoV Read	280 mm
FoV Phase	75.0 %
Slice Thickness	4.0 mm
TR	2350.0 ms
TE	116.00 ms
Averages	1
Concatenations	7
AutoAlign	---
Coil Elements	BO1-3;SP1-3

Geometry - Common

Slice Group	1
Slices	40
Distance Factor	20 %
Position	Isocenter
Orientation	Sagittal
Phase Encoding Dir.	A >> P
Phase Oversampling	30 %
FoV Read	280 mm
FoV Phase	75.0 %
Slice Thickness	4.0 mm
TR	2350.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	7

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Sagittal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Sagittal
Initial Rotation	0.00 deg

Contrast - Common

TR	2350.0 ms
TE	116.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	160 deg
Fat-Water Contrast	Fat Saturation
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	280 mm
FoV Phase	75.0 %
Slice Thickness	4.0 mm
Base Resolution	352
Phase Resolution	80 %
Trajectory	Cartesian
Interpolation	Off

Geometry - Navigator**Geometry - Saturation**

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	L >> R
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine

System - Miscellaneous

Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Sagittal
Rotation	0.00 deg
A >> P	210 mm
F >> H	280 mm
R >> L	192 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2350.0 ms
Concatenations	7

Physio - Cardiac

Fat-Water Contrast	Fat Saturation
Magn. Preparation	None
Dark Blood	Off
FoV Read	280 mm
FoV Phase	75.0 %
Phase Resolution	80 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Accept Window \pm	15.0 %
Position Accept Window	Automatic
Select Acquisition Window	Automatic
Acquisition Window	25 %
Scout Type	Phase Scout
Position Navigator	Automatic
Trigger Pulse	1
Concatenations	7
Store Profile Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	116.00 ms
TR	2350.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	241 Hz/Px
Echo Spacing	8.30 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	25
Echo Trains per Slice	6

Sequence - Part 2

Introduction	Off
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	140 deg
Allowed Delay	30 s

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TA: 2:17 min Coil Selection: Auto Voxel Size: 1.1×1.1×1.0 mm³ Acc:: 4 Rel. SNR: 1.00

Properties

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

Resolution - Common

Interpolation	Off
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Resolution - Acceleration

Acceleration mode	GRAPPA
Total Factor	4
Reference Scans	Integrated
Acceleration Factor PE	2
Reference Lines PE	24
Acceleration Factor 3D	2
Reference Lines 3D	24
Phase Partial Fourier	Off
Slice Partial Fourier	Off
Elliptical Scanning	Off

Routine

Slab Group	1
Slabs	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Slices per Slab	72
Phase Oversampling	60 %
Slice Oversampling	22.2 %
FoV Read	280 mm
FoV Phase	100.0 %
Slice Thickness	1.00 mm
TR	2000.0 ms
TE	702.00 ms
Averages	1.7
Concatenations	1
AutoAlign	---
Coil Elements	BO1-3;SP2,3

Resolution - Filter

Raw Filter	On
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Slices per Slab	72
Phase Oversampling	60 %
Slice Oversampling	22.2 %
FoV Read	280 mm
FoV Phase	100.0 %
Slice Thickness	1.00 mm
TR	2000.0 ms
Concatenations	1

Contrast - Common

TR	2000.0 ms
TE	702.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle Mode	Constant
Flip Angle	120 deg
Fat-Water Contrast	SPAIR
Fat Saturation	Strong
Dark Blood	Off
Blood Suppression	Off
Wrap-up Magn.	Restore
Reconstruction	Magnitude

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Coronal
Initial Rotation	0.00 deg

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement
Reordering	Linear

Geometry - Navigator

Navigator	1
Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
FoV Phase	32 mm
FoV Read	96 mm
Thickness	10 mm

Resolution - Common

FoV Read	280 mm
FoV Phase	100.0 %
Slice Thickness	1.00 mm
Base Resolution	256
Phase Resolution	90 %
Slice Resolution	59 %

Geometry - Saturation

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
R >> L	280 mm
F >> H	280 mm
A >> P	72 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
Trigger Delay	0 ms
TR	2000.0 ms
Concatenations	1

Physio - Cardiac

Fat-Water Contrast	SPAIR
Magn. Preparation	None
Dark Blood	Off
FoV Read	280 mm
FoV Phase	100.0 %
Phase Resolution	90 %
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Position Trigger Level	Automatic
Minimum Trigger Level	20 %
Acquisition Window	2010 ms
Scout Type	Liver Dome Scout
Trigger Pulse	1

Physio - PACE

Concatenations	1
Store Profile Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
TE	702.00 ms
TR	2000.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	spcR
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Reordering	Linear
Bandwidth	355 Hz/Px
Echo Spacing	4.68 ms
Turbo Factor	200
Echo Train Duration	945 ms

Sequence - Part 2

Introduction	On
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Sequence - Assistant

SAR Assistant	Off
Allowed Delay	30 s

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TA: 4:16 min Coil Selection: Manual Voxel Size: 0.5×0.5×3.0 mm³ Acc.: 3 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Self-calibration
Acceleration Factor PE	3
Reference Lines PE	32
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	On
Distortion Correction	2D
Normalize	Prescan
Image Filter	On

Routine

Slice Group	1
Slices	24
Distance Factor	10 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	40 %
FoV Read	260 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
TR	2290.0 ms
TE	44.00 ms
Averages	6
Concatenations	3
AutoAlign	---
Coil Elements	BO1-3;SP2-4

Geometry - Common

Slice Group	1
Slices	24
Distance Factor	10 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	40 %
FoV Read	260 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
TR	2290.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	3

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Coronal
Initial Rotation	0.00 deg

Contrast - Common

TR	2290.0 ms
TE	44.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	Slice-sel. IR
TI	140 ms
Freeze Suppr. Tissue	Off
Flip Angle	160 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	260 mm
FoV Phase	100.0 %
Slice Thickness	3.0 mm
Base Resolution	288
Phase Resolution	70 %
Trajectory	Cartesian
Interpolation	On

Geometry - Navigator**Geometry - Saturation**

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Miscellaneous

Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

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

System - Adjust Volume

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

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2290.0 ms
Concatenations	3

Physio - Cardiac

Fat-Water Contrast	Standard
Magn. Preparation	Slice-sel. IR
T1	140 ms
Dark Blood	Off
FoV Read	260 mm
FoV Phase	100.0 %
Phase Resolution	70 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Off
Concatenations	3

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	Slice-sel. IR
Save Original Images	On
Contrasts	1
TE	44.00 ms
TR	2290.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	qtir_rr
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Normal
Flow Compensation	Read
Bandwidth	235 Hz/Px
Echo Spacing	8.78 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	16
Echo Trains per Slice	6

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	On
Reduce Motion Sens.	On

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	130 deg
Allowed Delay	30 s

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TA: 5:00 min Coil Selection: Auto Voxel Size: 1.0×1.0×3.0 mm³ Acc.: 2 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	2
Reference Lines PE	63
Phase Partial Fourier	Allowed
Asymmetric Echo	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	On
Distortion Correction	2D
Normalize	Prescan
Image Filter	On

Routine

Slice Group	1
Slices	30
Distance Factor	10 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	80 %
FoV Read	280 mm
FoV Phase	75.0 %
Slice Thickness	3.0 mm
TR	2000.0 ms
TE	116.00 ms
Averages	1
Concatenations	6
AutoAlign	---
Coil Elements	PeN;SP1;UFS

Geometry - Common

Slice Group	1
Slices	30
Distance Factor	10 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	80 %
FoV Read	280 mm
FoV Phase	75.0 %
Slice Thickness	3.0 mm
TR	2000.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	6

Contrast - Common

TR	2000.0 ms
TE	116.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	160 deg
Fat-Water Contrast	Fast Dixon
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Coronal
Initial Rotation	0.00 deg

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Geometry - Navigator

Navigator	1
Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
FoV Phase	32 mm
FoV Read	96 mm
Thickness	10 mm

Resolution - Common

FoV Read	280 mm
FoV Phase	75.0 %
Slice Thickness	3.0 mm
Base Resolution	288
Phase Resolution	90 %
Trajectory	Cartesian
Interpolation	Off

Geometry - Saturation

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Always
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
R >> L	210 mm
F >> H	280 mm
A >> P	99 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2000.0 ms
Concatenations	6

Physio - Cardiac

Fat-Water Contrast	Fast Dixon
Magn. Preparation	None
Dark Blood	Off
FoV Read	280 mm
FoV Phase	75.0 %
Phase Resolution	90 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Accept Window ±	2.0 mm
Position Accept Window	Automatic
Select Acquisition Window	Automatic
Acquisition Window	35 %
Scout Type	Liver Dome Scout
Trigger Pulse	1
Concatenations	6
Store Profile Images	On

Inline - Subtraction

Subtract	Off
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Inline - Subtraction

Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	116.00 ms
TR	2000.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	599 Hz/Px
Echo Spacing	10.58 ms
Asymmetric Echo	Off
Define	Turbo Factor
Turbo Factor	23
Echo Trains per Slice	9

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Red. EC Sensitivity	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	120 deg
Allowed Delay	30 s

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TA: 2:45 min Coil Selection: Auto Voxel Size: 1.0×1.0×3.0 mm³ Acc:: 2 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	2
Reference Lines PE	27
Phase Partial Fourier	Allowed
Asymmetric Echo	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	On
Distortion Correction	2D
Normalize	Prescan
Image Filter	On

Routine

Slice Group	1
Slices	20
Distance Factor	10 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
Phase Oversampling	100 %
FoV Read	280 mm
FoV Phase	75.0 %
Slice Thickness	3.0 mm
TR	2000.0 ms
TE	105.00 ms
Averages	1
Concatenations	3
AutoAlign	---
Coil Elements	PeN;SP1;UFS

Geometry - Common

Slice Group	1
Slices	20
Distance Factor	10 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
Phase Oversampling	100 %
FoV Read	280 mm
FoV Phase	75.0 %
Slice Thickness	3.0 mm
TR	2000.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	3

Contrast - Common

TR	2000.0 ms
TE	105.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	160 deg
Fat-Water Contrast	Fast Dixon
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	90.00 deg

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Geometry - Navigator**Geometry - Saturation**

Special Saturation	None
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Geometry - Tim Planning Suite

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

Resolution - Common

FoV Read	280 mm
FoV Phase	75.0 %
Slice Thickness	3.0 mm
Base Resolution	288
Phase Resolution	100 %
Trajectory	Cartesian
Interpolation	Off

System - Miscellaneous

Coil Selection	Auto Coil Select
MSMA	S - C - T
Sagittal	L >> R
Coronal	A >> P
Transversal	F >> H

System - Miscellaneous

Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Always
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	90.00 deg
R >> L	210 mm
A >> P	280 mm
F >> H	66 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2000.0 ms
Concatenations	3

Physio - Cardiac

Fat-Water Contrast	Fast Dixon
Magn. Preparation	None
Dark Blood	Off
FoV Read	280 mm
FoV Phase	75.0 %
Phase Resolution	100 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Accept Window \pm	15.0 %
Position Accept Window	Automatic
Select Acquisition Window	Automatic
Acquisition Window	35 %
Scout Type	Phase Scout
Position Navigator	Automatic
Trigger Pulse	1
Concatenations	3
Store Profile Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	105.00 ms
TR	2000.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	620 Hz/Px
Echo Spacing	10.52 ms
Asymmetric Echo	Off
Define	Turbo Factor
Turbo Factor	23
Echo Trains per Slice	10

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Red. EC Sensitivity	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	120 deg
Allowed Delay	30 s

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TA: 3:20 min Coil Selection: Auto Voxel Size: 0.8×0.8×4.0 mm³ Acc:: 2 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	2
Reference Lines PE	43
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Routine

Slice Group	1
Slices	26
Distance Factor	25 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	80 %
FoV Read	220 mm
FoV Phase	78.5 %
Slice Thickness	4.0 mm
TR	2300.0 ms
TE	113.00 ms
Averages	1
Concatenations	5
AutoAlign	---
Coil Elements	BO1-3;SP1-3

Geometry - Common

Slice Group	1
Slices	26
Distance Factor	25 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	80 %
FoV Read	220 mm
FoV Phase	78.5 %
Slice Thickness	4.0 mm
TR	2300.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	5

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Coronal
Initial Rotation	0.00 deg

Contrast - Common

TR	2300.0 ms
TE	113.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	160 deg
Fat-Water Contrast	Fat Saturation
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	220 mm
FoV Phase	78.5 %
Slice Thickness	4.0 mm
Base Resolution	288
Phase Resolution	75 %
Trajectory	Cartesian
Interpolation	Off

Geometry - Navigator

Navigator	1
Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
FoV Phase	32 mm
FoV Read	96 mm
Thickness	10 mm

Geometry - Saturation

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
R >> L	173 mm
F >> H	220 mm
A >> P	129 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2300.0 ms
Concatenations	5

Physio - Cardiac

Fat-Water Contrast	Fat Saturation
Magn. Preparation	None
Dark Blood	Off
FoV Read	220 mm
FoV Phase	78.5 %
Phase Resolution	75 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Accept Window ±	2.0 mm
Position Accept Window	Automatic
Select Acquisition Window	Automatic
Acquisition Window	25 %
Scout Type	Liver Dome Scout
Trigger Pulse	1
Concatenations	5
Store Profile Images	On

Inline - Subtraction

Subtract	Off
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Inline - Subtraction

Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	113.00 ms
TR	2300.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	220 Hz/Px
Echo Spacing	8.70 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	25
Echo Trains per Slice	7

Sequence - Part 2

Introduction	Off
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	140 deg
Allowed Delay	30 s

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TA: 3:00 min Coil Selection: Auto Voxel Size: 0.8×0.8×4.0 mm³ Acc.: 2 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	2
Reference Lines PE	30
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Routine

Slice Group	1
Slices	32
Distance Factor	25 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	20 %
FoV Read	220 mm
FoV Phase	81.3 %
Slice Thickness	4.0 mm
TR	2100.0 ms
TE	116.00 ms
Averages	1
Concatenations	6
AutoAlign	---
Coil Elements	BO1-3;SP2,3

Geometry - Common

Slice Group	1
Slices	32
Distance Factor	25 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	20 %
FoV Read	220 mm
FoV Phase	81.3 %
Slice Thickness	4.0 mm
TR	2100.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	6

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator

Navigator	1
Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
FoV Phase	32 mm
FoV Read	96 mm
Thickness	10 mm

Geometry - Saturation

Saturation Region	1
Thickness	50.00 mm
Position	Isocenter
Orientation	Transversal
Shape	Standard
Special Saturation	Parallel F/H
Gap	10.00 mm
Thickness	60.00 mm

Contrast - Common

TR	2100.0 ms
TE	116.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	160 deg
Fat-Water Contrast	Fat Saturation
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	220 mm
FoV Phase	81.3 %
Slice Thickness	4.0 mm
Base Resolution	288
Phase Resolution	75 %
Trajectory	Cartesian
Interpolation	Off

Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	179 mm
R >> L	220 mm
F >> H	159 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2100.0 ms
Concatenations	6

Physio - Cardiac

Fat-Water Contrast	Fat Saturation
Magn. Preparation	None
Dark Blood	Off
FoV Read	220 mm
FoV Phase	81.3 %
Phase Resolution	75 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Accept Window ±	2.0 mm
Position Accept Window	Automatic
Select Acquisition Window	Automatic
Acquisition Window	25 %
Scout Type	Liver Dome Scout

Physio - PACE

Trigger Pulse	1
Concatenations	6
Store Profile Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	116.00 ms
TR	2100.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	241 Hz/Px
Echo Spacing	8.30 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	24
Echo Trains per Slice	5

Sequence - Part 2

Introduction	Off
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	140 deg
Allowed Delay	30 s

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TA: 3:30 min Coil Selection: Auto Voxel Size: 0.8×0.8×4.0 mm³ Acc.: 2 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Integrated
Acceleration Factor PE	2
Reference Lines PE	39
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Routine

Slice Group	1
Slices	40
Distance Factor	25 %
Position	Isocenter
Orientation	Sagittal
Phase Encoding Dir.	A >> P
Phase Oversampling	30 %
FoV Read	220 mm
FoV Phase	75.0 %
Slice Thickness	4.0 mm
TR	2470.0 ms
TE	116.00 ms
Averages	1
Concatenations	7
AutoAlign	---
Coil Elements	BO1-3;SP1-3

Geometry - Common

Slice Group	1
Slices	40
Distance Factor	25 %
Position	Isocenter
Orientation	Sagittal
Phase Encoding Dir.	A >> P
Phase Oversampling	30 %
FoV Read	220 mm
FoV Phase	75.0 %
Slice Thickness	4.0 mm
TR	2470.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	7

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Sagittal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Sagittal
Initial Rotation	0.00 deg

Geometry - Navigator

Navigator	1
Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
FoV Phase	32 mm
FoV Read	96 mm
Thickness	10 mm

Geometry - Saturation

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

Geometry - Tim Planning Suite

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

Contrast - Common

TR	2470.0 ms
TE	116.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	160 deg
Fat-Water Contrast	Fat Saturation
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	220 mm
FoV Phase	75.0 %
Slice Thickness	4.0 mm
Base Resolution	288
Phase Resolution	75 %
Trajectory	Cartesian
Interpolation	Off

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Sagittal
Rotation	0.00 deg
A >> P	165 mm
F >> H	220 mm
R >> L	199 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2470.0 ms
Concatenations	7

Physio - Cardiac

Fat-Water Contrast	Fat Saturation
Magn. Preparation	None
Dark Blood	Off
FoV Read	220 mm
FoV Phase	75.0 %
Phase Resolution	75 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Accept Window ±	2.0 mm
Position Accept Window	Automatic
Select Acquisition Window	Automatic
Acquisition Window	25 %
Scout Type	Liver Dome Scout
Trigger Pulse	1
Concatenations	7
Store Profile Images	On

Inline - Subtraction

Subtract	Off
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Inline - Subtraction

Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	116.00 ms
TR	2470.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	241 Hz/Px
Echo Spacing	8.30 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	25
Echo Trains per Slice	5

Sequence - Part 2

Introduction	Off
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	140 deg
Allowed Delay	30 s

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TA: 3:27 min Coil Selection: Auto Voxel Size: 0.4×0.4×1.0 mm³ Acc.: 3 Rel. SNR: 1.00

Properties

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

Routine

Slab Group	1
Slabs	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Slices per Slab	64
Phase Oversampling	30 %
Slice Oversampling	12.5 %
FoV Read	220 mm
FoV Phase	100.0 %
Slice Thickness	1.00 mm
TR	2500.0 ms
TE	706.00 ms
Averages	1.7
Concatenations	1
AutoAlign	---
Coil Elements	BO1-3;SP2-4

Contrast - Common

TR	2500.0 ms
TE	706.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle Mode	Constant
Flip Angle	120 deg
Fat-Water Contrast	SPAIR
Fat Saturation	Strong
Dark Blood	Off
Blood Suppression	Off
Wrap-up Magn.	Restore
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement
Reordering	Linear

Resolution - Common

FoV Read	220 mm
FoV Phase	100.0 %
Slice Thickness	1.00 mm
Base Resolution	288
Phase Resolution	98 %
Slice Resolution	72 %

Resolution - Common

Interpolation	On
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Resolution - Acceleration

Acceleration mode	GRAPPA
Total Factor	3
Reference Scans	Integrated
Acceleration Factor PE	3
Reference Lines PE	24
Acceleration Factor 3D	1
Phase Partial Fourier	Allowed
Slice Partial Fourier	7/8
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	On
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Slices per Slab	64
Phase Oversampling	30 %
Slice Oversampling	12.5 %
FoV Read	220 mm
FoV Phase	100.0 %
Slice Thickness	1.00 mm
TR	2500.0 ms
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Coronal
Initial Rotation	2.60 deg

Geometry - Navigator

Navigator	1
Position	R37.5 P60.4 F6.0 mm
Orientation	Coronal
Rotation	0.00 deg
FoV Phase	32 mm
FoV Read	62 mm
Thickness	10 mm

Geometry - Saturation

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Coronal
Rotation	2.60 deg
R >> L	220 mm
F >> H	220 mm
A >> P	64 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
Trigger Delay	0 ms
TR	2500.0 ms
Concatenations	1

Physio - Cardiac

Fat-Water Contrast	SPAIR
Magn. Preparation	None
Dark Blood	Off
FoV Read	220 mm
FoV Phase	100.0 %
Phase Resolution	98 %
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Position Trigger Level	Automatic
Minimum Trigger Level	20 %
Acquisition Window	2010 ms
Scout Type	Liver Dome Scout
Trigger Pulse	1

Physio - PACE

Concatenations	1
Store Profile Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
TE	706.00 ms
TR	2500.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	spcR
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Reordering	Linear
Bandwidth	328 Hz/Px
Echo Spacing	5.36 ms
Turbo Factor	180
Echo Train Duration	976 ms

Sequence - Part 2

Introduction	On
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Sequence - Assistant

SAR Assistant	Off
Allowed Delay	30 s

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TA: 5:02 min Coil Selection: Manual Voxel Size: 0.4×0.4×4.0 mm³ Acc.: 3 Rel. SNR: 1.00**Properties**

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

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	Self-calibration
Acceleration Factor PE	3
Reference Lines PE	32
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	On
Distortion Correction	2D
Normalize	Prescan
Image Filter	On

Routine

Slice Group	1
Slices	24
Distance Factor	0 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	40 %
FoV Read	200 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	2330.0 ms
TE	46.00 ms
Averages	6
Concatenations	3
AutoAlign	---
Coil Elements	BO1-3;SP2-4

Geometry - Common

Slice Group	1
Slices	24
Distance Factor	0 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	40 %
FoV Read	200 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	2330.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	3

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Coronal
Initial Rotation	0.00 deg

Contrast - Common

TR	2330.0 ms
TE	46.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	Slice-sel. IR
TI	140 ms
Freeze Suppr. Tissue	Off
Flip Angle	160 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Geometry - Navigator**Geometry - Saturation**

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

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Geometry - Tim Planning Suite

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

Resolution - Common

FoV Read	200 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
Base Resolution	272
Phase Resolution	80 %
Trajectory	Cartesian
Interpolation	On

System - Miscellaneous

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

System - Miscellaneous

Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

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

System - Adjust Volume

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

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2330.0 ms
Concatenations	3

Physio - Cardiac

Fat-Water Contrast	Standard
Magn. Preparation	Slice-sel. IR
TI	140 ms
Dark Blood	Off
FoV Read	200 mm
FoV Phase	100.0 %
Phase Resolution	80 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Off
Concatenations	3

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	Slice-sel. IR
Save Original Images	On
Contrasts	1
TE	46.00 ms
TR	2330.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	qtir_rr
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Normal
Flow Compensation	Read
Bandwidth	230 Hz/Px
Echo Spacing	9.10 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	16
Echo Trains per Slice	7

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	On
Reduce Motion Sens.	On

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	130 deg
Allowed Delay	30 s

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TA: 4:00 min Coil Selection: Auto Voxel Size: 0.9×0.9×3.0 mm³ Acc.: None Rel. SNR: 1.00**Properties**

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

Routine

Slice Group	1
Slices	18
Distance Factor	10 %
Position	L6.4 P77.8 F157.1 mm
Orientation	C > T6.2 > S3.4
Phase Encoding Dir.	R >> L
Phase Oversampling	60 %
FoV Read	180 mm
FoV Phase	75.0 %
Slice Thickness	3.0 mm
TR	2000.0 ms
TE	105.00 ms
Averages	1
Concatenations	4
AutoAlign	---
Coil Elements	PeN;SP1;UFS

Contrast - Common

TR	2000.0 ms
TE	105.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	160 deg
Fat-Water Contrast	Fast Dixon
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	180 mm
FoV Phase	75.0 %
Slice Thickness	3.0 mm
Base Resolution	208
Phase Resolution	100 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Allowed
Asymmetric Echo	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	On
Distortion Correction	2D
Normalize	Prescan
Image Filter	On

Geometry - Common

Slice Group	1
Slices	18
Distance Factor	10 %
Position	L6.4 P77.8 F157.1 mm
Orientation	C > T6.2 > S3.4
Phase Encoding Dir.	R >> L
Phase Oversampling	60 %
FoV Read	180 mm
FoV Phase	75.0 %
Slice Thickness	3.0 mm
TR	2000.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	4

Geometry - AutoAlign

Slice Group	1
Position	L6.4 P77.8 F157.1 mm
Orientation	C > T6.2 > S3.4
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	L6.4 P77.8 F157.1
L	6.4 mm
P	77.8 mm
F	157.1 mm
Initial Orientation	C > T
C > T	6.20
> S	3.40
Initial Rotation	0.00 deg

Geometry - Navigator

Navigator	1
Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
FoV Phase	32 mm
FoV Read	96 mm
Thickness	10 mm

Geometry - Saturation

Special Saturation	None
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Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	157 mm
Table Position	F
Inline Composing	Off

System - Miscellaneous

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

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Always
Assume Silicone	Off

System - Adjust Volume

Position	L6.4 P77.8 F157.1 mm
Orientation	C > T6.2 > S3.4
Rotation	0.00 deg
R >> L	135 mm
F >> H	180 mm
A >> P	60 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2000.0 ms
Concatenations	4

Physio - Cardiac

Fat-Water Contrast	Fast Dixon
Magn. Preparation	None
Dark Blood	Off
FoV Read	180 mm
FoV Phase	75.0 %
Phase Resolution	100 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Accept Window ±	2.0 mm
Position Accept Window	Automatic
Select Acquisition Window	Automatic
Acquisition Window	35 %
Scout Type	Liver Dome Scout
Trigger Pulse	1
Concatenations	4
Store Profile Images	On

Inline - Subtraction

Subtract	Off
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Inline - Subtraction

Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	105.00 ms
TR	2000.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	616 Hz/Px
Echo Spacing	10.54 ms
Asymmetric Echo	Off
Define	Turbo Factor
Turbo Factor	23
Echo Trains per Slice	11

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Red. EC Sensitivity	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	120 deg
Allowed Delay	30 s

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TA: 5:50 min Coil Selection: Auto Voxel Size: 0.9×0.9×3.0 mm³ Acc.: None Rel. SNR: 1.00**Properties**

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

Routine

Slice Group	1
Slices	20
Distance Factor	10 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
Phase Oversampling	100 %
FoV Read	180 mm
FoV Phase	75.0 %
Slice Thickness	3.0 mm
TR	2000.0 ms
TE	105.00 ms
Averages	1
Concatenations	5
AutoAlign	---
Coil Elements	PeN;SP1;UFS

Contrast - Common

TR	2000.0 ms
TE	105.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	160 deg
Fat-Water Contrast	Fast Dixon
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	180 mm
FoV Phase	75.0 %
Slice Thickness	3.0 mm
Base Resolution	192
Phase Resolution	100 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Allowed
Asymmetric Echo	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	On
Distortion Correction	2D
Normalize	Prescan
Image Filter	On

Geometry - Common

Slice Group	1
Slices	20
Distance Factor	10 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
Phase Oversampling	100 %
FoV Read	180 mm
FoV Phase	75.0 %
Slice Thickness	3.0 mm
TR	2000.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	5

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	90.00 deg

Geometry - Navigator

Navigator	1
Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
FoV Phase	32 mm
FoV Read	96 mm
Thickness	10 mm

Geometry - Saturation

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Auto Coil Select
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System - Miscellaneous

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

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Always
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	90.00 deg
R >> L	135 mm
A >> P	180 mm
F >> H	66 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2000.0 ms
Concatenations	5

Physio - Cardiac

Fat-Water Contrast	Fast Dixon
Magn. Preparation	None
Dark Blood	Off
FoV Read	180 mm
FoV Phase	75.0 %
Phase Resolution	100 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Accept Window ±	2.0 mm
Position Accept Window	Automatic
Select Acquisition Window	Automatic
Acquisition Window	35 %
Scout Type	Liver Dome Scout
Trigger Pulse	1
Concatenations	5
Store Profile Images	On

Inline - Subtraction

Subtract	Off
Measurements	1

Inline - Subtraction

StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	105.00 ms
TR	2000.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	620 Hz/Px
Echo Spacing	10.52 ms
Asymmetric Echo	Off
Define	Turbo Factor
Turbo Factor	23
Echo Trains per Slice	13

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Red. EC Sensitivity	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	120 deg
Allowed Delay	30 s

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TA: 5:15 min Coil Selection: Auto Voxel Size: 0.8×0.8×3.0 mm³ Acc:: None Rel. SNR: 1.00**Properties**

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

Routine

Slice Group	1
Slices	25
Distance Factor	25 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	80 %
FoV Read	180 mm
FoV Phase	78.6 %
Slice Thickness	3.0 mm
TR	2200.0 ms
TE	113.00 ms
Averages	2
Concatenations	3
AutoAlign	---
Coil Elements	BO1-3;SP1-3

Contrast - Common

TR	2200.0 ms
TE	113.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	160 deg
Fat-Water Contrast	Fat Saturation
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	180 mm
FoV Phase	78.6 %
Slice Thickness	3.0 mm
Base Resolution	224
Phase Resolution	76 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	25
Distance Factor	25 %
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
Phase Oversampling	80 %
FoV Read	180 mm
FoV Phase	78.6 %
Slice Thickness	3.0 mm
TR	2200.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	3

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Coronal
Phase Encoding Dir.	R >> L
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Coronal
Initial Rotation	0.00 deg

Geometry - Navigator

Navigator	1
Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
FoV Phase	32 mm
FoV Read	96 mm
Thickness	10 mm

Geometry - Saturation

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T

System - Miscellaneous

Sagittal	L >> R
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
R >> L	142 mm
F >> H	180 mm
A >> P	93 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2200.0 ms
Concatenations	3

Physio - Cardiac

Fat-Water Contrast	Fat Saturation
Magn. Preparation	None
Dark Blood	Off
FoV Read	180 mm
FoV Phase	78.6 %
Phase Resolution	76 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Accept Window ±	2.0 mm
Position Accept Window	Automatic
Select Acquisition Window	Automatic
Acquisition Window	25 %
Scout Type	Liver Dome Scout
Trigger Pulse	1
Concatenations	3
Store Profile Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off

Inline - Subtraction

Save Original Images	On
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Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	113.00 ms
TR	2200.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	221 Hz/Px
Echo Spacing	8.68 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	25
Echo Trains per Slice	10

Sequence - Part 2

Introduction	Off
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	140 deg
Allowed Delay	30 s

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TA: 6:30 min Coil Selection: Auto Voxel Size: 0.8×0.8×3.0 mm³ Acc.: None Rel. SNR: 1.00**Properties**

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

Routine

Slice Group	1
Slices	25
Distance Factor	25 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	180 mm
FoV Phase	81.3 %
Slice Thickness	3.0 mm
TR	2300.0 ms
TE	116.00 ms
Averages	2
Concatenations	6
AutoAlign	---
Coil Elements	BO1-3;SP2,3

Contrast - Common

TR	2300.0 ms
TE	116.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	160 deg
Fat-Water Contrast	Fat Saturation
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	180 mm
FoV Phase	81.3 %
Slice Thickness	3.0 mm
Base Resolution	224
Phase Resolution	76 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	25
Distance Factor	25 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	180 mm
FoV Phase	81.3 %
Slice Thickness	3.0 mm
TR	2300.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	6

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator

Navigator	1
Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
FoV Phase	32 mm
FoV Read	96 mm
Thickness	10 mm

Geometry - Saturation

Saturation Region	1
Thickness	50.00 mm
Position	Isocenter
Orientation	Transversal
Shape	Standard
Special Saturation	Parallel F/H
Gap	10.00 mm
Thickness	60.00 mm

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
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Geometry - Tim Planning Suite

Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	147 mm
R >> L	180 mm
F >> H	93 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2300.0 ms
Concatenations	6

Physio - Cardiac

Fat-Water Contrast	Fat Saturation
Magn. Preparation	None
Dark Blood	Off
FoV Read	180 mm
FoV Phase	81.3 %
Phase Resolution	76 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Accept Window ±	2.0 mm
Position Accept Window	Automatic
Select Acquisition Window	Automatic
Acquisition Window	25 %
Scout Type	Liver Dome Scout
Trigger Pulse	1

Physio - PACE

Concatenations	6
Store Profile Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	116.00 ms
TR	2300.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	240 Hz/Px
Echo Spacing	8.32 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	24
Echo Trains per Slice	6

Sequence - Part 2

Introduction	Off
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	140 deg
Allowed Delay	30 s

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TA: 6:30 min Coil Selection: Auto Voxel Size: 0.8×0.8×3.0 mm³ Acc.: None Rel. SNR: 1.00**Properties**

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

Routine

Slice Group	1
Slices	36
Distance Factor	25 %
Position	Isocenter
Orientation	Sagittal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	180 mm
FoV Phase	75.0 %
Slice Thickness	3.0 mm
TR	2200.0 ms
TE	108.00 ms
Averages	2
Concatenations	6
AutoAlign	---
Coil Elements	BO1-3;SP1-3

Contrast - Common

TR	2200.0 ms
TE	108.00 ms
TD	0.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	160 deg
Fat-Water Contrast	Fat Saturation
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	180 mm
FoV Phase	75.0 %
Slice Thickness	3.0 mm
Base Resolution	224
Phase Resolution	77 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	36
Distance Factor	25 %
Position	Isocenter
Orientation	Sagittal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	180 mm
FoV Phase	75.0 %
Slice Thickness	3.0 mm
TR	2200.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	6

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Sagittal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Sagittal
Initial Rotation	0.00 deg

Geometry - Navigator

Navigator	1
Position	Isocenter
Orientation	Coronal
Rotation	0.00 deg
FoV Phase	32 mm
FoV Read	96 mm
Thickness	10 mm

Geometry - Saturation

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T

System - Miscellaneous

Sagittal	L >> R
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off
Coil Focus	Flat

System - Adjustments

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

System - Adjust Volume

Position	Isocenter
Orientation	Sagittal
Rotation	0.00 deg
A >> P	135 mm
F >> H	180 mm
R >> L	135 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2200.0 ms
Concatenations	6

Physio - Cardiac

Fat-Water Contrast	Fat Saturation
Magn. Preparation	None
Dark Blood	Off
FoV Read	180 mm
FoV Phase	75.0 %
Phase Resolution	77 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Trigger
Scout Mode	Off
Scout TR	150 ms
Accept Window ±	2.0 mm
Position Accept Window	Automatic
Select Acquisition Window	Automatic
Acquisition Window	25 %
Scout Type	Liver Dome Scout
Trigger Pulse	1
Concatenations	6
Store Profile Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off

Inline - Subtraction

Save Original Images	On
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Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	108.00 ms
TR	2200.0 ms

Inline - MIP

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

Inline - Composing

Inline Composing	Off
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Sequence - Part 1

Sequence Name	tse
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	240 Hz/Px
Echo Spacing	8.32 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	25
Echo Trains per Slice	6

Sequence - Part 2

Introduction	Off
Phase Correction	Automatic
Compensate T2 Decay	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Flip Angle
Min Flip Angle	140 deg
Allowed Delay	30 s

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TA: 3:50 min Coil Selection: Auto Voxel Size: 1.4×1.4×5.0 mm³ Acc.: 2 Rel. SNR: 1.00

Properties

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

Routine

Slice Group	1
Slices	40
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	350 mm
FoV Phase	85.9 %
Slice Thickness	5.0 mm
TR	7900.0 ms
TE	56.00 ms
Concatenations	1
AutoAlign	---
Coil Elements	BO1,2;SP2-4

Contrast - Common

TR	7900.0 ms
TE	56.00 ms
MTC	Off
Magn. Preparation	None
Fat-Water Contrast	SPAIR
Fat Saturation	Strong
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Delay in TR	0.00 ms

Resolution - Common

FoV Read	350 mm
FoV Phase	85.9 %
Slice Thickness	5.0 mm
Base Resolution	128
Phase Resolution	100 %
Interpolation	On

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	GRE/Separate
Acceleration Factor PE	2
Reference Lines PE	32
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	On
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan

Geometry - Common

Slice Group	1
Slices	40
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	350 mm
FoV Phase	85.9 %
Slice Thickness	5.0 mm
TR	7900.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator**Geometry - Saturation**

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
Adjustment Tolerance	Auto
Adjust with Body Coil	Off

System - Adjustments

Confirm Frequency	Never
Assume Silicone	Off

Sequence - Part 2

Introduction	On
Phase Correction	Internal

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	301 mm
R >> L	350 mm
F >> H	239 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	3.000

Physio - Signal

1st Signal/Mode	None
TR	7900.0 ms
Concatenations	1

Physio - PACE

Resp. Control	Off
Concatenations	1

Diff

Diffusion Mode	4-Scan Trace
Diff. Directions	4
Diffusion Scheme	Monopolar
Diff. Weightings	3
b-value 1	0 s/mm ²
b-value 2	100 s/mm ²
b-value 3	800 s/mm ²
Averages 1	1
Averages 2	2
Averages 3	4
Dynamic Field Correction	On
Invert Gray Scale	Off
Diff. Weighted Images	Off
Trace Weighted Images	On
Tensor	Off
FA Maps	Off
ADC Maps	On
Exponential ADC Maps	On
b-value >=	50 s/mm ²
ADC Noise Threshold	10
Noise Masking	Off
Calculated Image	Off

Sequence - Part 1

Sequence Name	epse
Excitation	Standard
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	2170 Hz/Px
Echo Spacing	0.55 ms
Free Echo Spacing	Off
Optimization	Min. TE
EPI Factor	110

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TA: 2:13 min Coil Selection: Manual Voxel Size: 1.3×1.3×5.0 mm³ Acc:: 4 Rel. SNR: 1.00**Properties**

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

Routine

Slice Group	1
Slices	40
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	350 mm
FoV Phase	88.2 %
Slice Thickness	5.0 mm
TR	3800.0 ms
TE	64.00 ms
Concatenations	1
AutoAlign	---
Coil Elements	BO1-3;SP2-4

Contrast - Common

TR	3800.0 ms
TE	64.00 ms
MTC	Off
Magn. Preparation	None
Fat-Water Contrast	Fat Saturation
Fat Saturation	Strong
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Delay in TR	0.00 ms

Resolution - Common

FoV Read	350 mm
FoV Phase	88.2 %
Slice Thickness	5.0 mm
Base Resolution	136
Phase Resolution	100 %
Interpolation	On

Resolution - Acceleration

Acceleration mode	SMS
Reference Scans	EPI/Separate
Acceleration Factor PE	2
Reference Lines PE	32
SMS Factor	2
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	On
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan

Geometry - Common

Slice Group	1
Slices	40
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	350 mm
FoV Phase	88.2 %
Slice Thickness	5.0 mm
TR	3800.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator**Geometry - Saturation**

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Manual
MSMA	S - C - T
Sagittal	R >> L
Coronal	P >> A
Transversal	H >> F
Coil Combination	Adaptive Combine
Matrix Optimization	Performance
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
Adjustment Tolerance	Auto
Adjust with Body Coil	Off

System - Adjustments

Confirm Frequency	Never
Assume Silicone	Off

Sequence - Part 2

Introduction	Off
Phase Correction	Internal

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	309 mm
R >> L	350 mm
F >> H	239 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3800.0 ms
Concatenations	1

Physio - PACE

Resp. Control	Off
Concatenations	1

Diff

Diffusion Mode	4-Scan Trace
Diff. Directions	4
Diffusion Scheme	Monopolar
Diff. Weightings	3
b-value 1	50 s/mm ²
b-value 2	400 s/mm ²
b-value 3	1000 s/mm ²
Averages 1	1
Averages 2	2
Averages 3	4
Dynamic Field Correction	On
Invert Gray Scale	Off
Diff. Weighted Images	Off
Trace Weighted Images	On
Tensor	Off
FA Maps	Off
ADC Maps	On
Exponential ADC Maps	Off
b-value >=	50 s/mm ²
ADC Noise Threshold	1
Noise Masking	Off
Calculated Image	Off

Sequence - Part 1

Sequence Name	epse
Excitation	Standard
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	2042 Hz/Px
Echo Spacing	0.55 ms
Free Echo Spacing	Off
Optimization	None
EPI Factor	120

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TA: 4:35 min Coil Selection: Auto Voxel Size: 1.3×1.3×4.0 mm³ Acc.: 2 Rel. SNR: 1.00**Properties**

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

Routine

Slice Group	1
Slices	50
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	240 mm
FoV Phase	80.4 %
Slice Thickness	4.0 mm
TR	11200.0 ms
TE	42.00 ms
Concatenations	1
AutoAlign	---
Coil Elements	BO2,3;SP2-4

Contrast - Common

TR	11200.0 ms
TE	42.00 ms
MTC	Off
Magn. Preparation	None
Fat-Water Contrast	SPAIR
Fat Saturation	Strong
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Delay in TR	0.00 ms

Resolution - Common

FoV Read	240 mm
FoV Phase	80.4 %
Slice Thickness	4.0 mm
Base Resolution	92
Phase Resolution	100 %
Interpolation	On

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	GRE/Separate
Acceleration Factor PE	2
Reference Lines PE	18
Phase Partial Fourier	6/8

Resolution - Filter

Raw Filter	On
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan

Geometry - Common

Slice Group	1
Slices	50
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	240 mm
FoV Phase	80.4 %
Slice Thickness	4.0 mm
TR	11200.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator**Geometry - Saturation**

Saturation Region	1
Thickness	33.00 mm
Position	L4.5 A25.7 H11.5 mm
Orientation	C > T-9.6 > S2.4
Special Saturation	None

Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

Sequence - Part 1

Optimization	Min. TE
EPI Factor	74

Sequence - Part 2

Introduction	On
Phase Correction	Internal

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	194 mm
R >> L	240 mm
F >> H	240 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	3.000

Physio - Signal

1st Signal/Mode	None
TR	11200.0 ms
Concatenations	1

Physio - PACE

Resp. Control	Off
Concatenations	1

Diff

Diffusion Mode	4-Scan Trace
Diff. Directions	4
Diffusion Scheme	Monopolar
Diff. Weightings	3
b-value 1	0 s/mm ²
b-value 2	100 s/mm ²
b-value 3	800 s/mm ²
Averages 1	1
Averages 2	2
Averages 3	3
Dynamic Field Correction	On
Invert Gray Scale	Off
Diff. Weighted Images	Off
Trace Weighted Images	On
Tensor	Off
FA Maps	Off
ADC Maps	On
Exponential ADC Maps	On
b-value >=	50 s/mm ²
ADC Noise Threshold	20
Noise Masking	Off
Calculated Image	Off

Sequence - Part 1

Sequence Name	epse
Excitation	Standard
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	2090 Hz/Px
Echo Spacing	0.56 ms
Free Echo Spacing	Off

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TA: 2:06 min Coil Selection: Manual Voxel Size: 1.3×1.3×4.0 mm³ Acc:: 4 Rel. SNR: 1.00**Properties**

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

Routine

Slice Group	1
Slices	50
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	240 mm
FoV Phase	87.0 %
Slice Thickness	4.0 mm
TR	3600.0 ms
TE	62.00 ms
Concatenations	1
AutoAlign	---
Coil Elements	BO1-3;SP2-4

Contrast - Common

TR	3600.0 ms
TE	62.00 ms
MTC	Off
Magn. Preparation	None
Fat-Water Contrast	Fat Saturation
Fat Saturation	Strong
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Delay in TR	0.00 ms

Resolution - Common

FoV Read	240 mm
FoV Phase	87.0 %
Slice Thickness	4.0 mm
Base Resolution	92
Phase Resolution	100 %
Interpolation	On

Resolution - Acceleration

Acceleration mode	SMS
Reference Scans	EPI/Separate
Acceleration Factor PE	2
Reference Lines PE	34
SMS Factor	2
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	On
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan

Geometry - Common

Slice Group	1
Slices	50
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	240 mm
FoV Phase	87.0 %
Slice Thickness	4.0 mm
TR	3600.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator**Geometry - Saturation**

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Manual
MSMA	S - C - T
Sagittal	R >> L
Coronal	P >> A
Transversal	H >> F
Coil Combination	Adaptive Combine
Matrix Optimization	Performance
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
Adjustment Tolerance	Auto
Adjust with Body Coil	Off

System - Adjustments

Confirm Frequency	Never
Assume Silicone	Off

Sequence - Part 2

Introduction	Off
Phase Correction	Internal

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	209 mm
R >> L	240 mm
F >> H	240 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3600.0 ms
Concatenations	1

Physio - PACE

Resp. Control	Off
Concatenations	1

Diff

Diffusion Mode	4-Scan Trace
Diff. Directions	4
Diffusion Scheme	Monopolar
Diff. Weightings	3
b-value 1	50 s/mm ²
b-value 2	400 s/mm ²
b-value 3	1000 s/mm ²
Averages 1	1
Averages 2	2
Averages 3	4
Dynamic Field Correction	On
Invert Gray Scale	Off
Diff. Weighted Images	Off
Trace Weighted Images	On
Tensor	Off
FA Maps	Off
ADC Maps	On
Exponential ADC Maps	Off
b-value >=	50 s/mm ²
ADC Noise Threshold	1
Noise Masking	Off
Calculated Image	Off

Sequence - Part 1

Sequence Name	epse
Excitation	Standard
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	2012 Hz/Px
Echo Spacing	0.58 ms
Free Echo Spacing	Off
Optimization	None
EPI Factor	80

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TA: 4:30 min Coil Selection: Auto Voxel Size: 1.3×1.3×4.0 mm³ Acc.: 2 Rel. SNR: 1.00**Properties**

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

Routine

Slice Group	1
Slices	50
Distance Factor	10 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	200 mm
FoV Phase	82.5 %
Slice Thickness	4.0 mm
TR	11000.0 ms
TE	42.00 ms
Concatenations	1
AutoAlign	---
Coil Elements	BO1-3;SP2-4

Contrast - Common

TR	11000.0 ms
TE	42.00 ms
MTC	Off
Magn. Preparation	None
Fat-Water Contrast	SPAIR
Fat Saturation	Strong
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Delay in TR	0.00 ms

Resolution - Common

FoV Read	200 mm
FoV Phase	82.5 %
Slice Thickness	4.0 mm
Base Resolution	80
Phase Resolution	100 %
Interpolation	On

Resolution - Acceleration

Acceleration mode	GRAPPA
Reference Scans	GRE/Separate
Acceleration Factor PE	2
Reference Lines PE	16
Phase Partial Fourier	6/8

Resolution - Filter

Raw Filter	On
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan

Geometry - Common

Slice Group	1
Slices	50
Distance Factor	10 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	200 mm
FoV Phase	82.5 %
Slice Thickness	4.0 mm
TR	11000.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator**Geometry - Saturation**

Saturation Region	1
Thickness	33.00 mm
Position	L4.5 A25.7 F141.5 mm
Orientation	C > T-9.6 > S2.4
Special Saturation	None

Geometry - Tim Planning Suite

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

System - Miscellaneous

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

System - Adjustments

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

Sequence - Part 1

Optimization	Min. TE
EPI Factor	66

Sequence - Part 2

Introduction	On
Phase Correction	Internal

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	165 mm
R >> L	200 mm
F >> H	220 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	3.000

Physio - Signal

1st Signal/Mode	None
TR	11000.0 ms
Concatenations	1

Physio - PACE

Resp. Control	Off
Concatenations	1

Diff

Diffusion Mode	4-Scan Trace
Diff. Directions	4
Diffusion Scheme	Monopolar
Diff. Weightings	3
b-value 1	0 s/mm ²
b-value 2	100 s/mm ²
b-value 3	800 s/mm ²
Averages 1	1
Averages 2	2
Averages 3	3
Dynamic Field Correction	On
Invert Gray Scale	Off
Diff. Weighted Images	Off
Trace Weighted Images	On
Tensor	Off
FA Maps	Off
ADC Maps	On
Exponential ADC Maps	On
b-value >=	50 s/mm ²
ADC Noise Threshold	20
Noise Masking	Off
Calculated Image	Off

Sequence - Part 1

Sequence Name	epse
Excitation	Standard
RF Pulse Type	Normal
Gradient Mode	Fast*
Bandwidth	2084 Hz/Px
Echo Spacing	0.58 ms
Free Echo Spacing	Off

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TA: 1:41 min Coil Selection: Manual Voxel Size: 1.3×1.3×4.0 mm³ Acc:: 4 Rel. SNR: 1.00**Properties**

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

Routine

Slice Group	1
Slices	50
Distance Factor	10 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	200 mm
FoV Phase	87.5 %
Slice Thickness	4.0 mm
TR	2900.0 ms
TE	68.00 ms
Concatenations	1
AutoAlign	---
Coil Elements	BO1-3;SP2-4

Contrast - Common

TR	2900.0 ms
TE	68.00 ms
MTC	Off
Magn. Preparation	None
Fat-Water Contrast	Fat Saturation
Fat Saturation	Strong
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Delay in TR	0.00 ms

Resolution - Common

FoV Read	200 mm
FoV Phase	87.5 %
Slice Thickness	4.0 mm
Base Resolution	80
Phase Resolution	100 %
Interpolation	On

Resolution - Acceleration

Acceleration mode	SMS
Reference Scans	EPI/Separate
Acceleration Factor PE	2
Reference Lines PE	32
SMS Factor	2
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	On
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Prescan

Geometry - Common

Slice Group	1
Slices	50
Distance Factor	10 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	200 mm
FoV Phase	87.5 %
Slice Thickness	4.0 mm
TR	2900.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator**Geometry - Saturation**

Special Saturation	None
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Geometry - Tim Planning Suite

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

System - Miscellaneous

Coil Selection	Manual
MSMA	S - C - T
Sagittal	R >> L
Coronal	P >> A
Transversal	H >> F
Coil Combination	Adaptive Combine
Matrix Optimization	Performance
Coil Focus	Flat

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
Adjustment Tolerance	Auto
Adjust with Body Coil	Off

System - Adjustments

Confirm Frequency	Never
Assume Silicone	Off

Sequence - Part 2

Introduction	Off
Phase Correction	Internal

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	175 mm
R >> L	200 mm
F >> H	220 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.600000 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2900.0 ms
Concatenations	1

Physio - PACE

Resp. Control	Off
Concatenations	1

Diff

Diffusion Mode	4-Scan Trace
Diff. Directions	4
Diffusion Scheme	Monopolar
Diff. Weightings	3
b-value 1	50 s/mm ²
b-value 2	400 s/mm ²
b-value 3	1000 s/mm ²
Averages 1	1
Averages 2	2
Averages 3	4
Dynamic Field Correction	On
Invert Gray Scale	Off
Diff. Weighted Images	Off
Trace Weighted Images	On
Tensor	Off
FA Maps	Off
ADC Maps	On
Exponential ADC Maps	Off
b-value >=	50 s/mm ²
ADC Noise Threshold	1
Noise Masking	Off
Calculated Image	Off

Sequence - Part 1

Sequence Name	epse
Excitation	Standard
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	2084 Hz/Px
Echo Spacing	0.56 ms
Free Echo Spacing	Off
Optimization	None
EPI Factor	70