Practicum Team Project Report

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Cardiac MRI in Ghana is gradually becoming a preferred imaging modality in imaging, screening, or diagnosing the elevated incidence of cardiac conditions. Through cardiac imaging, our resident cardiologist has made strides in diagnosing and managing seemingly missed diagnoses and complications missed by other diagnostic modalities and measures.

The prevailing limitations of LMICs are not alien to my country, and I am extremely grateful for the opportunity to be part of this enlightening, impactful, and well-put-together program. The scanner present at my facility does not have all the sophistications of a fully equipped MRI machine for CMR imaging but, we have been able to achieve quite an impressive feat with what we have. Our protocols cannot be easily edited without our head of department's consent as such, that has been a process. So, we share knowledge and make amendments as and when we scan and share ideas resulting in better outcomes hence, it may take a bit of time to come to a complete reformation in our protocols for optimum image quality, shortest scan time possible, and better diagnostic value images.

Also, the software and applications introduced to us have been a great help in equipping us to better understand and analyse diagnostic information about patients' conditions. I am very grateful.

Table 1: List of Scanners used by team members at their sites

Scanner	**Make**	**Model**	**Current Software Version**	**RF coil**
1.5 T	Siemens	Magnetom Essenza	Syngo	8-Channel Body Coil

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				COR t2_blade_tra_p2_trig_320 t1_fl3d_ce_fs_cor_p2_bh_384_angio	STACK

\\USER\Heart\ROUTINE1\Breath Hold Scan\trufi_loc_multi_iPAT

TA: 6.2 s PM: REF Voxel size: 1.7×1.7×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	3
Dist. factor	300 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	350.73 ms
TE	1.43 ms
Averages	1
Concatenations	9
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	SP1,2

Contrast - Common

TR	350.73 ms
TE	1.43 ms
TD	0 ms
Magn. preparation	None
Flip angle	61 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
Base resolution	240
Phase resolution	66 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	3
Dist. factor	300 %
Position	L0.0 P20.0 H0.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Slice group	2
Slices	3
Dist. factor	300 %
Position	L30.0 P0.0 H0.0 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Slice group	3
Slices	3
Dist. factor	300 %
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	400 mm
FoV phase	100.0 %
Slice thickness	8.0 mm
TR	350.73 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	9

Geometry - AutoAlign

Slice group	1
Slice group	2

Geometry - AutoAlign

Slice group	3
AutoAlign	---
Position	L0.0 P10.0 H0.0 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Initial Position	L0.0 P20.0 H0.0
L	0.0 mm
P	20.0 mm
H	0.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

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

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	685 ± 168 ms

Physio - Signal1

Acquisition window	351 ms
Trigger pulse	1
Trigger delay	0 ms
TR	350.73 ms
Concatenations	9
Segments	91
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	400 mm
FoV phase	100.0 %
Phase resolution	66 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	9

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.43 ms
TR	350.73 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.4 ms
Sequence type	Trufi
Bandwidth	1096 Hz/Px

Sequence - Part 2

Define	Shots

Sequence - Part 2

Shots per slice	1
Segments	91
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\haste_16-sl_tra_db_pace

TA: 0:55 PM: REF Voxel size: 1.2×1.2×6.0 mmPAT: 2 Rel. SNR: 1.00 : h

Properties

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

Routine

Slice group	1
Slices	20
Dist. factor	0 %
Position	R4.8 P56.8 H21.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	300 mm
FoV phase	62.5 %
Slice thickness	6.0 mm
TR	713.0 ms
TE	49 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	713.0 ms
TE	49 ms
MTC	Off
Magn. preparation	None
Flip angle	160 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	300 mm
FoV phase	62.5 %
Slice thickness	6.0 mm
Base resolution	256
Phase resolution	60 %
Phase partial Fourier	5/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	26
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	20
Dist. factor	0 %
Position	R4.8 P56.8 H21.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	300 mm
FoV phase	62.5 %
Slice thickness	6.0 mm
TR	713.0 ms
Multi-slice mode	Single shot
Series	Descending
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	R4.8 P56.8 H21.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Initial Position	R4.8 P56.8 H21.4
R	4.8 mm
P	56.8 mm
H	21.4 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Miscellaneous

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

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	On
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L1.0 P43.6 H18.4 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	103 mm
! R >> L	154 mm
! F >> H	89 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	713 ms
Trigger pulse	2
Trigger delay	0 ms
TR	713.0 ms
Concatenations	1
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	On
Dark blood thickness	200 %
FoV read	300 mm
FoV phase	62.5 %
Phase resolution	60 %

Physio - PACE

Resp. control	Off
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off

Inline - Common

Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Contrasts	1
Flow comp.	No
Multi-slice mode	Single shot
Echo spacing	3.76 ms
Bandwidth	781 Hz/Px

Sequence - Part 2

RF pulse type	Fast
Gradient mode	Normal
Turbo factor	96

Sequence - Assistant

Mode	Off
Allowed delay	30 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\trufi_singleshot_15sl_iPAT

TA: 0:27 PM: FIX Voxel size: 1.3×1.3×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	20
Dist. factor	0 %
Position	R4.8 P56.8 H21.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	334 mm
FoV phase	75.0 %
Slice thickness	6.0 mm
TR	353.53 ms
TE	1.78 ms
Averages	1
Concatenations	20
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	353.53 ms
TE	1.78 ms
TD	0 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	334 mm
FoV phase	75.0 %
Slice thickness	6.0 mm
Base resolution	256
Phase resolution	66 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	20
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	20
Dist. factor	0 %
Position	R4.8 P56.8 H21.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	334 mm
FoV phase	75.0 %
Slice thickness	6.0 mm
TR	353.53 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	20

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	R4.8 P56.8 H21.4 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Initial Position	R4.8 P56.8 H21.4
R	4.8 mm
P	56.8 mm
H	21.4 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Miscellaneous

Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

B0 Shim mode	Cardiac
Adjust with body coil	On
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L1.0 P43.6 H18.4 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	103 mm
! R >> L	154 mm
! F >> H	89 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	685 ± 168 ms
Acquisition window	703 ms
Trigger pulse	1
Trigger delay	300 ms
TR	353.53 ms
Concatenations	20
Segments	73
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	334 mm
FoV phase	75.0 %
Phase resolution	66 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	20

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.78 ms
TR	353.53 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	4.2 ms
Sequence type	Trufi
Bandwidth	888 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	73
Trufi delta freq.	0 Hz
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\trufi_singleshot_15sl_iPAT

TA: 0:33 PM: FIX Voxel size: 1.3×1.3×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	24
Dist. factor	0 %
Position	L6.1 P59.5 H0.8 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	334 mm
FoV phase	75.0 %
Slice thickness	6.0 mm
TR	353.53 ms
TE	1.78 ms
Averages	1
Concatenations	24
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	353.53 ms
TE	1.78 ms
TD	0 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	334 mm
FoV phase	75.0 %
Slice thickness	6.0 mm
Base resolution	256
Phase resolution	66 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	20
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	24
Dist. factor	0 %
Position	L6.1 P59.5 H0.8 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	334 mm
FoV phase	75.0 %
Slice thickness	6.0 mm
TR	353.53 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	24

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L6.1 P59.5 H0.8 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Initial Position	L6.1 P59.5 H0.8
L	6.1 mm
P	59.5 mm
H	0.8 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Miscellaneous

Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

B0 Shim mode	Cardiac
Adjust with body coil	On
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L2.4 P42.1 H18.4 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	103 mm
! R >> L	154 mm
! F >> H	89 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	685 ± 168 ms
Acquisition window	693 ms
Trigger pulse	1
Trigger delay	300 ms
TR	353.53 ms
Concatenations	24
Segments	73
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	334 mm
FoV phase	75.0 %
Phase resolution	66 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	24

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.78 ms
TR	353.53 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	4.2 ms
Sequence type	Trufi
Bandwidth	888 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	73
Trufi delta freq.	0 Hz
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\trufi_singleshot_15sl_iPAT

TA: 0:30 PM: FIX Voxel size: 1.6×1.6×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	22
Dist. factor	0 %
Position	R1.7 P53.5 F2.8 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	400 mm
FoV phase	75.0 %
Slice thickness	6.0 mm
TR	353.53 ms
TE	1.65 ms
Averages	1
Concatenations	22
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	353.53 ms
TE	1.65 ms
TD	0 ms
Magn. preparation	None
Flip angle	80 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	400 mm
FoV phase	75.0 %
Slice thickness	6.0 mm
Base resolution	256
Phase resolution	66 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	20
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	22
Dist. factor	0 %
Position	R1.7 P53.5 F2.8 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	400 mm
FoV phase	75.0 %
Slice thickness	6.0 mm
TR	353.53 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	22

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	R1.7 P53.5 F2.8 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Initial Position	R1.7 P53.5 F2.8
R	1.7 mm
P	53.5 mm
F	2.8 mm
Initial Rotation	0.00 deg
Initial Orientation	Coronal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Miscellaneous

Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

B0 Shim mode	Cardiac
Adjust with body coil	On
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L2.4 P42.1 H18.4 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	103 mm
! R >> L	154 mm
! F >> H	89 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	685 ± 168 ms
Acquisition window	695 ms
Trigger pulse	1
Trigger delay	300 ms
TR	353.53 ms
Concatenations	22
Segments	73
Phases	1

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	400 mm
FoV phase	75.0 %
Phase resolution	66 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - PACE

Resp. control	Off
Concatenations	22

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.65 ms
TR	353.53 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.9 ms
Sequence type	Trufi
Bandwidth	888 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	73
Trufi delta freq.	0 Hz
RF pulse type	Normal
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\TCH

TA: 5.5 s PM: REF Voxel size: 1.8×1.8×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L13.9 P58.8 F14.2 mm
Orientation	C > S-37.1
Phase enc. dir.	L >> R
AutoAlign	---
Phase oversampling	0 %
FoV read	400 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	54.56 ms
TE	1.46 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	54.56 ms
TE	1.46 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	400 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L13.9 P58.8 F14.2 mm
Orientation	C > S-37.1
Phase enc. dir.	L >> R
FoV read	400 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	54.56 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L13.9 P58.8 F14.2 mm
Orientation	C > S-37.1
Phase enc. dir.	L >> R
Initial Position	L13.9 P58.8 F14.2
L	13.9 mm
P	58.8 mm
F	14.2 mm
Initial Rotation	180.00 deg
Initial Orientation	C > S
C > S	-37.1
> T	0.0

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L2.4 P42.1 H18.4 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	103 mm
! R >> L	154 mm
! F >> H	89 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	54.56 ms
Concatenations	1
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	400 mm
FoV phase	80.4 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.46 ms
TR	54.56 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.4 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\SA SCOUT

TA: 5.5 s PM: REF Voxel size: 1.8×1.8×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L26.0 P79.2 H17.8 mm
Orientation	S > C36.1 > T25.2
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	400 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	54.56 ms
TE	1.46 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	54.56 ms
TE	1.46 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	400 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L26.0 P79.2 H17.8 mm
Orientation	S > C36.1 > T25.2
Phase enc. dir.	A >> P
FoV read	400 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	54.56 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L26.0 P79.2 H17.8 mm
Orientation	S > C36.1 > T25.2
Phase enc. dir.	A >> P
Initial Position	L26.0 P79.2 H17.8
L	26.0 mm
P	79.2 mm
H	17.8 mm
Initial Rotation	17.24 deg
Initial Orientation	S > C
S > C	36.1
> T	25.2

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L2.4 P42.1 H18.4 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	103 mm
! R >> L	154 mm
! F >> H	89 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	54.56 ms
Concatenations	1
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	400 mm
FoV phase	80.4 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.46 ms
TR	54.56 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.4 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\4CH

TA: 5.5 s PM: REF Voxel size: 1.6×1.6×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L17.6 P55.4 H19.0 mm
Orientation	T > C37.1 > S-1.2
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
TE	1.46 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	56.00 ms
TE	1.46 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L17.6 P55.4 H19.0 mm
Orientation	T > C37.1 > S-1.2
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L17.6 P55.4 H19.0 mm
Orientation	T > C37.1 > S-1.2
Phase enc. dir.	A >> P
Initial Position	L17.6 P55.4 H19.0
L	17.6 mm
P	55.4 mm
H	19.0 mm
Initial Rotation	0.92 deg
Initial Orientation	T > C
T > C	37.1
> S	-1.2

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L2.4 P42.1 H18.4 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	103 mm
! R >> L	154 mm
! F >> H	89 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	56.00 ms
Concatenations	1
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	80.4 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.46 ms
TR	56.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\3CH

TA: 5.5 s PM: REF Voxel size: 1.6×1.6×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L17.5 P55.8 H18.2 mm
Orientation	T > S-44.2 > C-13.6
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
TE	1.46 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	56.00 ms
TE	1.46 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L17.5 P55.8 H18.2 mm
Orientation	T > S-44.2 > C-13.6
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L17.5 P55.8 H18.2 mm
Orientation	T > S-44.2 > C-13.6
Phase enc. dir.	A >> P
Initial Position	L17.5 P55.8 H18.2
L	17.5 mm
P	55.8 mm
H	18.2 mm
Initial Rotation	-12.87 deg
Initial Orientation	T > S
T > S	-44.2
> C	-13.6

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L2.4 P42.1 H18.4 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	103 mm
! R >> L	154 mm
! F >> H	89 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	56.00 ms
Concatenations	1
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	80.4 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.46 ms
TR	56.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\3CHXC

TA: 5.5 s PM: REF Voxel size: 1.6×1.6×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L20.2 P47.3 H18.5 mm
Orientation	C > S18.4 > T0.8
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
TE	1.46 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	56.00 ms
TE	1.46 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L20.2 P47.3 H18.5 mm
Orientation	C > S18.4 > T0.8
Phase enc. dir.	R >> L
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L20.2 P47.3 H18.5 mm
Orientation	C > S18.4 > T0.8
Phase enc. dir.	R >> L
Initial Position	L20.2 P47.3 H18.5
L	20.2 mm
P	47.3 mm
H	18.5 mm
Initial Rotation	2.42 deg
Initial Orientation	C > S
C > S	18.4
> T	0.8

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L2.4 P42.1 H18.4 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	103 mm
! R >> L	154 mm
! F >> H	89 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	56.00 ms
Concatenations	1
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	80.4 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.46 ms
TR	56.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\AV

TA: 5.5 s PM: REF Voxel size: 1.6×1.6×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	R4.2 P39.0 H39.8 mm
Orientation	T > S29.5 > C8.6
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
TE	1.46 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	56.00 ms
TE	1.46 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	R4.2 P39.0 H39.8 mm
Orientation	T > S29.5 > C8.6
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	R4.2 P39.0 H39.8 mm
Orientation	T > S29.5 > C8.6
Phase enc. dir.	A >> P
Initial Position	R4.2 P39.0 H39.8
R	4.2 mm
P	39.0 mm
H	39.8 mm
Initial Rotation	-4.83 deg
Initial Orientation	T > S
T > S	29.5
> C	8.6

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L2.4 P42.1 H18.4 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	103 mm
! R >> L	154 mm
! F >> H	89 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	56.00 ms
Concatenations	1
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	80.4 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.46 ms
TR	56.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\RVOT

TA: 5.5 s PM: REF Voxel size: 1.6×1.6×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L10.8 P43.6 H60.4 mm
Orientation	S > C-3.3
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
TE	1.46 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	56.00 ms
TE	1.46 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L10.8 P43.6 H60.4 mm
Orientation	S > C-3.3
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L10.8 P43.6 H60.4 mm
Orientation	S > C-3.3
Phase enc. dir.	A >> P
Initial Position	L10.8 P43.6 H60.4
L	10.8 mm
P	43.6 mm
H	60.4 mm
Initial Rotation	0.00 deg
Initial Orientation	S > C
S > C	-3.3
> T	0.0

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L2.4 P42.1 H18.4 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	103 mm
! R >> L	154 mm
! F >> H	89 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	56.00 ms
Concatenations	1
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	80.4 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.46 ms
TR	56.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\RVOTXC

TA: 5.5 s PM: REF Voxel size: 1.6×1.6×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L12.2 P19.7 H58.4 mm
Orientation	C > T24.8 > S3.0
Phase enc. dir.	F >> H
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
TE	1.46 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	56.00 ms
TE	1.46 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L12.2 P19.7 H58.4 mm
Orientation	C > T24.8 > S3.0
Phase enc. dir.	F >> H
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L12.2 P19.7 H58.4 mm
Orientation	C > T24.8 > S3.0
Phase enc. dir.	F >> H
Initial Position	L12.2 P19.7 H58.4
L	12.2 mm
P	19.7 mm
H	58.4 mm
Initial Rotation	82.12 deg
Initial Orientation	C > T
C > T	24.8
> S	3.0

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L2.4 P42.1 H18.4 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	103 mm
! R >> L	154 mm
! F >> H	89 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	56.00 ms
Concatenations	1
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	80.4 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.46 ms
TR	56.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\RVINOUT

TA: 5.5 s PM: REF Voxel size: 1.6×1.6×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	R24.4 P64.9 H47.0 mm
Orientation	S > C-41.0 > T9.3
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
TE	1.46 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	56.00 ms
TE	1.46 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	R24.4 P64.9 H47.0 mm
Orientation	S > C-41.0 > T9.3
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	R24.4 P64.9 H47.0 mm
Orientation	S > C-41.0 > T9.3
Phase enc. dir.	A >> P
Initial Position	R24.4 P64.9 H47.0
R	24.4 mm
P	64.9 mm
H	47.0 mm
Initial Rotation	-7.98 deg
Initial Orientation	S > C
S > C	-41.0
> T	9.3

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L2.4 P42.1 H18.4 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	103 mm
! R >> L	154 mm
! F >> H	89 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	56.00 ms
Concatenations	1
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	80.4 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.46 ms
TR	56.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\RPA

TA: 5.5 s PM: REF Voxel size: 1.6×1.6×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	R6.7 P59.7 H54.4 mm
Orientation	C > S-15.6
Phase enc. dir.	L >> R
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
TE	1.46 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	56.00 ms
TE	1.46 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	R6.7 P59.7 H54.4 mm
Orientation	C > S-15.6
Phase enc. dir.	L >> R
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	R6.7 P59.7 H54.4 mm
Orientation	C > S-15.6
Phase enc. dir.	L >> R
Initial Position	R6.7 P59.7 H54.4
R	6.7 mm
P	59.7 mm
H	54.4 mm
Initial Rotation	180.00 deg
Initial Orientation	C > S
C > S	-15.6
> T	0.0

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L2.4 P42.1 H18.4 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	103 mm
! R >> L	154 mm
! F >> H	89 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	56.00 ms
Concatenations	1
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	80.4 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.46 ms
TR	56.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\RPAXC

TA: 5.5 s PM: REF Voxel size: 1.6×1.6×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	R6.7 P59.7 H52.6 mm
Orientation	T > S14.9 > C-4.1
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
TE	1.46 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	56.00 ms
TE	1.46 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	R6.7 P59.7 H52.6 mm
Orientation	T > S14.9 > C-4.1
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	R6.7 P59.7 H52.6 mm
Orientation	T > S14.9 > C-4.1
Phase enc. dir.	A >> P
Initial Position	R6.7 P59.7 H52.6
R	6.7 mm
P	59.7 mm
H	52.6 mm
Initial Rotation	1.08 deg
Initial Orientation	T > S
T > S	14.9
> C	-4.1

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L2.4 P42.1 H18.4 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	103 mm
! R >> L	154 mm
! F >> H	89 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	56.00 ms
Concatenations	1
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	80.4 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.46 ms
TR	56.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\LPA

TA: 5.5 s PM: REF Voxel size: 1.6×1.6×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L17.8 P67.5 H58.6 mm
Orientation	S > T-15.2 > C4.7
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
TE	1.46 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	56.00 ms
TE	1.46 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L17.8 P67.5 H58.6 mm
Orientation	S > T-15.2 > C4.7
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	80.4 %
Slice thickness	6.0 mm
TR	56.00 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L17.8 P67.5 H58.6 mm
Orientation	S > T-15.2 > C4.7
Phase enc. dir.	A >> P
Initial Position	L17.8 P67.5 H58.6
L	17.8 mm
P	67.5 mm
H	58.6 mm
Initial Rotation	-1.27 deg
Initial Orientation	S > T
S > T	-15.2
> C	4.7

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L2.4 P42.1 H18.4 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	103 mm
! R >> L	154 mm
! F >> H	89 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	56.00 ms
Concatenations	1
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	80.4 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.46 ms
TR	56.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\SAX

TA: 0:55 PM: REF Voxel size: 1.6×1.6×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	10
Dist. factor	25 %
Position	L32.1 P31.3 H0.4 mm
Orientation	S > C36.3 > T25.1
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
TR	54.56 ms
TE	1.42 ms
Averages	1
Concatenations	10
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	54.56 ms
TE	1.42 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each slice and measurement

Resolution - Common

FoV read	360 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	10
Dist. factor	25 %
Position	L32.1 P31.3 H0.4 mm
Orientation	S > C36.3 > T25.1
Phase enc. dir.	A >> P
FoV read	360 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
TR	54.56 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	10

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L32.1 P31.3 H0.4 mm
Orientation	S > C36.3 > T25.1
Phase enc. dir.	A >> P
Initial Position	L32.1 P31.3 H0.4
L	32.1 mm
P	31.3 mm
H	0.4 mm
Initial Rotation	17.28 deg
Initial Orientation	S > C
S > C	36.3
> T	25.1

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L31.0 P16.8 H0.0 mm
! Orientation	Transversal
! Rotation	0.76 deg
! A >> P	130 mm
! R >> L	166 mm
! F >> H	135 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	54.56 ms
Concatenations	10
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	75.0 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	10

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.42 ms
TR	54.56 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.4 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\STIR 2 CHAMBER

TA: 0:25 PM: FIX Voxel size: 1.6×1.6×6.0 mmPAT: Off Rel. SNR: 1.00 : tir

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	50 %
Position	L41.9 P8.7 F4.0 mm
Orientation	C > S-44.6
Phase enc. dir.	F >> H
AutoAlign	---
Phase oversampling	20 %
FoV read	400 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	800.0 ms
TE	53.0 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	800.0 ms
TE	53.0 ms
MTC	Off
Magn. preparation	Slice-sel. IR
TI	160 ms
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Freeze suppressed tissue	Off

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	400 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
Base resolution	256
Phase resolution	57 %
Phase partial Fourier	Off
Trajectory	Cartesian

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	50 %
Position	L41.9 P8.7 F4.0 mm
Orientation	C > S-44.6
Phase enc. dir.	F >> H
FoV read	400 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	800.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L41.9 P8.7 F4.0 mm
Orientation	C > S-44.6
Phase enc. dir.	F >> H
Initial Position	L41.9 P8.7 F4.0
L	41.9 mm
P	8.7 mm
F	4.0 mm
Initial Rotation	90.00 deg
Initial Orientation	C > S
C > S	-44.6
> T	0.0

Geometry - Saturation

Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Special sat.	None

Geometry - Navigator

Geometry - Tim CT

Tim CT mode	Off
Slices	1
Slice thickness	6.0 mm
Dist. factor	50 %
FoV read	400 mm
FoV phase	81.3 %

System - Miscellaneous

Positioning mode	FIX
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L36.6 A11.6 H8.5 mm
! Orientation	T > S0.3
! Rotation	0.00 deg
! A >> P	141 mm
! R >> L	158 mm
! F >> H	145 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	886 ms
Trigger pulse	2
Trigger delay	0 ms
TR	800.0 ms
Concatenations	1
Phases	1

Physio - Cardiac

Magn. preparation	Slice-sel. IR
TI	160 ms
Fat suppr.	None
Dark blood	On
Dark blood thickness	200 %

Physio - Cardiac

Slice-sel. IR thickness	250 %
FoV read	400 mm
FoV phase	81.3 %
Phase resolution	57 %
Trajectory	Cartesian

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Free echo spacing	Off
Echo spacing	4.8 ms
Bandwidth	849 Hz/Px

Sequence - Part 2

Define	Turbo factor
Echo trains per slice	8
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Normal
WARP	Off
Turbo factor	20

Sequence - Assistant

Mode	Off
Allowed delay	30 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\STIR 4 CHAMBER

TA: 0:25 PM: FIX Voxel size: 1.6×1.6×6.0 mmPAT: Off Rel. SNR: 1.00 : tir

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	50 %
Position	L59.9 P1.3 H3.9 mm
Orientation	T > C28.5 > S-3.7
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	20 %
FoV read	400 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	800.0 ms
TE	53.0 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	800.0 ms
TE	53.0 ms
MTC	Off
Magn. preparation	Slice-sel. IR
TI	160 ms
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Freeze suppressed tissue	Off

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	400 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
Base resolution	256
Phase resolution	57 %
Phase partial Fourier	Off
Trajectory	Cartesian

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	50 %
Position	L59.9 P1.3 H3.9 mm
Orientation	T > C28.5 > S-3.7
Phase enc. dir.	R >> L
FoV read	400 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	800.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L59.9 P1.3 H3.9 mm
Orientation	T > C28.5 > S-3.7
Phase enc. dir.	R >> L
Initial Position	L59.9 P1.3 H3.9
L	59.9 mm
P	1.3 mm
H	3.9 mm
Initial Rotation	91.99 deg
Initial Orientation	T > C
T > C	28.5
> S	-3.7

Geometry - Saturation

Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Special sat.	None

Geometry - Navigator

Geometry - Tim CT

Tim CT mode	Off
Slices	1
Slice thickness	6.0 mm
Dist. factor	50 %
FoV read	400 mm
FoV phase	81.3 %

System - Miscellaneous

Positioning mode	FIX
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L36.6 A11.6 H8.5 mm
! Orientation	T > S0.3
! Rotation	0.00 deg
! A >> P	141 mm
! R >> L	158 mm
! F >> H	145 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	886 ms
Trigger pulse	2
Trigger delay	0 ms
TR	800.0 ms
Concatenations	1
Phases	1

Physio - Cardiac

Magn. preparation	Slice-sel. IR
TI	160 ms
Fat suppr.	None
Dark blood	On
Dark blood thickness	200 %

Physio - Cardiac

Slice-sel. IR thickness	250 %
FoV read	400 mm
FoV phase	81.3 %
Phase resolution	57 %
Trajectory	Cartesian

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Free echo spacing	Off
Echo spacing	4.8 ms
Bandwidth	849 Hz/Px

Sequence - Part 2

Define	Turbo factor
Echo trains per slice	8
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Normal
WARP	Off
Turbo factor	20

Sequence - Assistant

Mode	Off
Allowed delay	30 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\STIR SA BASE

TA: 0:25 PM: FIX Voxel size: 1.6×1.6×6.0 mmPAT: Off Rel. SNR: 1.00 : tir

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	50 %
Position	L56.6 A5.8 H8.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	H >> F
AutoAlign	---
Phase oversampling	20 %
FoV read	400 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	800.0 ms
TE	53.0 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	800.0 ms
TE	53.0 ms
MTC	Off
Magn. preparation	Slice-sel. IR
TI	160 ms
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Freeze suppressed tissue	Off

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	400 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
Base resolution	256
Phase resolution	57 %
Phase partial Fourier	Off
Trajectory	Cartesian

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	50 %
Position	L56.6 A5.8 H8.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	H >> F
FoV read	400 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	800.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L56.6 A5.8 H8.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	H >> F
Initial Position	L56.6 A5.8 H8.3
L	56.6 mm
A	5.8 mm
H	8.3 mm
Initial Rotation	91.99 deg
Initial Orientation	S > C
S > C	44.6
> T	22.1

Geometry - Saturation

Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Special sat.	None

Geometry - Navigator

Geometry - Tim CT

Tim CT mode	Off
Slices	1
Slice thickness	6.0 mm
Dist. factor	50 %
FoV read	400 mm
FoV phase	81.3 %

System - Miscellaneous

Positioning mode	FIX
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L36.6 A11.6 H8.5 mm
! Orientation	T > S0.3
! Rotation	0.00 deg
! A >> P	141 mm
! R >> L	158 mm
! F >> H	145 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	886 ms
Trigger pulse	2
Trigger delay	0 ms
TR	800.0 ms
Concatenations	1
Phases	1

Physio - Cardiac

Magn. preparation	Slice-sel. IR
TI	160 ms
Fat suppr.	None
Dark blood	On
Dark blood thickness	200 %

Physio - Cardiac

Slice-sel. IR thickness	250 %
FoV read	400 mm
FoV phase	81.3 %
Phase resolution	57 %
Trajectory	Cartesian

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Free echo spacing	Off
Echo spacing	4.8 ms
Bandwidth	849 Hz/Px

Sequence - Part 2

Define	Turbo factor
Echo trains per slice	8
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Normal
WARP	Off
Turbo factor	20

Sequence - Assistant

Mode	Off
Allowed delay	30 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\STIR SA MID

TA: 0:25 PM: FIX Voxel size: 1.6×1.6×6.0 mmPAT: Off Rel. SNR: 1.00 : tir

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	50 %
Position	L74.4 A23.4 F4.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	H >> F
AutoAlign	---
Phase oversampling	20 %
FoV read	400 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	800.0 ms
TE	53.0 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	800.0 ms
TE	53.0 ms
MTC	Off
Magn. preparation	Slice-sel. IR
TI	160 ms
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Freeze suppressed tissue	Off

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	400 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
Base resolution	256
Phase resolution	57 %
Phase partial Fourier	Off
Trajectory	Cartesian

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	50 %
Position	L74.4 A23.4 F4.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	H >> F
FoV read	400 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	800.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L74.4 A23.4 F4.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	H >> F
Initial Position	L74.4 A23.4 F4.3
L	74.4 mm
A	23.4 mm
F	4.3 mm
Initial Rotation	91.99 deg
Initial Orientation	S > C
S > C	44.6
> T	22.1

Geometry - Saturation

Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Special sat.	None

Geometry - Navigator

Geometry - Tim CT

Tim CT mode	Off
Slices	1
Slice thickness	6.0 mm
Dist. factor	50 %
FoV read	400 mm
FoV phase	81.3 %

System - Miscellaneous

Positioning mode	FIX
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L36.6 A11.6 H8.5 mm
! Orientation	T > S0.3
! Rotation	0.00 deg
! A >> P	141 mm
! R >> L	158 mm
! F >> H	145 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	886 ms
Trigger pulse	2
Trigger delay	0 ms
TR	800.0 ms
Concatenations	1
Phases	1

Physio - Cardiac

Magn. preparation	Slice-sel. IR
TI	160 ms
Fat suppr.	None
Dark blood	On
Dark blood thickness	200 %

Physio - Cardiac

Slice-sel. IR thickness	250 %
FoV read	400 mm
FoV phase	81.3 %
Phase resolution	57 %
Trajectory	Cartesian

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Free echo spacing	Off
Echo spacing	4.8 ms
Bandwidth	849 Hz/Px

Sequence - Part 2

Define	Turbo factor
Echo trains per slice	8
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Normal
WARP	Off
Turbo factor	20

Sequence - Assistant

Mode	Off
Allowed delay	30 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\STIR SA APX

TA: 0:25 PM: FIX Voxel size: 1.6×1.6×6.0 mmPAT: Off Rel. SNR: 1.00 : tir

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	50 %
Position	L88.8 A37.6 F17.8 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	H >> F
AutoAlign	---
Phase oversampling	20 %
FoV read	400 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	800.0 ms
TE	53.0 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	800.0 ms
TE	53.0 ms
MTC	Off
Magn. preparation	Slice-sel. IR
TI	160 ms
Flip angle	180 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Freeze suppressed tissue	Off

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	400 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
Base resolution	256
Phase resolution	57 %
Phase partial Fourier	Off
Trajectory	Cartesian

Resolution - Common

Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	50 %
Position	L88.8 A37.6 F17.8 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	H >> F
FoV read	400 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	800.0 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L88.8 A37.6 F17.8 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	H >> F
Initial Position	L88.8 A37.6 F17.8
L	88.8 mm
A	37.6 mm
F	17.8 mm
Initial Rotation	91.99 deg
Initial Orientation	S > C
S > C	44.6
> T	22.1

Geometry - Saturation

Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Special sat.	None

Geometry - Navigator

Geometry - Tim CT

Tim CT mode	Off
Slices	1
Slice thickness	6.0 mm
Dist. factor	50 %
FoV read	400 mm
FoV phase	81.3 %

System - Miscellaneous

Positioning mode	FIX
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L36.6 A11.6 H8.5 mm
! Orientation	T > S0.3
! Rotation	0.00 deg
! A >> P	141 mm
! R >> L	158 mm
! F >> H	145 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	886 ms
Trigger pulse	2
Trigger delay	0 ms
TR	800.0 ms
Concatenations	1
Phases	1

Physio - Cardiac

Magn. preparation	Slice-sel. IR
TI	160 ms
Fat suppr.	None
Dark blood	On
Dark blood thickness	200 %

Physio - Cardiac

Slice-sel. IR thickness	250 %
FoV read	400 mm
FoV phase	81.3 %
Phase resolution	57 %
Trajectory	Cartesian

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Compensate T2 decay	Off
Reduce Motion Sens.	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Sequential
Free echo spacing	Off
Echo spacing	4.8 ms
Bandwidth	849 Hz/Px

Sequence - Part 2

Define	Turbo factor
Echo trains per slice	8
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Normal
WARP	Off
Turbo factor	20

Sequence - Assistant

Mode	Off
Allowed delay	30 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\T1Map_LongT1

TA: 0:15 PM: FIX Voxel size: 2.0×2.0×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L59.9 P1.3 H3.9 mm
Orientation	T > C28.5 > S-3.7
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	20 %
FoV read	390 mm
FoV phase	85.4 %
Slice thickness	8.0 mm
TR	319.31 ms
TE	1.27 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	319.31 ms
TE	1.27 ms
Magn. preparation	Non-sel. IR T1map
TI	197 ms
Flip angle	35 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	390 mm
FoV phase	85.4 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	80 %
Phase partial Fourier	7/8
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	36
Reference scan mode	GRE/separate

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L59.9 P1.3 H3.9 mm
Orientation	T > C28.5 > S-3.7
Phase enc. dir.	A >> P
FoV read	390 mm
FoV phase	85.4 %
Slice thickness	8.0 mm
TR	319.31 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L59.9 P1.3 H3.9 mm
Orientation	T > C28.5 > S-3.7
Phase enc. dir.	A >> P
Initial Position	L59.9 P1.3 H3.9
L	59.9 mm
P	1.3 mm
H	3.9 mm
Initial Rotation	1.99 deg
Initial Orientation	T > C
T > C	28.5
> S	-3.7

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

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

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	685 ± 168 ms
Acquisition window	898 ms
Trigger pulse	1
Trigger delay	578 ms
TR	319.31 ms
Concatenations	1
Segments	78
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR T1map
TI	197 ms
Fat suppr.	None
Dark blood	Off
FoV read	390 mm
FoV phase	85.4 %
Phase resolution	80 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0
Motion Correction	Standard

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Motion Correction	Standard
Save original images	On

Inline - Cardiac

Inline Evaluation	T1 map
Magn. preparation	Non-sel. IR T1map
Num. of preps	2
Sampling duration 1	5 beats
Sampling duration 2	3 beats
Contrasts	1
TE	1.27 ms
TR	319.31 ms
Recovery duration 1	3 beats
Recovery duration 2	0 beats
Motion Correction	Standard
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3 ms
Sequence type	Trufi
Bandwidth	1085 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	78
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\T1Map_LongT1 BASE

TA: 0:15 PM: FIX Voxel size: 2.0×2.0×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L56.6 A5.8 H8.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	20 %
FoV read	390 mm
FoV phase	85.4 %
Slice thickness	8.0 mm
TR	319.31 ms
TE	1.27 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	319.31 ms
TE	1.27 ms
Magn. preparation	Non-sel. IR T1map
TI	197 ms
Flip angle	35 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	390 mm
FoV phase	85.4 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	80 %
Phase partial Fourier	7/8
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	36
Reference scan mode	GRE/separate

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L56.6 A5.8 H8.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
FoV read	390 mm
FoV phase	85.4 %
Slice thickness	8.0 mm
TR	319.31 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L56.6 A5.8 H8.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
Initial Position	L56.6 A5.8 H8.3
L	56.6 mm
A	5.8 mm
H	8.3 mm
Initial Rotation	1.99 deg
Initial Orientation	S > C
S > C	44.6
> T	22.1

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

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

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	685 ± 168 ms
Acquisition window	898 ms
Trigger pulse	1
Trigger delay	578 ms
TR	319.31 ms
Concatenations	1
Segments	78
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR T1map
TI	197 ms
Fat suppr.	None
Dark blood	Off
FoV read	390 mm
FoV phase	85.4 %
Phase resolution	80 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0
Motion Correction	Standard

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Motion Correction	Standard
Save original images	On

Inline - Cardiac

Inline Evaluation	T1 map
Magn. preparation	Non-sel. IR T1map
Num. of preps	2
Sampling duration 1	5 beats
Sampling duration 2	3 beats
Contrasts	1
TE	1.27 ms
TR	319.31 ms
Recovery duration 1	3 beats
Recovery duration 2	0 beats
Motion Correction	Standard
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3 ms
Sequence type	Trufi
Bandwidth	1085 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	78
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\T1Map_LongT1 MID

TA: 0:15 PM: FIX Voxel size: 2.0×2.0×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L74.4 A23.4 F4.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	20 %
FoV read	390 mm
FoV phase	85.4 %
Slice thickness	8.0 mm
TR	319.31 ms
TE	1.27 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	319.31 ms
TE	1.27 ms
Magn. preparation	Non-sel. IR T1map
TI	197 ms
Flip angle	35 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	390 mm
FoV phase	85.4 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	80 %
Phase partial Fourier	7/8
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	36
Reference scan mode	GRE/separate

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L74.4 A23.4 F4.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
FoV read	390 mm
FoV phase	85.4 %
Slice thickness	8.0 mm
TR	319.31 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L74.4 A23.4 F4.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
Initial Position	L74.4 A23.4 F4.3
L	74.4 mm
A	23.4 mm
F	4.3 mm
Initial Rotation	1.99 deg
Initial Orientation	S > C
S > C	44.6
> T	22.1

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

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

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	685 ± 168 ms
Acquisition window	898 ms
Trigger pulse	1
Trigger delay	578 ms
TR	319.31 ms
Concatenations	1
Segments	78
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR T1map
TI	197 ms
Fat suppr.	None
Dark blood	Off
FoV read	390 mm
FoV phase	85.4 %
Phase resolution	80 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0
Motion Correction	Standard

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Motion Correction	Standard
Save original images	On

Inline - Cardiac

Inline Evaluation	T1 map
Magn. preparation	Non-sel. IR T1map
Num. of preps	2
Sampling duration 1	5 beats
Sampling duration 2	3 beats
Contrasts	1
TE	1.27 ms
TR	319.31 ms
Recovery duration 1	3 beats
Recovery duration 2	0 beats
Motion Correction	Standard
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3 ms
Sequence type	Trufi
Bandwidth	1085 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	78
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\T1Map_LongT1 APX

TA: 0:15 PM: FIX Voxel size: 2.0×2.0×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L88.8 A37.6 F17.8 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	20 %
FoV read	390 mm
FoV phase	85.4 %
Slice thickness	8.0 mm
TR	319.31 ms
TE	1.27 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	319.31 ms
TE	1.27 ms
Magn. preparation	Non-sel. IR T1map
TI	197 ms
Flip angle	35 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	390 mm
FoV phase	85.4 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	80 %
Phase partial Fourier	7/8
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	36
Reference scan mode	GRE/separate

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L88.8 A37.6 F17.8 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
FoV read	390 mm
FoV phase	85.4 %
Slice thickness	8.0 mm
TR	319.31 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L88.8 A37.6 F17.8 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
Initial Position	L88.8 A37.6 F17.8
L	88.8 mm
A	37.6 mm
F	17.8 mm
Initial Rotation	1.99 deg
Initial Orientation	S > C
S > C	44.6
> T	22.1

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

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

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	685 ± 168 ms
Acquisition window	898 ms
Trigger pulse	1
Trigger delay	578 ms
TR	319.31 ms
Concatenations	1
Segments	78
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR T1map
TI	197 ms
Fat suppr.	None
Dark blood	Off
FoV read	390 mm
FoV phase	85.4 %
Phase resolution	80 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0
Motion Correction	Standard

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Motion Correction	Standard
Save original images	On

Inline - Cardiac

Inline Evaluation	T1 map
Magn. preparation	Non-sel. IR T1map
Num. of preps	2
Sampling duration 1	5 beats
Sampling duration 2	3 beats
Contrasts	1
TE	1.27 ms
TR	319.31 ms
Recovery duration 1	3 beats
Recovery duration 2	0 beats
Motion Correction	Standard
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3 ms
Sequence type	Trufi
Bandwidth	1085 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	78
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\T2Map_4CH

TA: 0:12 PM: FIX Voxel size: 2.0×2.0×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L59.9 P1.3 H3.9 mm
Orientation	T > C28.5 > S-3.7
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	21 %
FoV read	384 mm
FoV phase	80.2 %
Slice thickness	8.0 mm
TR	252.98 ms
TE	1.32 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	252.98 ms
TE	1.32 ms
Magn. preparation	T2 prep. adiab.
T2 prep. duration 1	0 ms
T2 prep. duration 2	25 ms
T2 prep. duration 3	55 ms
Flip angle	70 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	384 mm
FoV phase	80.2 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	75 %
Phase partial Fourier	6/8
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	36
Reference scan mode	GRE/separate

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L59.9 P1.3 H3.9 mm
Orientation	T > C28.5 > S-3.7
Phase enc. dir.	A >> P
FoV read	384 mm
FoV phase	80.2 %
Slice thickness	8.0 mm
TR	252.98 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L59.9 P1.3 H3.9 mm
Orientation	T > C28.5 > S-3.7
Phase enc. dir.	A >> P
Initial Position	L59.9 P1.3 H3.9
L	59.9 mm
P	1.3 mm
H	3.9 mm
Initial Rotation	1.99 deg
Initial Orientation	T > C
T > C	28.5
> S	-3.7

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

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

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	685 ± 168 ms
Acquisition window	885 ms
Trigger pulse	1
Trigger delay	632 ms
TR	252.98 ms
Concatenations	1
Segments	70
Phases	1

Physio - Cardiac

Magn. preparation	T2 prep. adiab.
T2 prep. duration 1	0 ms
T2 prep. duration 2	25 ms
T2 prep. duration 3	55 ms
Fat suppr.	None
Dark blood	Off
FoV read	384 mm
FoV phase	80.2 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - Cardiac

Motion Correction	Standard

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Sequence type	Trufi
Bandwidth	1184 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	70
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\T2Map_BASE

TA: 0:12 PM: FIX Voxel size: 2.0×2.0×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L56.6 A5.8 H8.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	21 %
FoV read	384 mm
FoV phase	80.2 %
Slice thickness	8.0 mm
TR	252.98 ms
TE	1.32 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	252.98 ms
TE	1.32 ms
Magn. preparation	T2 prep. adiab.
T2 prep. duration 1	0 ms
T2 prep. duration 2	25 ms
T2 prep. duration 3	55 ms
Flip angle	70 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	384 mm
FoV phase	80.2 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	75 %
Phase partial Fourier	6/8
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	36
Reference scan mode	GRE/separate

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L56.6 A5.8 H8.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
FoV read	384 mm
FoV phase	80.2 %
Slice thickness	8.0 mm
TR	252.98 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L56.6 A5.8 H8.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
Initial Position	L56.6 A5.8 H8.3
L	56.6 mm
A	5.8 mm
H	8.3 mm
Initial Rotation	1.99 deg
Initial Orientation	S > C
S > C	44.6
> T	22.1

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

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

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	685 ± 168 ms
Acquisition window	885 ms
Trigger pulse	1
Trigger delay	632 ms
TR	252.98 ms
Concatenations	1
Segments	70
Phases	1

Physio - Cardiac

Magn. preparation	T2 prep. adiab.
T2 prep. duration 1	0 ms
T2 prep. duration 2	25 ms
T2 prep. duration 3	55 ms
Fat suppr.	None
Dark blood	Off
FoV read	384 mm
FoV phase	80.2 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - Cardiac

Motion Correction	Standard

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Sequence type	Trufi
Bandwidth	1184 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	70
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\T2Map_MID

TA: 0:12 PM: FIX Voxel size: 2.0×2.0×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L74.4 A23.4 F4.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	21 %
FoV read	384 mm
FoV phase	80.2 %
Slice thickness	8.0 mm
TR	252.98 ms
TE	1.32 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	252.98 ms
TE	1.32 ms
Magn. preparation	T2 prep. adiab.
T2 prep. duration 1	0 ms
T2 prep. duration 2	25 ms
T2 prep. duration 3	55 ms
Flip angle	70 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	384 mm
FoV phase	80.2 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	75 %
Phase partial Fourier	6/8
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	36
Reference scan mode	GRE/separate

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L74.4 A23.4 F4.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
FoV read	384 mm
FoV phase	80.2 %
Slice thickness	8.0 mm
TR	252.98 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L74.4 A23.4 F4.3 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
Initial Position	L74.4 A23.4 F4.3
L	74.4 mm
A	23.4 mm
F	4.3 mm
Initial Rotation	1.99 deg
Initial Orientation	S > C
S > C	44.6
> T	22.1

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

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

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	685 ± 168 ms
Acquisition window	885 ms
Trigger pulse	1
Trigger delay	632 ms
TR	252.98 ms
Concatenations	1
Segments	70
Phases	1

Physio - Cardiac

Magn. preparation	T2 prep. adiab.
T2 prep. duration 1	0 ms
T2 prep. duration 2	25 ms
T2 prep. duration 3	55 ms
Fat suppr.	None
Dark blood	Off
FoV read	384 mm
FoV phase	80.2 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - Cardiac

Motion Correction	Standard

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Sequence type	Trufi
Bandwidth	1184 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	70
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\T2Map_APX

TA: 0:12 PM: FIX Voxel size: 2.0×2.0×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L88.8 A37.6 F17.8 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	21 %
FoV read	384 mm
FoV phase	80.2 %
Slice thickness	8.0 mm
TR	252.98 ms
TE	1.32 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	252.98 ms
TE	1.32 ms
Magn. preparation	T2 prep. adiab.
T2 prep. duration 1	0 ms
T2 prep. duration 2	25 ms
T2 prep. duration 3	55 ms
Flip angle	70 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	384 mm
FoV phase	80.2 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	75 %
Phase partial Fourier	6/8
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	36
Reference scan mode	GRE/separate

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L88.8 A37.6 F17.8 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
FoV read	384 mm
FoV phase	80.2 %
Slice thickness	8.0 mm
TR	252.98 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L88.8 A37.6 F17.8 mm
Orientation	S > C44.6 > T22.1
Phase enc. dir.	A >> P
Initial Position	L88.8 A37.6 F17.8
L	88.8 mm
A	37.6 mm
F	17.8 mm
Initial Rotation	1.99 deg
Initial Orientation	S > C
S > C	44.6
> T	22.1

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

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

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	685 ± 168 ms
Acquisition window	885 ms
Trigger pulse	1
Trigger delay	632 ms
TR	252.98 ms
Concatenations	1
Segments	70
Phases	1

Physio - Cardiac

Magn. preparation	T2 prep. adiab.
T2 prep. duration 1	0 ms
T2 prep. duration 2	25 ms
T2 prep. duration 3	55 ms
Fat suppr.	None
Dark blood	Off
FoV read	384 mm
FoV phase	80.2 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	0

Physio - Cardiac

Motion Correction	Standard

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Sequence type	Trufi
Bandwidth	1184 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	70
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\TI-Scout

TA: 0:27 PM: REF Voxel size: 2.1×2.1×8.0 mmPAT: Off Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L56.2 A15.9 F24.0 mm
Orientation	S > C35.0 > T28.6
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	400 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	27.81 ms
TE	1.3 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	27.81 ms
TE	1.3 ms
Magn. preparation	TI Scout
Flip angle	30 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	400 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	50 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L56.2 A15.9 F24.0 mm
Orientation	S > C35.0 > T28.6
Phase enc. dir.	A >> P
FoV read	400 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	27.81 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L56.2 A15.9 F24.0 mm
Orientation	S > C35.0 > T28.6
Phase enc. dir.	A >> P
Initial Position	L56.2 A15.9 F24.0
L	56.2 mm
A	15.9 mm
F	24.0 mm
Initial Rotation	18.49 deg
Initial Orientation	S > C
S > C	35.0
> T	28.6

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off

System - Miscellaneous

Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L36.6 A11.6 H8.5 mm
! Orientation	T > S0.3
! Rotation	0.00 deg
! A >> P	141 mm
! R >> L	158 mm
! F >> H	145 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	843 ms
Trigger pulse	2
Trigger delay	0 ms
TR	27.81 ms
Concatenations	1
Segments	9
Phases	27

Physio - Cardiac

Magn. preparation	TI Scout
Fat suppr.	None
Dark blood	Off
FoV read	400 mm
FoV phase	81.3 %
Phase resolution	50 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	TI Scout
Contrasts	1
TE	1.3 ms
TR	27.81 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Centric
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.1 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	9
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\3 MIN DELAYD SCAN

TA: 0:27 PM: REF Voxel size: 2.1×2.1×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	9
Dist. factor	25 %
Position	L78.4 A27.3 H0.8 mm
Orientation	S > C44.6 > T28.5
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	35 %
FoV read	400 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
TR	814.40 ms
TE	1.28 ms
Averages	1
Concatenations	9
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	814.40 ms
TE	1.28 ms
TD	0 ms
Magn. preparation	Non-sel. IR
TI	265 ms
Flip angle	40 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude/Real
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	400 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	75 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	On
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	9
Dist. factor	25 %
Position	L78.4 A27.3 H0.8 mm
Orientation	S > C44.6 > T28.5
Phase enc. dir.	A >> P
FoV read	400 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
TR	814.40 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	9

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L78.4 A27.3 H0.8 mm
Orientation	S > C44.6 > T28.5
Phase enc. dir.	A >> P
Initial Position	L78.4 A27.3 H0.8
L	78.4 mm
A	27.3 mm
H	0.8 mm
Initial Rotation	25.22 deg
Initial Orientation	S > C
S > C	44.6
> T	28.5

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L36.6 A11.6 H8.5 mm
! Orientation	T > S0.3
! Rotation	0.00 deg
! A >> P	141 mm
! R >> L	158 mm
! F >> H	145 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	685 ± 168 ms
Acquisition window	818 ms
Trigger pulse	2
Trigger delay	0 ms
TR	814.40 ms
Concatenations	9
Segments	85
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI	265 ms
Fat suppr.	None
Dark blood	Off
FoV read	400 mm
FoV phase	75.0 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	1

Physio - PACE

Resp. control	Off
Concatenations	9

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. IR
Contrasts	1
TE	1.28 ms
TR	814.40 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.1 ms
Sequence type	Trufi
Bandwidth	1085 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	85
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\3 MIN DELAYD SCAN

TA: 0:11 PM: FIX Voxel size: 2.1×2.1×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	3
Dist. factor	25 %
Position	L59.9 P1.3 H3.9 mm
Orientation	T > C28.5 > S-3.7
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	400 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
TR	850.40 ms
TE	1.28 ms
Averages	1
Concatenations	3
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	850.40 ms
TE	1.28 ms
TD	0 ms
Magn. preparation	Non-sel. IR
TI	265 ms
Flip angle	40 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude/Real
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	400 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	75 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	On
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	3
Dist. factor	25 %
Position	L59.9 P1.3 H3.9 mm
Orientation	T > C28.5 > S-3.7
Phase enc. dir.	A >> P
FoV read	400 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
TR	850.40 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	3

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L59.9 P1.3 H3.9 mm
Orientation	T > C28.5 > S-3.7
Phase enc. dir.	A >> P
Initial Position	L59.9 P1.3 H3.9
L	59.9 mm
P	1.3 mm
H	3.9 mm
Initial Rotation	1.99 deg
Initial Orientation	T > C
T > C	28.5
> S	-3.7

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L36.6 A11.6 H8.5 mm
! Orientation	T > S0.3
! Rotation	0.00 deg
! A >> P	141 mm
! R >> L	158 mm
! F >> H	145 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	685 ± 168 ms
Acquisition window	863 ms
Trigger pulse	2
Trigger delay	0 ms
TR	850.40 ms
Concatenations	3
Segments	66
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI	265 ms
Fat suppr.	None
Dark blood	Off
FoV read	400 mm
FoV phase	75.0 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	1

Physio - PACE

Resp. control	Off
Concatenations	3

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. IR
Contrasts	1
TE	1.28 ms
TR	850.40 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.1 ms
Sequence type	Trufi
Bandwidth	1085 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	66
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\SAX

TA: 1:02 PM: FIX Voxel size: 1.8×1.8×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	10
Dist. factor	25 %
Position	L78.4 A27.3 H0.8 mm
Orientation	S > C44.6 > T28.5
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	20 %
FoV read	400 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
TR	52.16 ms
TE	1.36 ms
Averages	1
Concatenations	10
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	52.16 ms
TE	1.36 ms
Magn. preparation	None
Flip angle	54 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each slice and measurement

Resolution - Common

FoV read	400 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	10
Dist. factor	25 %
Position	L78.4 A27.3 H0.8 mm
Orientation	S > C44.6 > T28.5
Phase enc. dir.	A >> P
FoV read	400 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
TR	52.16 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	10

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L78.4 A27.3 H0.8 mm
Orientation	S > C44.6 > T28.5
Phase enc. dir.	A >> P
Initial Position	L78.4 A27.3 H0.8
L	78.4 mm
A	27.3 mm
H	0.8 mm
Initial Rotation	25.22 deg
Initial Orientation	S > C
S > C	44.6
> T	28.5

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L31.0 P16.8 H0.0 mm
! Orientation	Transversal
! Rotation	0.76 deg
! A >> P	130 mm
! R >> L	166 mm
! F >> H	135 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	52.16 ms
Concatenations	10
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	400 mm
FoV phase	75.0 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	10

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.36 ms
TR	52.16 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.3 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\TI-Scout

TA: 0:27 PM: REF Voxel size: 2.1×2.1×8.0 mmPAT: Off Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L56.2 A15.9 F24.0 mm
Orientation	S > C35.0 > T28.6
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	400 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	27.81 ms
TE	1.3 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	27.81 ms
TE	1.3 ms
Magn. preparation	TI Scout
Flip angle	30 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	400 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	50 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	None

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L56.2 A15.9 F24.0 mm
Orientation	S > C35.0 > T28.6
Phase enc. dir.	A >> P
FoV read	400 mm
FoV phase	81.3 %
Slice thickness	8.0 mm
TR	27.81 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L56.2 A15.9 F24.0 mm
Orientation	S > C35.0 > T28.6
Phase enc. dir.	A >> P
Initial Position	L56.2 A15.9 F24.0
L	56.2 mm
A	15.9 mm
F	24.0 mm
Initial Rotation	18.49 deg
Initial Orientation	S > C
S > C	35.0
> T	28.6

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off

System - Miscellaneous

Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L36.6 A11.6 H8.5 mm
! Orientation	T > S0.3
! Rotation	0.00 deg
! A >> P	141 mm
! R >> L	158 mm
! F >> H	145 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	835 ms
Trigger pulse	2
Trigger delay	0 ms
TR	27.81 ms
Concatenations	1
Segments	9
Phases	26

Physio - Cardiac

Magn. preparation	TI Scout
Fat suppr.	None
Dark blood	Off
FoV read	400 mm
FoV phase	81.3 %
Phase resolution	50 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	TI Scout
Contrasts	1
TE	1.3 ms
TR	27.81 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Centric
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.1 ms
Sequence type	Trufi
Bandwidth	965 Hz/Px

Sequence - Part 2

Define	Segments
Segments	9
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\8 MIN DELAYD SCAN

TA: 0:27 PM: REF Voxel size: 2.1×2.1×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	9
Dist. factor	25 %
Position	L78.4 A27.3 H0.8 mm
Orientation	S > C44.6 > T28.5
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	35 %
FoV read	400 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
TR	864.00 ms
TE	1.28 ms
Averages	1
Concatenations	9
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	864.00 ms
TE	1.28 ms
TD	0 ms
Magn. preparation	Non-sel. IR
TI	350 ms
Flip angle	40 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude/Real
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	400 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	75 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	On
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	9
Dist. factor	25 %
Position	L78.4 A27.3 H0.8 mm
Orientation	S > C44.6 > T28.5
Phase enc. dir.	A >> P
FoV read	400 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
TR	864.00 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	9

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L78.4 A27.3 H0.8 mm
Orientation	S > C44.6 > T28.5
Phase enc. dir.	A >> P
Initial Position	L78.4 A27.3 H0.8
L	78.4 mm
A	27.3 mm
H	0.8 mm
Initial Rotation	25.22 deg
Initial Orientation	S > C
S > C	44.6
> T	28.5

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L36.6 A11.6 H8.5 mm
! Orientation	T > S0.3
! Rotation	0.00 deg
! A >> P	141 mm
! R >> L	158 mm
! F >> H	145 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	685 ± 168 ms
Acquisition window	880 ms
Trigger pulse	2
Trigger delay	0 ms
TR	864.00 ms
Concatenations	9
Segments	85
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI	350 ms
Fat suppr.	None
Dark blood	Off
FoV read	400 mm
FoV phase	75.0 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	1

Physio - PACE

Resp. control	Off
Concatenations	9

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. IR
Contrasts	1
TE	1.28 ms
TR	864.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.1 ms
Sequence type	Trufi
Bandwidth	1085 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	85
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\8MIN DELAYD SCAN

TA: 0:11 PM: FIX Voxel size: 2.1×2.1×8.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	3
Dist. factor	25 %
Position	L59.9 P1.3 H3.9 mm
Orientation	T > C28.5 > S-3.7
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	400 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
TR	850.40 ms
TE	1.28 ms
Averages	1
Concatenations	3
Filter	Raw filter, Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	850.40 ms
TE	1.28 ms
TD	0 ms
Magn. preparation	Non-sel. IR
TI	350 ms
Flip angle	40 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude/Real
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	400 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
Base resolution	192
Phase resolution	75 %
Phase partial Fourier	Off
Trajectory	Cartesian
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	On
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	3
Dist. factor	25 %
Position	L59.9 P1.3 H3.9 mm
Orientation	T > C28.5 > S-3.7
Phase enc. dir.	A >> P
FoV read	400 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
TR	850.40 ms
Multi-slice mode	Sequential
Series	Base To Apex
Concatenations	3

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L59.9 P1.3 H3.9 mm
Orientation	T > C28.5 > S-3.7
Phase enc. dir.	A >> P
Initial Position	L59.9 P1.3 H3.9
L	59.9 mm
P	1.3 mm
H	3.9 mm
Initial Rotation	1.99 deg
Initial Orientation	T > C
T > C	28.5
> S	-3.7

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	FIX
Table position	H
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

! Position	L36.6 A11.6 H8.5 mm
! Orientation	T > S0.3
! Rotation	0.00 deg
! A >> P	141 mm
! R >> L	158 mm
! F >> H	145 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Trigger
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Captured cycle	685 ± 168 ms
Acquisition window	863 ms
Trigger pulse	2
Trigger delay	0 ms
TR	850.40 ms
Concatenations	3
Segments	66
Phases	1

Physio - Cardiac

Magn. preparation	Non-sel. IR
TI	350 ms
Fat suppr.	None
Dark blood	Off
FoV read	400 mm
FoV phase	75.0 %
Phase resolution	75 %
Cine	Off
Trajectory	Cartesian
Dummy heartbeats	1

Physio - PACE

Resp. control	Off
Concatenations	3

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	Non-sel. IR
Contrasts	1
TE	1.28 ms
TR	850.40 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE
Multi-slice mode	Sequential
Echo spacing	3.1 ms
Sequence type	Trufi
Bandwidth	1085 Hz/Px

Sequence - Part 2

Define	Shots
Shots per slice	1
Segments	66
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\cine_fl2d7_retro_iPAT

TA: 8.9 s PM: REF Voxel size: 1.8×1.8×6.0 mmPAT: 2 Rel. SNR: 1.00 : fl_r

Properties

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

Routine

Slice group	1
Slices	1
Dist. factor	20 %
Position	L17.6 P66.7 H59.3 mm
Orientation	S > T-15.2 > C4.7
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	340 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	52.71 ms
TE	3.53 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1;SP1,2

Contrast - Common

TR	52.71 ms
TE	3.53 ms
Magn. preparation	None
Flip angle	15 deg
Fat suppr.	None
Wrap-up Magn.	None

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	340 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
Base resolution	192
Phase resolution	80 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	30
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	1
Dist. factor	20 %
Position	L17.6 P66.7 H59.3 mm
Orientation	S > T-15.2 > C4.7
Phase enc. dir.	A >> P
FoV read	340 mm
FoV phase	81.3 %
Slice thickness	6.0 mm
TR	52.71 ms
Multi-slice mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L17.6 P66.7 H59.3 mm
Orientation	S > T-15.2 > C4.7
Phase enc. dir.	A >> P
Initial Position	L17.6 P66.7 H59.3
L	17.6 mm
P	66.7 mm
H	59.3 mm
Initial Rotation	-1.27 deg
Initial Orientation	S > T
S > T	-15.2
> C	4.7

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	None
Special sat.	None

Geometry - Navigator

System - Miscellaneous

Positioning mode	REF
Table position	H

System - Miscellaneous

Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Off - AutoCoilSelect

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

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

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	52.71 ms
Concatenations	1
Segments	7
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	340 mm
FoV phase	81.3 %
Phase resolution	80 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Off
Concatenations	1

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	3.53 ms
TR	52.71 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Flow comp.	Slice/Read
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	7.5 ms
Sequence type	Gre
Bandwidth	260 Hz/Px

Sequence - Part 2

Define	Segments
Segments	7
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
RF spoiling	On
Phase Enc. Rewinder	On
Cine	On

Sequence - Assistant

Mode	Off
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\AV STACK

TA: 0:48 PM: REF Voxel size: 1.4×1.4×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	10
Dist. factor	0 %
Position	R15.2 P71.3 F36.0 mm
Orientation	S > T30.5 > C0.1
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	320 mm
FoV phase	58.9 %
Slice thickness	6.0 mm
TR	58.72 ms
TE	1.52 ms
Averages	1
Concatenations	10
Filter	Distortion Corr.(2D), Prescan Normalize, Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	58.72 ms
TE	1.52 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each slice and measurement

Resolution - Common

FoV read	320 mm
FoV phase	58.9 %
Slice thickness	6.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	10
Dist. factor	0 %
Position	R15.2 P71.3 F36.0 mm
Orientation	S > T30.5 > C0.1
Phase enc. dir.	A >> P
FoV read	320 mm
FoV phase	58.9 %
Slice thickness	6.0 mm
TR	58.72 ms
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Concatenations	10

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	R15.2 P71.3 F36.0 mm
Orientation	S > T30.5 > C0.1
Phase enc. dir.	A >> P
Initial Position	R15.2 P71.3 F36.0
R	15.2 mm
P	71.3 mm
F	36.0 mm
Initial Rotation	0.06 deg
Initial Orientation	S > T
S > T	30.5
> C	0.1

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L4.8 P70.6 F14.6 mm
! Orientation	Transversal
! Rotation	0.00 deg
! A >> P	115 mm
! R >> L	119 mm
! F >> H	113 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	58.72 ms
Concatenations	10
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	320 mm
FoV phase	58.9 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	10

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.52 ms
TR	58.72 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.7 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\TRANS

TA: 1:22 PM: REF Voxel size: 1.4×1.4×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	20
Dist. factor	0 %
Position	L5.5 P70.7 F14.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	320 mm
FoV phase	56.3 %
Slice thickness	6.0 mm
TR	58.72 ms
TE	1.52 ms
Averages	1
Concatenations	20
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	58.72 ms
TE	1.52 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each slice and measurement

Resolution - Common

FoV read	320 mm
FoV phase	56.3 %
Slice thickness	6.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	20
Dist. factor	0 %
Position	L5.5 P70.7 F14.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
FoV read	320 mm
FoV phase	56.3 %
Slice thickness	6.0 mm
TR	58.72 ms
Multi-slice mode	Sequential
Series	Descending
Concatenations	20

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L5.5 P70.7 F14.0 mm
Orientation	Transversal
Phase enc. dir.	A >> P
Initial Position	L5.5 P70.7 F14.0
L	5.5 mm
P	70.7 mm
F	14.0 mm
Initial Rotation	0.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L31.0 P16.8 H0.0 mm
! Orientation	Transversal
! Rotation	0.76 deg
! A >> P	130 mm
! R >> L	166 mm
! F >> H	135 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	58.72 ms
Concatenations	20
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	320 mm
FoV phase	56.3 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	20

Inline - Common

Subtract	Off
Measurements	1

Inline - Common

StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.52 ms
TR	58.72 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.7 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\SAG STACK

TA: 1:22 PM: REF Voxel size: 1.4×1.4×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	20
Dist. factor	0 %
Position	L6.9 P75.9 H1.7 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	320 mm
FoV phase	56.3 %
Slice thickness	6.0 mm
TR	58.72 ms
TE	1.52 ms
Averages	1
Concatenations	20
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	58.72 ms
TE	1.52 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each slice and measurement

Resolution - Common

FoV read	320 mm
FoV phase	56.3 %
Slice thickness	6.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	20
Dist. factor	0 %
Position	L6.9 P75.9 H1.7 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
FoV read	320 mm
FoV phase	56.3 %
Slice thickness	6.0 mm
TR	58.72 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	20

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L6.9 P75.9 H1.7 mm
Orientation	Sagittal
Phase enc. dir.	A >> P
Initial Position	L6.9 P75.9 H1.7
L	6.9 mm
P	75.9 mm
H	1.7 mm
Initial Rotation	0.00 deg
Initial Orientation	Sagittal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L31.0 P16.8 H0.0 mm
! Orientation	Transversal
! Rotation	0.76 deg
! A >> P	130 mm
! R >> L	166 mm
! F >> H	135 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	58.72 ms
Concatenations	20
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	320 mm
FoV phase	56.3 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	20

Inline - Common

Subtract	Off
Measurements	1

Inline - Common

StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.52 ms
TR	58.72 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.7 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\COR STACK

TA: 1:28 PM: REF Voxel size: 1.6×1.6×6.0 mmPAT: 2 Rel. SNR: 1.00 : tfi

Properties

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

Routine

Slice group	1
Slices	16
Dist. factor	0 %
Position	R8.3 P68.8 F4.6 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	360 mm
FoV phase	75.0 %
Slice thickness	6.0 mm
TR	56.00 ms
TE	1.46 ms
Averages	1
Concatenations	16
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	56.00 ms
TE	1.46 ms
Magn. preparation	None
Flip angle	58 deg
Fat suppr.	None
Wrap-up Magn.	Restore

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each slice and measurement

Resolution - Common

FoV read	360 mm
FoV phase	75.0 %
Slice thickness	6.0 mm
Base resolution	224
Phase resolution	100 %
Phase partial Fourier	Off
Trajectory	Cartesian
View sharing	Off
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off
POCS	Off

Geometry - Common

Slice group	1
Slices	16
Dist. factor	0 %
Position	R8.3 P68.8 F4.6 mm
Orientation	Coronal
Phase enc. dir.	R >> L
FoV read	360 mm
FoV phase	75.0 %
Slice thickness	6.0 mm
TR	56.00 ms
Multi-slice mode	Sequential
Series	Ascending
Concatenations	16

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	R8.3 P68.8 F4.6 mm
Orientation	Coronal
Phase enc. dir.	R >> L
Initial Position	R8.3 P68.8 F4.6
R	8.3 mm
P	68.8 mm
F	4.6 mm
Initial Rotation	0.00 deg
Initial Orientation	Coronal

Geometry - Saturation

Fat suppr.	None
Wrap-up Magn.	Restore
Special sat.	None

Geometry - Navigator

System - Miscellaneous

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

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

! Position	L31.0 P16.8 H0.0 mm
! Orientation	Transversal
! Rotation	0.76 deg
! A >> P	130 mm
! R >> L	166 mm
! F >> H	135 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	ECG/Retro
Average cycle	685 ± 168 ms
Average cycle	No Signal ms
Calculated phases	25
TR	56.00 ms
Concatenations	16
Segments	16
Arrhythmia detection	None

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	360 mm
FoV phase	75.0 %
Phase resolution	100 %
Cine	On
Trajectory	Cartesian
View sharing	Off
Dummy heartbeats	1

Physio - PACE

Resp. control	Breath-hold
Concatenations	16

Inline - Common

Subtract	Off
Measurements	1

Inline - Common

StdDev	Off
Save original images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. preparation	None
Contrasts	1
TE	1.46 ms
TR	56.00 ms
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	2D
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Optimization	Min. TE TR
Multi-slice mode	Sequential
Echo spacing	3.5 ms
Sequence type	Trufi
Bandwidth	970 Hz/Px

Sequence - Part 2

Define	Segments
Segments	16
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	On

Sequence - Assistant

Mode	Min flip angle
Min flip angle	50 deg
Allowed delay	0 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\t2_blade_tra_p2_trig_320

TA: 3:45 PM: ISO Voxel size: 1.2×1.2×6.0 mmPAT: 2 Rel. SNR: 1.00 : tseB

Properties

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

Routine

Slice group	1
Slices	26
Dist. factor	20 %
Position	L15.4 P0.0 H45.3 mm
Orientation	Transversal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	37.5 %
FoV read	380 mm
FoV phase	100.0 %
Slice thickness	6.0 mm
TR	2000.0 ms
TE	95 ms
Averages	1
Concatenations	3
Filter	Distortion Corr.(2D), Prescan Normalize
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	2000.0 ms
TE	95 ms
TD	0.0 ms
MTC	Off
Magn. preparation	None
Flip angle	160 deg
Fat suppr.	None
Water suppr.	None
Restore magn.	Off

Contrast - Dynamic

Averages	1
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

Resolution - Common

FoV read	380 mm
FoV phase	100.0 %
Slice thickness	6.0 mm
Base resolution	320
BLADE coverage	82.4 %
Trajectory	BLADE
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	8
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	On
Unfiltered images	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slice group	1
Slices	26
Dist. factor	20 %
Position	L15.4 P0.0 H45.3 mm
Orientation	Transversal
Phase enc. dir.	R >> L
FoV read	380 mm
FoV phase	100.0 %
Slice thickness	6.0 mm
TR	2000.0 ms
Multi-slice mode	Interleaved
Series	Interleaved
Concatenations	3

Geometry - AutoAlign

Slice group	1
AutoAlign	---
Position	L15.4 P0.0 H45.3 mm
Orientation	Transversal
Phase enc. dir.	R >> L
Initial Position	L15.4 P0.0 H45.3
L	15.4 mm
P	0.0 mm
H	45.3 mm
Initial Rotation	90.00 deg
Initial Orientation	Transversal

Geometry - Saturation

Fat suppr.	None
Water suppr.	None
Restore magn.	Off
Special sat.	Parallel F/H
Gap	10 mm
Thickness	60 mm

Geometry - Navigator

Geometry - Tim CT

Tim CT mode	Off
Slices	26

Geometry - Tim CT

Slice thickness	6.0 mm
Dist. factor	20 %
FoV read	380 mm
FoV phase	100.0 %

System - Miscellaneous

Positioning mode	ISO
Table position	H
Table position	45 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	H >> F
Coil Combine Mode	Adaptive Combine
Save uncombined	Off
Matrix Optimization	Off
AutoAlign	---
Coil Select Mode	Default

System - Adjustments

B0 Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto

System - Adjust Volume

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

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	High
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	None
TR	2000.0 ms
Concatenations	3

Physio - Cardiac

Magn. preparation	None
Fat suppr.	None
Dark blood	Off
FoV read	380 mm
FoV phase	100.0 %
BLADE coverage	82.4 %
Trajectory	BLADE

Physio - PACE

Resp. control	Trigger
Scout mode	Off
Scout TR	150 ms
Accept window ±	15 %

Physio - PACE

Position accept window	Automatic
Select acquisition window	Automatic
Acquisition window	30 %
Trigger pulse	1
Scout type	Phase scout
Position navigator	Automatic
Concatenations	3
Store profile images	On

Inline - Common

Subtract	Off
Measurements	1
StdDev	Off
Save original images	On

Inline - MIP

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

Inline - Composing

Distortion Corr.	On
Mode	2D
Unfiltered images	Off

Sequence - Part 1

Introduction	On
Dimension	2D
Compensate T2 decay	Off
Contrasts	1
Flow comp.	No
Multi-slice mode	Interleaved
Free echo spacing	Off
Echo spacing	7.28 ms
Bandwidth	260 Hz/Px

Sequence - Part 2

Define	Turbo factor
Echo trains per slice	14
Phase correction	Automatic
Acoustic noise reduction	None
RF pulse type	Fast
Gradient mode	Normal
WARP	Off
Motion correction	Off
Turbo factor	25

Sequence - Assistant

Mode	Min flip angle
Min flip angle	120 deg
Allowed delay	30 s

\\USER\Heart\ROUTINE1\Breath Hold Scan\t1_fl3d_ce_fs_cor_p2_bh_384_angio

TA: 0:20 PM: ISO Voxel size: 1.0×1.0×1.8 mmPAT: 2 Rel. SNR: 1.00 : fl

Properties

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

Routine

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L6.7 P8.7 H6.7 mm
Orientation	Coronal
Phase enc. dir.	F >> H
AutoAlign	---
Phase oversampling	50 %
Slice oversampling	23.1 %
Slices per slab	52
FoV read	380 mm
FoV phase	81.3 %
Slice thickness	1.80 mm
TR	3.34 ms
TE	1.27 ms
Averages	1
Filter	Distortion Corr.(2D), Image Filter
Coil elements	BO1,2;SP1-3

Contrast - Common

TR	3.34 ms
TE	1.27 ms
Magn. preparation	None
Flip angle	25 deg
Fat suppr.	Fat sat.

Contrast - Dynamic

Averages	1
Averaging mode	Short term
Reconstruction	Magnitude
Measurements	1
Multiple series	Off

Resolution - Common

FoV read	380 mm
FoV phase	81.3 %
Slice thickness	1.80 mm
Base resolution	384
Phase resolution	80 %
Slice resolution	63 %
Phase partial Fourier	6/8
Slice partial Fourier	6/8
Interpolation	Off

Resolution - iPAT

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Accel. factor 3D	1
Reference scan mode	Integrated

Resolution - Filter Image

Image Filter	On
Intensity	Medium
Edge Enhancement	3
Smoothing	3
Unfiltered images	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off

Resolution - Filter Rawdata

Raw filter	Off
Elliptical filter	Off

Geometry - Common

Slab group	1
Slabs	1
Dist. factor	20 %
Position	L6.7 P8.7 H6.7 mm
Orientation	Coronal
Phase enc. dir.	F >> H
Slice oversampling	23.1 %
Slices per slab	52
FoV read	380 mm
FoV phase	81.3 %
Slice thickness	1.80 mm
TR	3.34 ms
Multi-slice mode	Sequential
Series	Ascending

Geometry - AutoAlign

Slab group	1
AutoAlign	---
Position	L6.7 P8.7 H6.7 mm
Orientation	Coronal
Phase enc. dir.	F >> H
Initial Position	L6.7 P8.7 H6.7
L	6.7 mm
P	8.7 mm
H	6.7 mm
Initial Rotation	90.00 deg
Initial Orientation	Coronal

Geometry - Saturation

Fat suppr.	Fat sat.
Special sat.	None

System - Miscellaneous

Positioning mode	ISO
Table position	H
Table position	7 mm

System - Miscellaneous

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

System - Adjustments

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

System - Adjust Volume

Position	L6.7 P8.7 H6.7 mm
Orientation	Coronal
Rotation	90.00 deg
F >> H	309 mm
R >> L	380 mm
A >> P	94 mm
Reset	Off

System - Tx/Rx

Frequency 1H	63.668615 MHz
Correction factor	1
Gain	Low
Img. Scale Cor.	1.000
Reset	Off
? Ref. amplitude 1H	0.000 V

Physio - Signal1

1st Signal/Mode	None
TR	3.34 ms
Segments	1

Angio - Common

Flip angle	25 deg
Measurements	1
3D centric reordering	Off
Time to center	7.8 s

Angio - Inline

Subtract	Off
Measurements	1
StdDev	Off
Motion Correction	None
Save original images	On

Angio - MIP

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

Angio - Composing

Distortion Corr.	On
Mode	2D

Angio - Composing

Unfiltered images	Off

Sequence - Part 1

Introduction	Off
Dimension	3D
Elliptical scanning	Off
Asymmetric echo	Allowed
Optimization	Min. TE TR
Multi-slice mode	Sequential
Bandwidth	520 Hz/Px

Sequence - Part 2

Segments	1
RF pulse type	Fast
Gradient mode	Normal
Excitation	Slab-sel.
RF spoiling	On
Phase Enc. Rewinder	On

Sequence - Assistant

Mode	Off