

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\UKBiobank\abdomen\Biobank\_Abdomen\_20211123\_VIBE2\Dixon\_noBH  
 TA:0:24 PAT:Off Voxel size:2.2x2.2x3.0 mm Rel. SNR:1.00 :fl

**Properties**

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

**Routine**

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
FoV read	500 mm
FoV phase	75.0 %
Slice thickness	3.00 mm
TR	6.67 ms
TE 1	2.39 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	BC

**Contrast**

Flip angle	10.0 deg
Fat suppr.	None
Water suppr.	None
Dixon	Water + fat images
Save original images	On
Averaging mode	Short term
Measurements	1
Reconstruction	Magnitude
Multiple series	Off

## Resolution

Base resolution	224
Phase resolution	71 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	None
Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off
POCS	Off
Slice resolution	100 %
Slice partial Fourier	5/8

## Geometry

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Phase enc. dir.	A >> P
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	64
Multi-slice mode	Sequential
Series	Ascending
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Water suppr.	None
Special sat.	None
Special sat.	None
Table position	P

## System

Body	On
BO1	Off
BO2	Off
BO3	Off
BO1	Off
BO2	Off
BO3	Off
SP5	Off
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	Off
SP3	Off
SP4	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	H >> F
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Coil Select Mode	Off - All
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	Isocenter
Rotation	0.00 deg
R >> L	500 mm
A >> P	375 mm
F >> H	192 mm
Frequency 1H	63.676629 MHz
Correction factor	1
SRFExcit 1H	436.174 V
Gain	Low
Table position	30 mm

	Img. Scale. Cor.	1.000
<b>Physio</b>	Resp. control	Off
<b>Inline</b>	Distortion correction	Off
<b>Sequence</b>	Introduction	Off
	Dimension	3D
	Elliptical scanning	On
	Averaging mode	Short term
	Multi-slice mode	Sequential
	Asymmetric echo	Strong
	Contrasts	2
	Bandwidth 1	440 Hz/Px
	Readout mode	Bipolar
	Optimization	In phase
	RF pulse type	Fast
	Gradient mode	Fast
	Excitation	Slab-sel.
	RF spoiling	On
	TX/RX delta frequency	0 Hz
	TX Nucleus	None
	TX delta frequency	0 Hz
	Coil elements	BC
	Acquisition duration	0 ms
	Mode	Off

**BOLD**

3D centric reordering	Off
Time to center	7.8 s
Subtract	Off
Liver registration	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Contrasts	2
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\UKBiobank\abdomen\Biobank\_Abdomen\_20211123\_VIBE2\Dixon\_BH\_17s  
 TA:0:17 PAT:Off Voxel size:2.2x2.2x4.5 mm Rel. SNR:1.00 :fl

**Properties**

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

## Routine

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
FoV read	500 mm
FoV phase	77.7 %
Slice thickness	4.50 mm
TR	6.69 ms
TE 1	2.39 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	BC

## Contrast

Flip angle	10.0 deg
Fat suppr.	None
Water suppr.	None
Dixon	Water + fat images
Save original images	On
Averaging mode	Short term
Measurements	1
Reconstruction	Magnitude
Multiple series	Off

## Resolution

Base resolution	224
Phase resolution	71 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	None
Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off
POCS	Off
Slice resolution	100 %
Slice partial Fourier	5/8

## Geometry

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Phase enc. dir.	A >> P
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	44
Multi-slice mode	Sequential
Series	Ascending
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Water suppr.	None
Special sat.	None
Special sat.	None
Table position	P

## System

Body	On
BO1	Off
BO2	Off
BO3	Off
BO1	Off
BO2	Off
BO3	Off
SP5	Off
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	Off
SP3	Off
SP4	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	H >> F
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Coil Select Mode	Off - All
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	Isocenter
Rotation	0.00 deg
R >> L	500 mm
A >> P	389 mm
F >> H	198 mm
Frequency 1H	63.676629 MHz
Correction factor	1
SRFExcit 1H	436.174 V
Gain	Low
Table position	198 mm



	Img. Scale. Cor.	1.000
<b>Physio</b>	Resp. control	Breath-hold
<b>Inline</b>	Distortion correction	Off
<b>Sequence</b>	Introduction	Off
	Dimension	3D
	Elliptical scanning	On
	Averaging mode	Short term
	Multi-slice mode	Sequential
	Asymmetric echo	Strong
	Contrasts	2
	Bandwidth 1	440 Hz/Px
	Readout mode	Bipolar
	Optimization	In phase
	RF pulse type	Fast
	Gradient mode	Fast
	Excitation	Slab-sel.
	RF spoiling	On
	TX/RX delta frequency	0 Hz
	TX Nucleus	None
	TX delta frequency	0 Hz
	Coil elements	BC
	Acquisition duration	0 ms
	Mode	Off

**BOLD**

3D centric reordering	Off
Time to center	5.6 s
Subtract	Off
Liver registration	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Contrasts	2
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\UKBiobank\abdomen\Biobank\_Abdomen\_20211123\_VIBE2\Dixon\_BH\_17s  
 TA:0:17 PAT:Off Voxel size:2.2x2.2x4.5 mm Rel. SNR:1.00 :fl

**Properties**

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

## Routine

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
FoV read	500 mm
FoV phase	77.7 %
Slice thickness	4.50 mm
TR	6.69 ms
TE 1	2.39 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	BC

## Contrast

Flip angle	10.0 deg
Fat suppr.	None
Water suppr.	None
Dixon	Water + fat images
Save original images	On
Averaging mode	Short term
Measurements	1
Reconstruction	Magnitude
Multiple series	Off

## Resolution

Base resolution	224
Phase resolution	71 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	None
Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off
POCS	Off
Slice resolution	100 %
Slice partial Fourier	5/8

## Geometry

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Phase enc. dir.	A >> P
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	44
Multi-slice mode	Sequential
Series	Ascending
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Water suppr.	None
Special sat.	None
Special sat.	None
Table position	P

## System

Body	On
BO1	Off
BO2	Off
BO3	Off
BO1	Off
BO2	Off
BO3	Off
SP5	Off
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	Off
SP3	Off
SP4	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	H >> F
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Coil Select Mode	Off - All
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	Isocenter
Rotation	0.00 deg
R >> L	500 mm
A >> P	389 mm
F >> H	198 mm
Frequency 1H	63.676629 MHz
Correction factor	1
SRFExcit 1H	436.174 V
Gain	Low
Table position	366 mm

	Img. Scale. Cor.	1.000
<b>Physio</b>	Resp. control	Breath-hold
<b>Inline</b>	Distortion correction	Off
<b>Sequence</b>	Introduction	Off
	Dimension	3D
	Elliptical scanning	On
	Averaging mode	Short term
	Multi-slice mode	Sequential
	Asymmetric echo	Strong
	Contrasts	2
	Bandwidth 1	440 Hz/Px
	Readout mode	Bipolar
	Optimization	In phase
	RF pulse type	Fast
	Gradient mode	Fast
	Excitation	Slab-sel.
	RF spoiling	On
	TX/RX delta frequency	0 Hz
	TX Nucleus	None
	TX delta frequency	0 Hz
	Coil elements	BC
	Acquisition duration	0 ms
	Mode	Off

**BOLD**

3D centric reordering	Off
Time to center	5.6 s
Subtract	Off
Liver registration	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Contrasts	2
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\UKBiobank\abdomen\Biobank\_Abdomen\_20211123\_VIBE2\Dixon\_BH\_17s  
 TA:0:17 PAT:Off Voxel size:2.2x2.2x4.5 mm Rel. SNR:1.00 :fl

**Properties**

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

## Routine

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
FoV read	500 mm
FoV phase	77.7 %
Slice thickness	4.50 mm
TR	6.69 ms
TE 1	2.39 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	BC

## Contrast

Flip angle	10.0 deg
Fat suppr.	None
Water suppr.	None
Dixon	Water + fat images
Save original images	On
Averaging mode	Short term
Measurements	1
Reconstruction	Magnitude
Multiple series	Off



## Resolution

Base resolution	224
Phase resolution	71 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	None
Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off
POCS	Off
Slice resolution	100 %
Slice partial Fourier	5/8

## Geometry

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Phase enc. dir.	A >> P
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	44
Multi-slice mode	Sequential
Series	Ascending
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Water suppr.	None
Special sat.	None
Special sat.	None
Table position	P

## System

Body	On
BO1	Off
BO2	Off
BO3	Off
BO1	Off
BO2	Off
BO3	Off
SP5	Off
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	Off
SP3	Off
SP4	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	H >> F
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Coil Select Mode	Off - All
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	Isocenter
Rotation	0.00 deg
R >> L	500 mm
A >> P	389 mm
F >> H	198 mm
Frequency 1H	63.676629 MHz
Correction factor	1
SRFExcit 1H	436.174 V
Gain	Low
Table position	534 mm

	Img. Scale. Cor.	1.000
<b>Physio</b>	Resp. control	Breath-hold
<b>Inline</b>	Distortion correction	Off
<b>Sequence</b>	Introduction	Off
	Dimension	3D
	Elliptical scanning	On
	Averaging mode	Short term
	Multi-slice mode	Sequential
	Asymmetric echo	Strong
	Contrasts	2
	Bandwidth 1	440 Hz/Px
	Readout mode	Bipolar
	Optimization	In phase
	RF pulse type	Fast
	Gradient mode	Fast
	Excitation	Slab-sel.
	RF spoiling	On
	TX/RX delta frequency	0 Hz
	TX Nucleus	None
	TX delta frequency	0 Hz
	Coil elements	BC
	Acquisition duration	0 ms
	Mode	Off

**BOLD**

3D centric reordering	Off
Time to center	5.6 s
Subtract	Off
Liver registration	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Contrasts	2
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\UKBiobank\abdomen\Biobank\_Abdomen\_20211123\_VIBE2\Dixon\_noBH  
TA:0:26 PAT:Off Voxel size:2.2x2.2x3.5 mm Rel. SNR:1.00 :fl

**Properties**

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

## Routine

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
FoV read	500 mm
FoV phase	72.3 %
Slice thickness	3.50 mm
TR	6.69 ms
TE 1	2.39 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	BC

## Contrast

Flip angle	10.0 deg
Fat suppr.	None
Water suppr.	None
Dixon	Water + fat images
Save original images	On
Averaging mode	Short term
Measurements	1
Reconstruction	Magnitude
Multiple series	Off

## Resolution

Base resolution	224
Phase resolution	71 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	None
Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off
POCS	Off
Slice resolution	100 %
Slice partial Fourier	5/8

## Geometry

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Phase enc. dir.	A >> P
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	72
Multi-slice mode	Sequential
Series	Ascending
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Water suppr.	None
Special sat.	None
Special sat.	None
Table position	P

## System

Body	On
BO1	Off
BO2	Off
BO3	Off
BO1	Off
BO2	Off
BO3	Off
SP5	Off
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	Off
SP3	Off
SP4	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	H >> F
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Coil Select Mode	Off - All
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	Isocenter
Rotation	0.00 deg
R >> L	500 mm
A >> P	362 mm
F >> H	252 mm
Frequency 1H	63.676629 MHz
Correction factor	1
SRFExcit 1H	436.174 V
Gain	Low
Table position	732 mm

	Img. Scale. Cor.	1.000
<b>Physio</b>	Resp. control	Off
<b>Inline</b>	Distortion correction	Off
<b>Sequence</b>	Introduction	Off
	Dimension	3D
	Elliptical scanning	On
	Averaging mode	Short term
	Multi-slice mode	Sequential
	Asymmetric echo	Strong
	Contrasts	2
	Bandwidth 1	440 Hz/Px
	Readout mode	Bipolar
	Optimization	In phase
	RF pulse type	Fast
	Gradient mode	Fast
	Excitation	Slab-sel.
	RF spoiling	On
	TX/RX delta frequency	0 Hz
	TX Nucleus	None
	TX delta frequency	0 Hz
	Coil elements	BC
	Acquisition duration	0 ms
	Mode	Off



**BOLD**

3D centric reordering	Off
Time to center	8.1 s
Subtract	Off
Liver registration	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Contrasts	2
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\UKBiobank\abdomen\Biobank\_Abdomen\_20211123\_VIBE2\Dixon\_noBH  
TA:0:22 PAT:Off Voxel size:2.2x2.2x4.0 mm Rel. SNR:1.00 :fl

**Properties**

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

## Routine

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	0.0 %
FoV read	500 mm
FoV phase	69.6 %
Slice thickness	4.00 mm
TR	6.69 ms
TE 1	2.39 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	BC

## Contrast

Flip angle	10.0 deg
Fat suppr.	None
Water suppr.	None
Dixon	Water + fat images
Save original images	On
Averaging mode	Short term
Measurements	1
Reconstruction	Magnitude
Multiple series	Off

## Resolution

Base resolution	224
Phase resolution	71 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	None
Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off
POCS	Off
Slice resolution	100 %
Slice partial Fourier	5/8

## Geometry

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	Isocenter
Phase enc. dir.	A >> P
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	64
Multi-slice mode	Sequential
Series	Ascending
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Water suppr.	None
Special sat.	None
Special sat.	None
Table position	P

## System

Body	On
BO1	Off
BO2	Off
BO3	Off
BO1	Off
BO2	Off
BO3	Off
SP5	Off
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	Off
SP3	Off
SP4	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	H >> F
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Coil Select Mode	Off - All
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	Isocenter
Rotation	0.00 deg
R >> L	500 mm
A >> P	349 mm
F >> H	256 mm
Frequency 1H	63.676629 MHz
Correction factor	1
SRFExcit 1H	436.174 V
Gain	Low
Table position	915 mm

	Img. Scale. Cor.	1.000
<b>Physio</b>	Resp. control	Off
<b>Inline</b>	Distortion correction	Off
<b>Sequence</b>	Introduction	Off
	Dimension	3D
	Elliptical scanning	On
	Averaging mode	Short term
	Multi-slice mode	Sequential
	Asymmetric echo	Strong
	Contrasts	2
	Bandwidth 1	440 Hz/Px
	Readout mode	Bipolar
	Optimization	In phase
	RF pulse type	Fast
	Gradient mode	Fast
	Excitation	Slab-sel.
	RF spoiling	On
	TX/RX delta frequency	0 Hz
	TX Nucleus	None
	TX delta frequency	0 Hz
	Coil elements	BC
	Acquisition duration	0 ms
	Mode	Off

**BOLD**

3D centric reordering	Off
Time to center	7.2 s
Subtract	Off
Liver registration	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Contrasts	2
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\UKBiobank\abdomen\Biobank\_Abdomen\_20211123\_VIBE2\ShMOLLI\_192i  
LIVER

TA:7.2 s PAT:2 Voxel size:1.1×1.1×8.0 mm Rel. SNR:1.00 :tfi

**Properties**

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

## Routine

Nr. of slice groups		1
Slices		1
Dist. factor		25 %
Position	R24.1 A1.1 F0.3 mm	
Orientation		Transversal
Phase enc. dir.		A >> P
AutoAlign		---
Phase oversampling		0 %
FoV read		440 mm
FoV phase		75.0 %
Slice thickness		8.0 mm
TR		480.58 ms
TE		1.93 ms
Averages		1
Filter	Raw filter, Distortion Corr.(2D)	
Coil elements		BO2,3;SP2,3

## Contrast

Magn. preparation		Non-sel. IR
TI		270 ms
Flip angle		35 deg
Fat suppr.		None
Averaging mode		Short term
Measurements		1
Reconstruction		Magn./Phase
Multiple series		Off

## Resolution

Base resolution	192
Phase resolution	100 %
Phase partial Fourier	6/8
Trajectory	Cartesian
Interpolation	On
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated
Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	On
Intensity	Weak
Slope	25
Elliptical filter	Off
POCS	Off

## Geometry

Nr. of slice groups	1
Slices	1
Dist. factor	25 %
Position	R24.1 A1.1 F200.3 mm
Phase enc. dir.	A >> P
Phase oversampling	0 %
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Special sat.	None
Special sat.	None
Table position	P



## System

Body	Off
BO1	Off
BO2	Off
BO3	Off
BO1	Off
BO2	On
BO3	On
SP5	Off
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	On
SP3	On
SP4	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	P >> A
Transversal	H >> F
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Coil Select Mode	On - AutoCoilSelect
Shim mode	Standard
Adjust with body coil	On
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	R24.1 A1.1 F200.3 mm
Rotation	0.00 deg
R >> L	440 mm
A >> P	330 mm
F >> H	8 mm
Frequency 1H	63.676629 MHz
Correction factor	1
PrepExc 1H	257.435 V
Gain	High
Table position	200 mm

	Img. Scale. Cor.	1.000
<b>Physio</b>		
	1st Signal/Mode	ECG/Trigger
	Average cycle	No Signal ms
	Captured cycle	-not set-
	Acquisition window	800 ms
	Trigger pulse	1
	Trigger delay	50 ms
	Segments	84
	Adaptive Triggering	Off
	Tagging	None
	Magn. preparation	Non-sel. IR
	TI	270 ms
	Dark blood	Off
	Concatenations	1
	Phases	1
	Concatenations	1
	Cine	Off
	Trajectory	Cartesian
	Inline Evaluation	Off
	Resp. control	Breath-hold
	Dummy heartbeats	0
	Concatenations	1
<b>Inline</b>		
	Distortion correction	Off

## Sequence

Introduction	Off
Dimension	2D
Averaging mode	Short term
Multi-slice mode	Sequential
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Bandwidth	246 Hz/Px
Optimization	Min. TE TR
Allowed delay	0 s
Echo spacing	4.8 ms
Sequence type	Trufi
Define	Shots
Shots per slice	1
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Fast
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off
Parameter Map Type	T1 Map
No. of preps	3
TI start	170 ms
TI increment	50 ms
Conditional processing	On
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	BO2,3;SP2,3
Acquisition duration	0 ms
Mode	Off

## BOLD

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

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\UKBiobank\abdomen\Biobank\_Abdomen\_20211123\_VIBE2LMS IDEAL  
OPTIMISED LOW FLIP 6DYN

TA:9.7 s PAT:Off Voxel size:1.7×1.7×10.0 mm Rel. SNR:1.00 :fl

**Properties**

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

**Routine**

Nr. of slice groups	1
Slices	1
Dist. factor	20 %
Position	R24.1 A1.1 F0.3 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
FoV read	440 mm
FoV phase	90.6 %
Slice thickness	10.0 mm
TR	14.0 ms
TE 1	1.20 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	BO2,3;SP2,3

**Contrast**

MTC	Off
Magn. preparation	None
Flip angle	5 deg
Fat suppr.	None
Water suppr.	None
Averaging mode	Short term
Measurements	6
Pause after meas. 1	0.0 s
Reconstruction	Magn./Phase
Multiple series	Each measurement

**Resolution**

Base resolution	128
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	On
PAT mode	None
Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off

**Geometry**

Nr. of slice groups	1
Slices	1
Dist. factor	20 %
Position	R24.1 A1.1 F200.3 mm
Phase enc. dir.	A >> P
Phase oversampling	0 %
Multi-slice mode	Sequential
Series	Interleaved
Saturation mode	Standard
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Water suppr.	None
Special sat.	None
Special sat.	None
Table position	P

## System

Body	Off
BO1	Off
BO2	Off
BO3	Off
BO1	Off
BO2	On
BO3	On
SP5	Off
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	On
SP3	On
SP4	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	P >> A
Transversal	H >> F
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Coil Select Mode	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	R24.1 A1.1 F200.3 mm
Rotation	0.00 deg
R >> L	440 mm
A >> P	399 mm
F >> H	10 mm
Frequency 1H	63.676629 MHz
Correction factor	1
SRFExcit 1H	52.646 V
Gain	High
Table position	200 mm

	Img. Scale. Cor.	1.000
<b>Physio</b>		
	1st Signal/Mode	None
	Segments	1
	Tagging	None
	Magn. preparation	None
	Dark blood	Off
	Resp. control	Off
<b>Inline</b>		
	Distortion correction	Off
<b>Sequence</b>		
	Introduction	Off
	Dimension	2D
	Averaging mode	Short term
	Multi-slice mode	Sequential
	Asymmetric echo	Off
	Contrasts	6
	Bandwidth 1	1560 Hz/Px
	Flow comp. 1	No
	Readout mode	Monopolar
	RF pulse type	Fast
	Gradient mode	Fast
	Excitation	Slice-sel.
	RF spoiling	On
	TX/RX delta frequency	0 Hz
	TX Nucleus	None
	TX delta frequency	0 Hz
	Coil elements	BO2,3;SP2,3
	Acquisition duration	0 ms
	Mode	Off

**BOLD**

Subtract	Off
Liver registration	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Contrasts	6
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\UKBiobank\abdomen\Biobank\_Abdomen\_20211123\_VIBE2  
 \t1\_vibe\_fs\_tra\_bh\_pancreas\_old  
 TA:0:14 PAT:2 Voxel size:1.2×1.2×1.6 mm Rel. SNR:1.00 :fl

**Properties**

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



## Routine

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	R24.1 A1.1 F0.3 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	7.7 %
FoV read	380 mm
FoV phase	81.3 %
Slice thickness	1.60 mm
TR	3.11 ms
TE	1.15 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter
Coil elements	BO2,3;SP2,3

## Contrast

Flip angle	10.0 deg
Fat suppr.	Q-fat sat.
Lines Per Shot	30
Water suppr.	None
Dixon	No Dixon
Save original images	On
Averaging mode	Short term
Measurements	1
Reconstruction	Magnitude
Multiple series	Each measurement

## Resolution

Base resolution	320
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated
Image Filter	Off
Distortion Corr.	On
Accel. factor 3D	1
Mode	2D
Unfiltered images	Off
Unfiltered images	On
Prescan Normalize	On
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	On
Mode	Inplane
POCS	Off
Slice resolution	68 %
Slice partial Fourier	6/8

## Geometry

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	R24.1 A1.1 F200.3 mm
Phase enc. dir.	A >> P
Phase oversampling	0 %
Slice oversampling	7.7 %
Slices per slab	52
Multi-slice mode	Sequential
Series	Ascending
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	Q-fat sat.
Water suppr.	None
Special sat.	Parallel F/H
Gap	10.0 mm
Thickness	80 mm
Special sat.	Parallel F/H
Table position	P

## System

Body	Off
BO1	Off
BO2	Off
BO3	Off
BO1	Off
BO2	On
BO3	On
SP5	Off
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	On
SP3	On
SP4	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	P >> A
Transversal	H >> F
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Coil Select Mode	Default
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	Isocenter
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm
Frequency 1H	63.676629 MHz
Correction factor	1
CSatCSatSN 1H	63.388 V
Gain	Low
Table position	200 mm

	Img. Scale. Cor.	1.000
<b>Physio</b>	Resp. control	Breath-hold
<b>Inline</b>	Distortion correction	Off
<b>Sequence</b>	Introduction	Off
	Dimension	3D
	Elliptical scanning	Off
	Averaging mode	Short term
	Multi-slice mode	Sequential
	Reordering	Linear
	Asymmetric echo	Weak
	Contrasts	1
	Bandwidth	650 Hz/Px
	Optimization	Min. TE
	RF pulse type	Fast
	Gradient mode	Fast
	Excitation	Slab-sel.
	RF spoiling	On
	TX/RX delta frequency	0 Hz
	TX Nucleus	None
	TX delta frequency	0 Hz
	Coil elements	BO2,3;SP2,3
	Acquisition duration	0 ms
	Mode	Off

**BOLD**

3D centric reordering	Off
Time to center	5.0 s
Subtract	Off
Liver registration	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Contrasts	1
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\UKBiobank\abdomen\Biobank\_Abdomen\_20211123\_VIBE2  
 \t1\_vibe\_fs\_tra\_bh\_pancreas\_new  
 TA:0:17 PAT:Off Voxel size:1.7×1.7×2.0 mm Rel. SNR:1.00 :fl

**Properties**

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

## Routine

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	R24.1 A1.1 F0.3 mm
Orientation	Transversal
Phase enc. dir.	A >> P
AutoAlign	---
Phase oversampling	0 %
Slice oversampling	7.7 %
FoV read	380 mm
FoV phase	80.4 %
Slice thickness	2.00 mm
TR	2.97 ms
TE	1.03 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter
Coil elements	BO2,3;SP2,3

## Contrast

Flip angle	10.0 deg
Fat suppr.	Q-fat sat.
Lines Per Shot	30
Water suppr.	None
Dixon	No Dixon
Save original images	On
Averaging mode	Short term
Measurements	1
Reconstruction	Magnitude
Multiple series	Each measurement

## Resolution

Base resolution	224
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	None
Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Unfiltered images	On
Prescan Normalize	On
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	On
Mode	Inplane
POCS	Off
Slice resolution	68 %
Slice partial Fourier	6/8

## Geometry

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	R24.1 A1.1 F200.3 mm
Phase enc. dir.	A >> P
Phase oversampling	0 %
Slice oversampling	7.7 %
Slices per slab	52
Multi-slice mode	Sequential
Series	Ascending
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	Q-fat sat.
Water suppr.	None
Special sat.	Parallel F/H
Gap	10.0 mm
Thickness	80 mm
Special sat.	Parallel F/H
Table position	P

## System

Body	Off
BO1	Off
BO2	Off
BO3	Off
BO1	Off
BO2	On
BO3	On
SP5	Off
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	On
SP3	On
SP4	Off
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	P >> A
Transversal	H >> F
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Coil Select Mode	Default
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	Isocenter
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm
Frequency 1H	63.676629 MHz
Correction factor	1
CSatCSatSN 1H	63.061 V
Gain	Low
Table position	200 mm



	Img. Scale. Cor.	1.000
<b>Physio</b>	Resp. control	Breath-hold
<b>Inline</b>	Distortion correction	Off
<b>Sequence</b>	Introduction	Off
	Dimension	3D
	Elliptical scanning	Off
	Averaging mode	Short term
	Multi-slice mode	Sequential
	Reordering	Linear
	Asymmetric echo	Weak
	Contrasts	1
	Bandwidth	640 Hz/Px
	Optimization	Min. TE
	RF pulse type	Fast
	Gradient mode	Fast
	Excitation	Slab-sel.
	RF spoiling	On
	TX/RX delta frequency	0 Hz
	TX Nucleus	None
	TX delta frequency	0 Hz
	Coil elements	BO2,3;SP2,3
	Acquisition duration	0 ms
	Mode	Off

**BOLD**

3D centric reordering	Off
Time to center	5.6 s
Subtract	Off
Liver registration	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Contrasts	1
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\UKBiobank\abdomen\Biobank\_Abdomen\_20211123\_VIBE2  
 \ShMOLLI\_192i\_pancreas  
 TA:7.2 s PAT:2 Voxel size:1.1×1.1×8.0 mm Rel. SNR:1.00 :tfi

**Properties**

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

## Routine

Nr. of slice groups	1
Slices	1
Dist. factor	25 %
Position	R5.4 P78.5 F0.4 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	440 mm
FoV phase	75.0 %
Slice thickness	8.0 mm
TR	480.58 ms
TE	1.93 ms
Averages	1
Filter	Raw filter, Distortion Corr.(2D)
Coil elements	BO1-3;SP2-5

## Contrast

Magn. preparation	Non-sel. IR
TI	270 ms
Flip angle	35 deg
Fat suppr.	None
Averaging mode	Short term
Measurements	1
Reconstruction	Magn./Phase
Multiple series	Off

## Resolution

Base resolution	192
Phase resolution	100 %
Phase partial Fourier	6/8
Trajectory	Cartesian
Interpolation	On
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated
Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	On
Intensity	Weak
Slope	25
Elliptical filter	Off
POCS	Off

## Geometry

Nr. of slice groups	1
Slices	1
Dist. factor	25 %
Position	R5.4 P78.5 F24.4 mm
Phase enc. dir.	R >> L
Phase oversampling	0 %
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Special sat.	None
Special sat.	None
Table position	P

## System

Body	Off
BO1	On
BO2	On
BO3	On
SP5	On
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	On
SP3	On
SP4	On
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Coil Select Mode	On - AutoCoilSelect
Shim mode	Standard
Adjust with body coil	On
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	R5.4 P78.5 F24.4 mm
Rotation	0.00 deg
F >> H	440 mm
R >> L	330 mm
A >> P	8 mm
Frequency 1H	63.676629 MHz
Correction factor	1
PrepExc 1H	257.435 V
Gain	High
Table position	24 mm
Img. Scale. Cor.	1.000

## Physio

1st Signal/Mode	ECG/Trigger
Average cycle	No Signal ms
Captured cycle	-not set-
Acquisition window	800 ms
Trigger pulse	1
Trigger delay	50 ms
Segments	84
Adaptive Triggering	Off
Tagging	None
Magn. preparation	Non-sel. IR
TI	270 ms
Dark blood	Off
Concatenations	1
Phases	1
Concatenations	1
Cine	Off
Trajectory	Cartesian
Inline Evaluation	Off
Resp. control	Breath-hold
Dummy heartbeats	0
Concatenations	1

## Inline

Distortion correction	Off
-----------------------	-----

## Sequence

Introduction	Off
Dimension	2D
Averaging mode	Short term
Multi-slice mode	Sequential
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Bandwidth	246 Hz/Px
Optimization	Min. TE TR
Allowed delay	0 s
Echo spacing	4.8 ms
Sequence type	Trufi
Define	Shots
Shots per slice	1
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Fast
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off
Parameter Map Type	T1 Map
No. of preps	3
TI start	170 ms
TI increment	50 ms
Conditional processing	On
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	BO1-3;SP2-5
Acquisition duration	0 ms
Mode	Off

## BOLD

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

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\UKBiobank\abdomen\Biobank\_Abdomen\_20211123\_VIBE2  
 \gre\_multi\_echo\_10\_TE\_pancreas  
 TA:8.7 s PAT:Off Voxel size:2.5x2.5x6.0 mm Rel. SNR:1.00 :fl

**Properties**

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

**Routine**

Nr. of slice groups	1
Slices	1
Dist. factor	20 %
Position	R5.4 P78.5 F0.4 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	400 mm
FoV phase	100.0 %
Slice thickness	6.0 mm
TR	27.0 ms
TE 1	2.38 ms
Averages	2
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	BO1-3;SP2-5

**Contrast**

MTC	Off
Magn. preparation	None
Flip angle	20 deg
Fat suppr.	None
Water suppr.	None
Averaging mode	Short term
Measurements	1
Reconstruction	Magn./Phase
Multiple series	Each measurement



**Resolution**

Base resolution	160
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off
PAT mode	None
Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off

**Geometry**

Nr. of slice groups	1
Slices	1
Dist. factor	20 %
Position	R5.4 P78.5 F24.4 mm
Phase enc. dir.	R >> L
Phase oversampling	0 %
Multi-slice mode	Interleaved
Series	Interl. in B.-h.
Saturation mode	Standard
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Water suppr.	None
Special sat.	None
Special sat.	None
Table position	P

## System

Body	Off
BO1	On
BO2	On
BO3	On
SP5	On
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	On
SP3	On
SP4	On
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Adaptive Combine
AutoAlign	---
Coil Select Mode	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	R5.4 P78.5 F24.4 mm
Rotation	0.00 deg
F >> H	400 mm
R >> L	400 mm
A >> P	6 mm
Frequency 1H	63.676629 MHz
Correction factor	1
SRFExcit 1H	48.994 V
Gain	High
Table position	24 mm
Img. Scale. Cor.	1.000

## Physio

1st Signal/Mode	None
Segments	1
Tagging	None
Magn. preparation	None
Dark blood	Off
Resp. control	Breath-hold

## Inline

Distortion correction	Off
-----------------------	-----

## Sequence

Introduction	Off
Dimension	2D
Averaging mode	Short term
Multi-slice mode	Interleaved
Asymmetric echo	Off
Contrasts	10
Bandwidth 1	710 Hz/Px
Flow comp. 1	No
Readout mode	Monopolar
RF pulse type	Normal
Gradient mode	Fast
Excitation	Slice-sel.
RF spoiling	On
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	BO1-3;SP2-5
Acquisition duration	0 ms
Mode	Off

**BOLD**

Subtract	Off
Liver registration	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Contrasts	10
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\UKBiobank\abdomen\Biobank\_Abdomen\_20211123\_VIBE2  
 \t1\_vibe\_fs\_cor\_bh\_kidney  
 TA:0:19 PAT:Off Voxel size:1.0×1.0×2.0 mm Rel. SNR:1.00 :fl

**Properties**

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

## Routine

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	R24.1 A1.1 F0.3 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	20 %
Slice oversampling	0.0 %
FoV read	380 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	3.22 ms
TE	0.98 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D), Prescan Normalize, Elliptical filter
Coil elements	BO2,3;BO1,2;SP2-5

## Contrast

Flip angle	9.0 deg
Fat suppr.	Q-fat sat.
Lines Per Shot	22
Water suppr.	None
Dixon	No Dixon
Save original images	On
Averaging mode	Short term
Measurements	1
Reconstruction	Magnitude
Multiple series	Each measurement

## Resolution

Base resolution	192
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	On
PAT mode	None
Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Unfiltered images	On
Prescan Normalize	On
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	On
Mode	Inplane
POCS	Off
Slice resolution	80 %
Slice partial Fourier	5/8

## Geometry

Nr. of slab groups	1
Slabs	1
Dist. factor	20 %
Position	R24.1 A1.1 F200.3 mm
Phase enc. dir.	R >> L
Phase oversampling	20 %
Slice oversampling	0.0 %
Slices per slab	40
Multi-slice mode	Sequential
Series	Ascending
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	Q-fat sat.
Water suppr.	None
Special sat.	Parallel A/P
Gap	10.0 mm
Thickness	80 mm
Special sat.	Parallel A/P
Table position	P

## System

Body	Off
BO1	Off
BO2	On
BO3	On
BO1	On
BO2	On
BO3	Off
SP5	On
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	On
SP3	On
SP4	On
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	P >> A
Transversal	H >> F
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Coil Select Mode	Default
Shim mode	Tune up
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	Isocenter
Rotation	0.00 deg
R >> L	350 mm
A >> P	263 mm
F >> H	350 mm
Frequency 1H	63.676629 MHz
Correction factor	1
CSatCSatSN 1H	56.487 V
Gain	Low
Table position	200 mm

	Img. Scale. Cor.	10.000
<b>Physio</b>	Resp. control	Breath-hold
<b>Inline</b>	Distortion correction	Off
<b>Sequence</b>	Introduction	Off
	Dimension	3D
	Elliptical scanning	Off
	Averaging mode	Short term
	Multi-slice mode	Sequential
	Reordering	Linear
	Asymmetric echo	Weak
	Contrasts	1
	Bandwidth	640 Hz/Px
	Optimization	Min. TE
	RF pulse type	Fast
	Gradient mode	Fast
	Excitation	Slab-sel.
	RF spoiling	On
	TX/RX delta frequency	0 Hz
	TX Nucleus	None
	TX delta frequency	0 Hz
	Coil elements	BO2,3;BO1,2;SP2-5
	Acquisition duration	0 ms
	Mode	Off



**BOLD**

3D centric reordering	Off
Time to center	6.2 s
Subtract	Off
Liver registration	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Contrasts	1
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\UKBiobank\abdomen\Biobank\_Abdomen\_20211123\_VIBE2  
 \ShMOLLI\_192i\_kidney  
 TA:6.6 s PAT:2 Voxel size:0.8×0.8×6.0 mm Rel. SNR:1.00 :tfi

**Properties**

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

## Routine

Nr. of slice groups	1
Slices	1
Dist. factor	25 %
Position	R2.3 P79.8 F0.3 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	0 %
FoV read	384 mm
FoV phase	100.0 %
Slice thickness	6.0 mm
TR	504.94 ms
TE	1.41 ms
Averages	1
Filter	Raw filter, Distortion Corr.(2D)
Coil elements	BO2,3;BO1,2;SP2-5

## Contrast

Magn. preparation	Non-sel. IR
TI	256 ms
Flip angle	35 deg
Fat suppr.	None
Averaging mode	Short term
Measurements	1
Reconstruction	Magn./Phase
Multiple series	Off

## Resolution

Base resolution	256
Phase resolution	100 %
Phase partial Fourier	6/8
Trajectory	Cartesian
Interpolation	On
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated
Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	On
Intensity	Weak
Slope	25
Elliptical filter	Off
POCS	Off

## Geometry

Nr. of slice groups	1
Slices	1
Dist. factor	25 %
Position	R2.3 P79.8 F545.3 mm
Phase enc. dir.	R >> L
Phase oversampling	0 %
Multi-slice mode	Sequential
Series	Interl. in B.-h.
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Special sat.	None
Special sat.	None
Table position	P

## System

Body	Off
BO1	Off
BO2	On
BO3	On
BO1	On
BO2	On
BO3	Off
SP5	On
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	On
SP3	On
SP4	On
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	P >> A
Transversal	H >> F
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Coil Select Mode	Off - All
Shim mode	Standard
Adjust with body coil	On
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	R2.3 P79.8 F545.3 mm
Rotation	0.00 deg
F >> H	384 mm
R >> L	384 mm
A >> P	6 mm
Frequency 1H	63.676629 MHz
Correction factor	1
PrepExc 1H	257.435 V
Gain	High
Table position	545 mm

	Img. Scale. Cor.	1.000
<b>Physio</b>		
	1st Signal/Mode	ECG/Trigger
	Average cycle	No Signal ms
	Captured cycle	-not set-
	Acquisition window	731 ms
	Trigger pulse	1
	Trigger delay	0 ms
	Segments	140
	Adaptive Triggering	Off
	Tagging	None
	Magn. preparation	Non-sel. IR
	TI	256 ms
	Dark blood	Off
	Concatenations	1
	Phases	1
	Concatenations	1
	Cine	Off
	Trajectory	Cartesian
	Inline Evaluation	Off
	Resp. control	Breath-hold
	Dummy heartbeats	0
	Concatenations	1
<b>Inline</b>		
	Distortion correction	Off

## Sequence

Introduction	Off
Dimension	2D
Averaging mode	Short term
Multi-slice mode	Sequential
Reordering	Linear
Asymmetric echo	Weak
Contrasts	1
Bandwidth	501 Hz/Px
Optimization	Min. TE TR
Allowed delay	0 s
Echo spacing	3.4 ms
Sequence type	Trufi
Define	Shots
Shots per slice	1
Trufi delta freq.	0 Hz
RF pulse type	Fast
Gradient mode	Fast
Excitation	Slice-sel.
Flip angle mode	Constant
Cine	Off
Parameter Map Type	T1 Map
No. of preps	3
TI start	156 ms
TI increment	50 ms
Conditional processing	On
TX/RX delta frequency	0 Hz
TX Nucleus	None
TX delta frequency	0 Hz
Coil elements	BO2,3;BO1,2;SP2-5
Acquisition duration	0 ms
Mode	Off

## BOLD

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

**SIEMENS MAGNETOM Aera syngo MR D13**

\\USER\UKBiobank\abdomen\Biobank\_Abdomen\_20211123\_VIBE2  
 \gre\_multi\_echo\_12\_TE\_kidney  
 TA:0:16 PAT:2 Voxel size:0.8x0.8x6.0 mm Rel. SNR:1.00 :fl

**Properties**

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

**Routine**

Nr. of slice groups	1
Slices	1
Dist. factor	20 %
Position	R2.3 P79.8 F0.3 mm
Orientation	Coronal
Phase enc. dir.	R >> L
AutoAlign	---
Phase oversampling	50 %
FoV read	384 mm
FoV phase	100.0 %
Slice thickness	6.0 mm
TR	80.0 ms
TE 1	4.76 ms
Averages	1
Concatenations	1
Filter	Distortion Corr.(2D)
Coil elements	BO2,3;BO1,2;SP2-5

**Contrast**

MTC	Off
Magn. preparation	None
Flip angle	25 deg
Fat suppr.	None
Water suppr.	None
Averaging mode	Short term
Measurements	1
Reconstruction	Magn./Phase
Multiple series	Each measurement

## Resolution

Base resolution	256
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	On
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Integrated
Image Filter	Off
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Prescan Normalize	Off
Normalize	Off
B1 filter	Off
Raw filter	Off
Elliptical filter	Off

## Geometry

Nr. of slice groups	1
Slices	1
Dist. factor	20 %
Position	R2.3 P79.8 F545.3 mm
Phase enc. dir.	R >> L
Phase oversampling	50 %
Multi-slice mode	Interleaved
Series	Interl. in B.-h.
Saturation mode	Standard
Nr. of sat. regions	0
Position mode	L-P-H
Fat suppr.	None
Water suppr.	None
Special sat.	None
Special sat.	None
Table position	P



## System

Body	Off
BO1	Off
BO2	On
BO3	On
BO1	On
BO2	On
BO3	Off
SP5	On
SP6	Off
SP7	Off
SP8	Off
SP1	Off
SP2	On
SP3	On
SP4	On
Position mode	L-P-H
Positioning mode	ISO
Table position	F
Table position	0 mm
MSMA	S - C - T
Sagittal	R >> L
Coronal	P >> A
Transversal	H >> F
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Coil Select Mode	On - AutoCoilSelect
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Dominant Fat	Off
Assume Silicone	Off
Adjustment Tolerance	Auto
? Ref. amplitude 1H	0.000 V
Position	R2.3 P79.8 F545.3 mm
Rotation	0.00 deg
F >> H	384 mm
R >> L	384 mm
A >> P	6 mm
Frequency 1H	63.676629 MHz
Correction factor	1
SRFExcit 1H	61.242 V
Gain	High
Table position	545 mm

	Img. Scale. Cor.	1.000
<b>Physio</b>		
	1st Signal/Mode	None
	Segments	1
	Tagging	None
	Magn. preparation	None
	Dark blood	Off
	Resp. control	Breath-hold
<b>Inline</b>		
	Distortion correction	Off
<b>Sequence</b>		
	Introduction	Off
	Dimension	2D
	Averaging mode	Short term
	Multi-slice mode	Interleaved
	Asymmetric echo	Off
	Contrasts	12
	Bandwidth 1	810 Hz/Px
	Flow comp. 1	No
	Readout mode	Monopolar
	RF pulse type	Normal
	Gradient mode	Fast
	Excitation	Slice-sel.
	RF spoiling	On
	TX/RX delta frequency	0 Hz
	TX Nucleus	None
	TX delta frequency	0 Hz
	Coil elements	BO2,3;BO1,2;SP2-5
	Acquisition duration	0 ms
	Mode	Off

**BOLD**

Subtract	Off
Liver registration	Off
StdDev	Off
MIP-Sag	Off
MIP-Cor	Off
MIP-Tra	Off
MIP-Time	Off
Save original images	On
Distortion Corr.	On
Mode	2D
Unfiltered images	Off
Contrasts	12
Save original images	On
Wash - In	Off
Wash - Out	Off
TTP	Off
PEI	Off
MIP - time	Off