# SIEMENS MAGNETOM TrioTim syngo MR B17

\\USER\HEAD 12ch\Harmonia\wjazd_1_migowy\gre_4

TA: 5:27 PAT: Off Voxel size: 1.0×1.0×1.0 mm Rel. SNR: 1.00 SIEMENS: gre

## Properties

| | |
|---|---|
| Prio Recon | Off |
| Before measurement | |
| After measurement | |
| 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 |
| Start measurement without further preparation | On |
| Wait for user to start | On |
| Start measurements | single |

## Routine

| | |
|---|---|
| Slab group 1 | |
| Slabs | 1 |
| Dist. factor | 20 % |
| Position | R2.1 A22.8 F20.9 |
| Orientation | Sagittal |
| Phase enc. dir. | A >> P |
| Rotation | 0.00 deg |
| Phase oversampling | 0 % |
| Slice oversampling | 0.0 % |
| Slices per slab | 192 |
| FoV read | 256 mm |
| FoV phase | 90.6 % |
| Slice thickness | 1.00 mm |
| TR | 7.6 ms |
| TE | 2.46 ms |
| Averages | 1 |
| Concatenations | 1 |
| Filter | None |
| Coil elements | HEA;HEP |

## Contrast

| | |
|---|---|
| MTC | Off |
| Magn. preparation | None |
| Flip angle | 4 deg |
| Fat suppr. | None |
| Water suppr. | None |
| SWI | Off |
| Averaging mode | Short term |
| Reconstruction | Magnitude |
| Measurements | 1 |
| Multiple series | Each measurement |

## Resolution

| | |
|---|---|
| Base resolution | 256 |
| Phase resolution | 96 % |
| Slice resolution | 100 % |
| Phase partial Fourier | Off |
| Slice partial Fourier | Off |
| Interpolation | Off |
| PAT mode | None |
| Matrix Coil Mode | Auto (CP) |
| Image Filter | Off |
| Distortion Corr. | Off |
| Prescan Normalize | Off |
| Normalize | Off |
| B1 filter | Off |
| Raw filter | Off |
| Elliptical filter | Off |

## Geometry

| | |
|---|---|
| Multi-slice mode | Interleaved |
| Series | Interleaved |
| Saturation mode | Standard |
| Special sat. | None |
| Tim CT mode | Off |

## System

| | |
|---|---|
| Body | Off |
| HEP | On |
| HEA | On |
| Positioning mode | FIX |
| Table position | H |
| 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 | Head > Basis |
| Auto Coil Select | Default |
| Shim mode | Tune up |
| Adjust with body coil | Off |
| Confirm freq. adjustment | Off |
| Assume Silicone | Off |
| ? Ref. amplitude 1H | 0.000 V |
| Adjustment Tolerance | Auto |
| Adjust volume | |
| Position | Isocenter |
| Orientation | Transversal |
| Rotation | 0.00 deg |
| R >> L | 350 mm |
| A >> P | 263 mm |
| F >> H | 350 mm |

## Physio

| | |
|---|---|
| 1st Signal/Mode | None |
| Segments | 1 |
| Dark blood | Off |
| Resp. control | Off |

## Inline

| | |
|---|---|
| Subtract | Off |
| Liver registration | Off |
| Std-Dev-Sag | Off |
| Std-Dev-Cor | Off |
| Std-Dev-Tra | Off |
| Std-Dev-Time | Off |
| MIP-Sag | Off |
| MIP-Cor | Off |
| MIP-Tra | Off |
| MIP-Time | Off |
| Save original images | On |
| Wash - In | Off |
| Wash - Out | Off |
| TTP | Off |
| PEI | Off |

| | |
|---|---|
| MIP - time | Off |

Sequence

| | |
|---|---|
| Introduction | On |
| Dimension | 3D |
| Elliptical scanning | Off |
| Phase stabilisation | Off |
| Asymmetric echo | Allowed |
| Contrasts | 1 |
| Bandwidth | 210 Hz/Px |
| Flow comp. | No |
| Allowed delay | 0 s |
| RF pulse type | Normal |
| Gradient mode | Fast |
| Excitation | Non-sel. |
| RF spoiling | On |

# SIEMENS MAGNETOM TrioTim syngo MR B17

\\USER\HEAD 12ch\Harmonia\wjazd_1_migowy\gre_18

TA: 5:27 PAT: Off Voxel size: 1.0×1.0×1.0 mm Rel. SNR: 1.00 SIEMENS: gre

## Properties

| | |
|---|---|
| Prio Recon | Off |
| Before measurement | |
| After measurement | |
| 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 |
| Start measurement without further preparation | On |
| Wait for user to start | Off |
| Start measurements | single |

## Routine

| | |
|---|---|
| Slab group 1 | |
| Slabs | 1 |
| Dist. factor | 20 % |
| Position | R2.1 A22.8 F20.9 |
| Orientation | Sagittal |
| Phase enc. dir. | A >> P |
| Rotation | 0.00 deg |
| Phase oversampling | 0 % |
| Slice oversampling | 0.0 % |
| Slices per slab | 192 |
| FoV read | 256 mm |
| FoV phase | 90.6 % |
| Slice thickness | 1.00 mm |
| TR | 7.6 ms |
| TE | 2.46 ms |
| Averages | 1 |
| Concatenations | 1 |
| Filter | None |
| Coil elements | HEA;HEP |

## Contrast

| | |
|---|---|
| MTC | Off |
| Magn. preparation | None |
| Flip angle | 18 deg |
| Fat suppr. | None |
| Water suppr. | None |
| SWI | Off |
| Averaging mode | Short term |
| Reconstruction | Magnitude |
| Measurements | 1 |
| Multiple series | Each measurement |

## Resolution

| | |
|---|---|
| Base resolution | 256 |
| Phase resolution | 96 % |
| Slice resolution | 100 % |
| Phase partial Fourier | Off |
| Slice partial Fourier | Off |
| Interpolation | Off |
| PAT mode | None |
| Matrix Coil Mode | Auto (CP) |
| Image Filter | Off |
| Distortion Corr. | Off |
| Prescan Normalize | Off |
| Normalize | Off |
| B1 filter | Off |
| Raw filter | Off |
| Elliptical filter | Off |

## Geometry

| | |
|---|---|
| Multi-slice mode | Interleaved |
| Series | Interleaved |
| Saturation mode | Standard |
| Special sat. | None |
| Tim CT mode | Off |

## System

| | |
|---|---|
| Body | Off |
| HEP | On |
| HEA | On |
| Positioning mode | FIX |
| Table position | H |
| 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 | Head > Basis |
| Auto Coil Select | Default |
| Shim mode | Tune up |
| Adjust with body coil | Off |
| Confirm freq. adjustment | Off |
| Assume Silicone | Off |
| ? Ref. amplitude 1H | 0.000 V |
| Adjustment Tolerance | Auto |
| Adjust volume | |
| Position | Isocenter |
| Orientation | Transversal |
| Rotation | 0.00 deg |
| R >> L | 350 mm |
| A >> P | 263 mm |
| F >> H | 350 mm |

## Physio

| | |
|---|---|
| 1st Signal/Mode | None |
| Segments | 1 |
| Dark blood | Off |
| Resp. control | Off |

## Inline

| | |
|---|---|
| Subtract | Off |
| Liver registration | Off |
| Std-Dev-Sag | Off |
| Std-Dev-Cor | Off |
| Std-Dev-Tra | Off |
| Std-Dev-Time | Off |
| MIP-Sag | Off |
| MIP-Cor | Off |
| MIP-Tra | Off |
| MIP-Time | Off |
| Save original images | On |
| Wash - In | Off |
| Wash - Out | Off |
| TTP | Off |
| PEI | Off |

| | |
|---|---|
| MIP - time | Off |

Sequence

| | |
|---|---|
| Introduction | On |
| Dimension | 3D |
| Elliptical scanning | Off |
| Phase stabilisation | Off |
| Asymmetric echo | Allowed |
| Contrasts | 1 |
| Bandwidth | 210 Hz/Px |
| Flow comp. | No |
| Allowed delay | 0 s |
| RF pulse type | Normal |
| Gradient mode | Fast |
| Excitation | Non-sel. |
| RF spoiling | On |

# SIEMENS MAGNETOM TrioTim syngo MR B17

\\USER\HEAD 12ch\Harmonia\wjazd_1_migowy\rf_map

TA: 5:25 Voxel size: 4.0×4.0×5.0 mm Rel. SNR: 1.00 SERVICE: rf_map

## Properties

| | |
|---|---|
| Prio Recon | Off |
| Before measurement | |
| After measurement | |
| 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 |
| Start measurement without further preparation | On |
| Wait for user to start | Off |
| Start measurements | single |

## Routine

| | |
|---|---|
| Slice group 1 | |
| Slices | 20 |
| Dist. factor | 100 % |
| Position | R2.1 A22.8 F20.9 |
| Orientation | Sagittal |
| Phase enc. dir. | A >> P |
| Rotation | 0.00 deg |
| FoV read | 256 mm |
| FoV phase | 100.0 % |
| Slice thickness | 5 mm |
| TR | 5000 ms |
| TE 1 | 14 ms |
| TE 2 | 14 ms |
| Averages | 1 |
| Filter | None |
| Coil elements | HEA;HEP |

## Contrast

| | |
|---|---|
| Flip angle 1 | 90 deg |
| Flip angle 2 | 120 deg |
| Flip angle 3 | 60 deg |
| Flip angle 4 | 135 deg |
| Flip angle 5 | 45 deg |
| Measurements | 1 |

## Resolution

| | |
|---|---|
| Base resolution | 64 |
| Phase resolution | 100 % |
| Matrix Coil Mode | Auto (CP) |
| Image Filter | Off |
| Distortion Corr. | Off |
| Prescan Normalize | Off |
| Normalize | Off |
| B1 filter | Off |
| Raw filter | Off |
| Elliptical filter | Off |

## Geometry

| | |
|---|---|
| Series | Interleaved |

## System

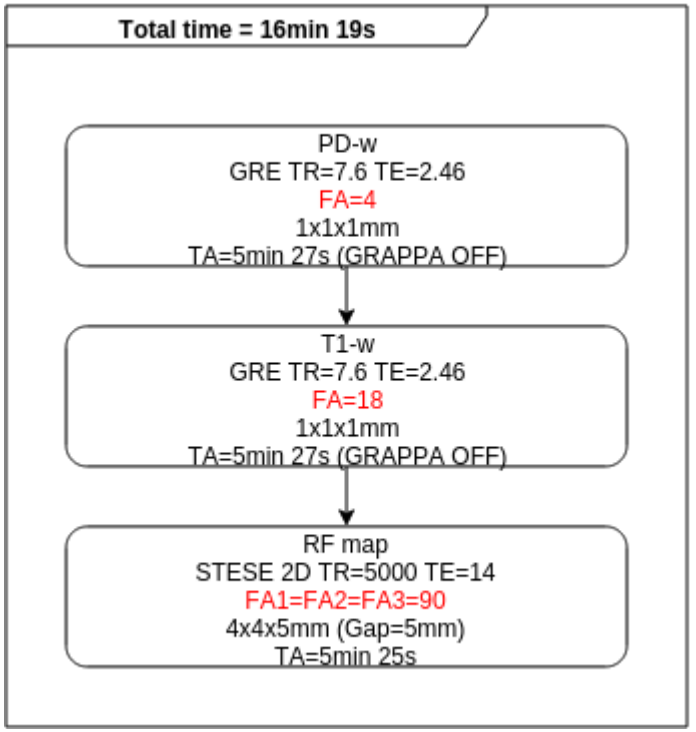
| | |
|---|---|
| Body | Off |
| HEP | On |
| HEA | On |
| Positioning mode | FIX |
| Table position | H |
| Table position | 0 mm |
| MSMA | S - C - T |
| Sagittal | R >> L |
| Coronal | A >> P |
| Transversal | F >> H |
| Save uncombined | Off |
| Coil Combine Mode | Adaptive Combine |
| AutoAlign | Head > Basis |
| Auto Coil Select | Default |
| Shim mode | Tune up |
| Adjust with body coil | Off |
| Confirm freq. adjustment | Off |
| Assume Silicone | Off |
| ? Ref. amplitude 1H | 0.000 V |
| Adjustment Tolerance | Auto |
| Adjust volume | |
| Position | Isocenter |
| Orientation | Transversal |
| Rotation | 0.00 deg |
| R >> L | 350 mm |
| A >> P | 263 mm |
| F >> H | 350 mm |

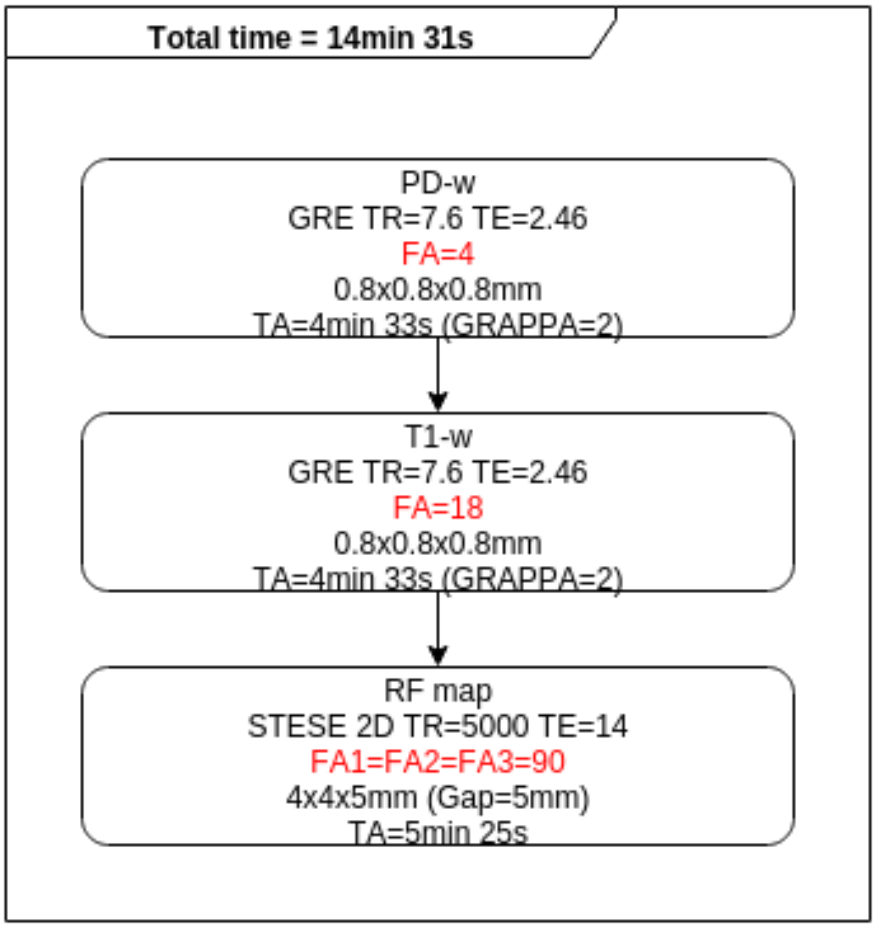
## Sequence

| | |
|---|---|
| Contrasts | 2 |
| Bandwidth | 260.416667 Hz/Px |
| T1 Compensation | 0.0 ms |
| Angles | 1 |

# T1-mapping protocol

Basis protocol
1mm isotropic resolution (no Grappa)




0.8 mm
SNR↓ ~4