

## SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\\USER\UserProtocols\Yuhui\PM\_IPS\A\VAPER\_0.8i0.9sl\_Pat3\_pf78\_22sls

TA: 32:35 PAT: 3 Voxel size: 0.8x0.8x0.9 mm Rel. SNR: 1.00 UNKNOWN:

## 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       | 50 %             |
| Position           | L44.1 A4.6 H15.0 |
| Orientation        | S > C-11.5       |
| Phase enc. dir.    | A >> P           |
| Rotation           | 0.00 deg         |
| Phase oversampling | 9 %              |
| Slice oversampling | 9.1 %            |
| Slices per slab    | 22               |
| FoV read           | 130.0 mm         |
| FoV phase          | 100.0 %          |
| Slice thickness    | 0.90 mm          |
| TR                 | 2874.7 ms        |
| TE                 | 28 ms            |
| Averages           | 1                |
| Concatenations     | 1                |
| Filter             | None             |
| Coil elements      | A32              |

## Contrast

|                      |               |
|----------------------|---------------|
| Perfusion mode       | Picore Q2TIPS |
| TI2                  | 1100 ms       |
| TI1                  | 50 ms         |
| TI1s                 | 50 ms         |
| Flip angle           | 30.0 deg      |
| Fat suppr.           | None          |
| Averaging mode       | Long term     |
| Reconstruction       | Magnitude     |
| Measurements         | 680           |
| Delay in TR          | 0 ms          |
| Multiple series      | Off           |
| Perfusion mode       | PICORE Q2T    |
| Inversion time 1     | 50 ms         |
| Saturation stop time | 50 ms         |
| Inversion time 2     | 1100.0 ms     |
| Flow limit           | 100 cm/s      |

## Resolution

|                       |        |
|-----------------------|--------|
| Base resolution       | 162    |
| Phase resolution      | 100 %  |
| Slice resolution      | 100 %  |
| Phase partial Fourier | 7/8    |
| Slice partial Fourier | Off    |
| Interpolation         | Off    |
| PAT mode              | GRAPPA |

|                     |          |
|---------------------|----------|
| Accel. factor PE    | 3        |
| Ref. lines PE       | 48       |
| Accel. factor 3D    | 1        |
| Ref. lines 3D       | 24       |
| Reference scan mode | Separate |
| Prescan Normalize   | Off      |
| Raw filter          | Off      |
| Elliptical filter   | Off      |
| Hamming             | Off      |

## Geometry

|                  |             |
|------------------|-------------|
| Multi-slice mode | Interleaved |
| Series           | Ascending   |
| Special sat.     | Parallel R  |
| Gap              | 25.0 mm     |
| Thickness        | 100 mm      |
| Table position   | H           |
| Table position   | 0 mm        |
| Inline Composing | Off         |

## System

|                          |                   |
|--------------------------|-------------------|
| V32                      | Off               |
| A32                      | On                |
| Positioning mode         | FIX               |
| MSMA                     | S - C - T         |
| Sagittal                 | R >> L            |
| Coronal                  | A >> P            |
| Transversal              | F >> H            |
| Save uncombined          | Off               |
| Coil Combine Mode        | Sum of Squares    |
| AutoAlign                | ---               |
| Auto Coil Select         | Default           |
| Shim mode                | Standard          |
| Adjust with body coil    | Off               |
| Confirm freq. adjustment | Off               |
| Assume Silicone          | Off               |
| ! Ref. amplitude 1H      | 316.000 V         |
| Adjustment Tolerance     | Auto              |
| Adjust volume            |                   |
| ! Position               | L0.4 A16.5 F13.1  |
| ! Orientation            | S > T-0.4 > C-0.1 |
| ! Rotation               | 0.00 deg          |
| ! F >> H                 | 159 mm            |
| ! A >> P                 | 168 mm            |
| ! R >> L                 | 161 mm            |

## Physio

|                 |      |
|-----------------|------|
| 1st Signal/Mode | None |
|-----------------|------|

## BOLD

|                   |     |
|-------------------|-----|
| Motion correction | Off |
| Spatial filter    | Off |

## Sequence

|                   |            |
|-------------------|------------|
| Introduction      | On         |
| Dimension         | 3D         |
| Reordering        | Linear     |
| Contrasts         | 1          |
| Bandwidth         | 1102 Hz/Px |
| Free echo spacing | Off        |
| Echo spacing      | 1.03 ms    |
| EPI factor        | 162        |
| RF pulse type     | Normal     |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

|                         |              |
|-------------------------|--------------|
| Gradient mode           | Normal       |
| Excitation              | Slab-sel.    |
| RF spoiling             | On           |
| <hr/>                   |              |
| Read Diff Amp           | 21.5 mT/m    |
| Phase Diff Amp          | 0.0 mT/m     |
| Slice Diff Amp          | 21.5 mT/m    |
| Dante puls # in 1st par | 300          |
| Dante puls # in 2nd par | 40           |
| Pulses FA in DANTE      | 10.5 degree  |
| TAU in DANTE            | 1100 us      |
| Vari readFA             | 0            |
| Blank bef/aft DANTE-RF  | 50 us        |
| Grad # bef DANTE        | 0            |
| DANTE-RF dur            | 100 us       |
| use Ernst angle         | Off          |
| Maxwell Correction      | Off          |
| log physio files        | Off          |
| FFT scale               | 2.00         |
| dummy prepscan time     | 3 s          |
| z shim                  | 0.00 mT/m*ms |
| RF duration             | 1900 us      |
| RF BWTP                 | 25.0         |
| EFFECTIVE TR            | 105 ms       |
| PatPartitions           | 24           |
| EPI phase correction    | local        |
| PAT refscan mode        | Flash        |
| FlashRef BaseRes        | 162          |
| FlashRef BW             | 100 Hz/px    |
| FlashRef TE             | 10000 us     |
| FlashRef FA             | 5 deg        |
| use CAIPI               | Off          |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\\USER\UserProtocols\Yuhui\PM\_IPS\A\VAPER\_0.8i0.9sl\_Pat3\_pf78\_24sls

TA: 30:57 PAT: 3 Voxel size: 0.8x0.8x0.9 mm Rel. SNR: 1.00 UNKNOWN:

## 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       | 50 %             |
| Position           | L0.5 A11.8 H54.4 |
| Orientation        | T > C-14.0       |
| Phase enc. dir.    | P >> A           |
| Rotation           | 180.00 deg       |
| Phase oversampling | 9 %              |
| Slice oversampling | 8.3 %            |
| Slices per slab    | 24               |
| FoV read           | 130.0 mm         |
| FoV phase          | 100.0 %          |
| Slice thickness    | 0.90 mm          |
| TR                 | 3019.7 ms        |
| TE                 | 28 ms            |
| Averages           | 1                |
| Concatenations     | 1                |
| Filter             | None             |
| Coil elements      | A32              |

## Contrast

|                      |               |
|----------------------|---------------|
| Perfusion mode       | Picore Q2TIPS |
| TI2                  | 1100 ms       |
| TI1                  | 50 ms         |
| TI1s                 | 50 ms         |
| Flip angle           | 30.0 deg      |
| Fat suppr.           | None          |
| Averaging mode       | Long term     |
| Reconstruction       | Magnitude     |
| Measurements         | 615           |
| Delay in TR          | 0 ms          |
| Multiple series      | Off           |
| Perfusion mode       | PICORE Q2T    |
| Inversion time 1     | 50 ms         |
| Saturation stop time | 50 ms         |
| Inversion time 2     | 1100.0 ms     |
| Flow limit           | 100 cm/s      |

## Resolution

|                       |        |
|-----------------------|--------|
| Base resolution       | 162    |
| Phase resolution      | 100 %  |
| Slice resolution      | 100 %  |
| Phase partial Fourier | 7/8    |
| Slice partial Fourier | Off    |
| Interpolation         | Off    |
| PAT mode              | GRAPPA |

|                     |          |
|---------------------|----------|
| Accel. factor PE    | 3        |
| Ref. lines PE       | 48       |
| Accel. factor 3D    | 1        |
| Ref. lines 3D       | 24       |
| Reference scan mode | Separate |
| Prescan Normalize   | Off      |
| Raw filter          | Off      |
| Elliptical filter   | Off      |
| Hamming             | Off      |

## Geometry

|                  |             |
|------------------|-------------|
| Multi-slice mode | Interleaved |
| Series           | Ascending   |
| Special sat.     | Parallel F  |
| Gap              | 25.0 mm     |
| Thickness        | 100 mm      |
| Table position   | H           |
| Table position   | 0 mm        |
| Inline Composing | Off         |

## System

|                          |                  |
|--------------------------|------------------|
| V32                      | Off              |
| A32                      | On               |
| Positioning mode         | FIX              |
| MSMA                     | S - C - T        |
| Sagittal                 | R >> L           |
| Coronal                  | A >> P           |
| Transversal              | F >> H           |
| Save uncombined          | Off              |
| Coil Combine Mode        | Sum of Squares   |
| AutoAlign                | ---              |
| Auto Coil Select         | Default          |
| Shim mode                | Standard         |
| Adjust with body coil    | Off              |
| Confirm freq. adjustment | Off              |
| Assume Silicone          | Off              |
| ! Ref. amplitude 1H      | 263.000 V        |
| Adjustment Tolerance     | Auto             |
| Adjust volume            |                  |
| ! Position               | L0.5 A11.8 H54.4 |
| ! Orientation            | T > C-14.0       |
| ! Rotation               | 180.00 deg       |
| ! R >> L                 | 130 mm           |
| ! A >> P                 | 138 mm           |
| ! F >> H                 | 36 mm            |

## Physio

|                 |      |
|-----------------|------|
| 1st Signal/Mode | None |
|-----------------|------|

## BOLD

|                   |     |
|-------------------|-----|
| Motion correction | Off |
| Spatial filter    | Off |

## Sequence

|                   |            |
|-------------------|------------|
| Introduction      | On         |
| Dimension         | 3D         |
| Reordering        | Linear     |
| Contrasts         | 1          |
| Bandwidth         | 1102 Hz/Px |
| Free echo spacing | Off        |
| Echo spacing      | 1.03 ms    |
| EPI factor        | 162        |
| RF pulse type     | Normal     |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

|                         |              |
|-------------------------|--------------|
| Gradient mode           | Normal       |
| Excitation              | Slab-sel.    |
| RF spoiling             | On           |
| <hr/>                   |              |
| Read Diff Amp           | 0.0 mT/m     |
| Phase Diff Amp          | 21.5 mT/m    |
| Slice Diff Amp          | 21.5 mT/m    |
| Dante puls # in 1st par | 280          |
| Dante puls # in 2nd par | 38           |
| Pulses FA in DANTE      | 8.3 degree   |
| TAU in DANTE            | 1100 us      |
| Vari readFA             | 0            |
| Blank bef/aft DANTE-RF  | 50 us        |
| Grad # bef DANTE        | 0            |
| DANTE-RF dur            | 90 us        |
| use Ernst angle         | Off          |
| Maxwell Correction      | Off          |
| log physio files        | Off          |
| FFT scale               | 2.00         |
| dummy prepscan time     | 3 s          |
| z shim                  | 0.00 mT/m*ms |
| RF duration             | 2370 us      |
| RF BWTP                 | 25.0         |
| EFFECTIVE TR            | 103 ms       |
| PatPartitions           | 26           |
| EPI phase correction    | local        |
| PAT refscan mode        | Flash        |
| FlashRef BaseRes        | 162          |
| FlashRef BW             | 100 Hz/px    |
| FlashRef TE             | 10000 us     |
| FlashRef FA             | 5 deg        |
| use CAIPI               | Off          |

## SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\\USER\UserProtocols\Yuhui\PM\_IPS\A\VAPER\_0.8i0.9sl\_Pat3\_pf78\_24sls

TA: 30:55 PAT: 3 Voxel size: 0.8x0.8x0.9 mm Rel. SNR: 1.00 UNKNOWN:

## 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       | 50 %            |
| Position           | R2.9 A4.5 H44.7 |
| Orientation        | T > C-17.0      |
| Phase enc. dir.    | A >> P          |
| Rotation           | 0.00 deg        |
| Phase oversampling | 9 %             |
| Slice oversampling | 8.3 %           |
| Slices per slab    | 24              |
| FoV read           | 130.0 mm        |
| FoV phase          | 100.0 %         |
| Slice thickness    | 0.90 mm         |
| TR                 | 3021.00 ms      |
| TE                 | 28 ms           |
| Averages           | 1               |
| Concatenations     | 1               |
| Filter             | None            |
| Coil elements      | A32             |

## Contrast

|                      |               |
|----------------------|---------------|
| Perfusion mode       | Picore Q2TIPS |
| TI2                  | 1100 ms       |
| TI1                  | 50 ms         |
| TI1s                 | 50 ms         |
| Flip angle           | 30.0 deg      |
| Fat suppr.           | None          |
| Averaging mode       | Long term     |
| Reconstruction       | Magnitude     |
| Measurements         | 614           |
| Delay in TR          | 0 ms          |
| Multiple series      | Off           |
| Perfusion mode       | PICORE Q2T    |
| Inversion time 1     | 50 ms         |
| Saturation stop time | 50 ms         |
| Inversion time 2     | 1100.0 ms     |
| Flow limit           | 100 cm/s      |

## Resolution

|                       |        |
|-----------------------|--------|
| Base resolution       | 162    |
| Phase resolution      | 100 %  |
| Slice resolution      | 100 %  |
| Phase partial Fourier | 7/8    |
| Slice partial Fourier | Off    |
| Interpolation         | Off    |
| PAT mode              | GRAPPA |

|                     |          |
|---------------------|----------|
| Accel. factor PE    | 3        |
| Ref. lines PE       | 48       |
| Accel. factor 3D    | 1        |
| Ref. lines 3D       | 24       |
| Reference scan mode | Separate |
| Prescan Normalize   | Off      |
| Raw filter          | Off      |
| Elliptical filter   | Off      |
| Hamming             | Off      |

## Geometry

|                  |             |
|------------------|-------------|
| Multi-slice mode | Interleaved |
| Series           | Ascending   |
| Special sat.     | Parallel F  |
| Gap              | 25.0 mm     |
| Thickness        | 100 mm      |
| Table position   | H           |
| Table position   | 0 mm        |
| Inline Composing | Off         |

## System

|                          |                 |
|--------------------------|-----------------|
| V32                      | Off             |
| A32                      | On              |
| Positioning mode         | FIX             |
| MSMA                     | S - C - T       |
| Sagittal                 | R >> L          |
| Coronal                  | A >> P          |
| Transversal              | F >> H          |
| Save uncombined          | Off             |
| Coil Combine Mode        | Sum of Squares  |
| AutoAlign                | ---             |
| Auto Coil Select         | Default         |
| Shim mode                | Standard        |
| Adjust with body coil    | Off             |
| Confirm freq. adjustment | Off             |
| Assume Silicone          | Off             |
| ! Ref. amplitude 1H      | 251.000 V       |
| Adjustment Tolerance     | Auto            |
| Adjust volume            |                 |
| ! Position               | R2.9 A5.5 H42.8 |
| ! Orientation            | T > C-16.7      |
| ! Rotation               | -180.00 deg     |
| ! R >> L                 | 130 mm          |
| ! A >> P                 | 140 mm          |
| ! F >> H                 | 37 mm           |

## Physio

|                 |      |
|-----------------|------|
| 1st Signal/Mode | None |
|-----------------|------|

## BOLD

|                   |     |
|-------------------|-----|
| Motion correction | Off |
| Spatial filter    | Off |

## Sequence

|                   |            |
|-------------------|------------|
| Introduction      | On         |
| Dimension         | 3D         |
| Reordering        | Linear     |
| Contrasts         | 1          |
| Bandwidth         | 1102 Hz/Px |
| Free echo spacing | Off        |
| Echo spacing      | 1.03 ms    |
| EPI factor        | 162        |
| RF pulse type     | Normal     |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

|                         |              |
|-------------------------|--------------|
| Gradient mode           | Normal       |
| Excitation              | Slab-sel.    |
| RF spoiling             | On           |
| <hr/>                   |              |
| Read Diff Amp           | 21.5 mT/m    |
| Phase Diff Amp          | 0.0 mT/m     |
| Slice Diff Amp          | 21.5 mT/m    |
| Dante puls # in 1st par | 280          |
| Dante puls # in 2nd par | 38           |
| Pulses FA in DANTE      | 8.5 degree   |
| TAU in DANTE            | 1100 us      |
| Vari readFA             | 0            |
| Blank bef/aft DANTE-RF  | 50 us        |
| Grad # bef DANTE        | 0            |
| DANTE-RF dur            | 80 us        |
| use Ernst angle         | Off          |
| Maxwell Correction      | Off          |
| log physio files        | Off          |
| FFT scale               | 2.00         |
| dummy prepscan time     | 3 s          |
| z shim                  | 0.00 mT/m*ms |
| RF duration             | 2430 us      |
| RF BWTP                 | 25.0         |
| EFFECTIVE TR            | 103 ms       |
| PatPartitions           | 26           |
| EPI phase correction    | local        |
| PAT refscan mode        | Flash        |
| FlashRef BaseRes        | 162          |
| FlashRef BW             | 100 Hz/px    |
| FlashRef TE             | 10000 us     |
| FlashRef FA             | 5 deg        |
| use CAIPI               | Off          |