# ABBREVIATED BREAST 1.5T

**INSTRUCTIONS AND PATIENT PREPARATION**

| | |
|---|---|
| **Instructions** | • Ensure to increase the FOV as needed to include all breast tissue and axillae; use same FOV for all sequences<br>• Ensure to pull abdominal tissue down to prevent a fold into the coil and FOV<br>• Ensure to pull medial breast tissue into coil<br>• Ensure axilla tissue is in the coil and not above the side panel |
| **Common Indications** | Screening |
| **Position** | Prone |
| **Coil** | Bilateral Breast Coil |
| **Landmark** | Mid-breast, Nipples |

**CONTRAST AGENT PARAMETERS**

| Contrast Agent | Dose | Injection Rate |
|---|---|---|
| **Gadopiclenol (VUEWAY)** | 0.05 mmol/kg up to a calculated volume of 10 mL | 2 mL/sec |
| **Saline Flush** | 20 mL | 2 mL/sec |

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**MR Gadopiclenol (VUEWAY®) Protocol for Philips Healthcare Systems**
**Breast MR Imaging**

IMAGING FORUMS, INC.

**INFO PAGE**

| Scan Description | SURVEY | AXIAL T1 | AXIAL T2 FS | DYNAMICS | LT OBLIQUE SAGITTAL | RT OBLIQUE SAGITTAL |
|---|---|---|---|---|---|---|
| **Total scan duration** | 00:23.3 | 02:42.1 | 03:30.0 | 03:45.6 | 01:38.6 | 01:34.3 |
| **Rel. SNR** | 2.4 | 3.8 | 1.4 | 2.3 | 1.8 | 1.7 |
| **Act. TR (ms)** | — | 491 | 4773 | — | — | — |
| **Act. TE (ms)** | — | 8 | 112 | — | — | — |
| **Act. TR/TE (ms)** | 7.1 / 3.5 | — | — | 5.1 / 2.5 | 5.6 / 2.8 | 5.6 / 2.8 |
| **Dyn. scan time** | — | — | — | 01:14.2 | — | — |
| **Time to k0** | — | — | — | 00:59.1 | — | — |
| **ACQ matrix M x P** | 256 x 128 | 260 x 336 | 260 x 327 | 260 x 342 | 252 x 249 | 252 x 249 |
| **ACQ voxel MPS (mm)** | 1.76 / 3.52 / 10.0 | 1.00 / 1.02 / 3.00 | 1.00 / 1.05 / 3.00 | 1.00 / 1.00 / 3.00 | 0.79 / 0.80 / 3.00 | 0.79 / 0.80 / 3.00 |
| **REC voxel MPS (mm)** | 1.76 / 1.76 / 10.0 | 0.67 / 0.67 / 3.00 | 0.61 / 0.61 / 3.00 | 0.67 / 0.67 / 3.00 | 0.63 / 0.63 / 3.00 | 0.63 / 0.63 / 3.00 |
| **Scan percentage (%)** | 50 | 98 | 95 | 100 | 99 | 99 |
| **Packages** | — | 5 | 4 | — | — | — |
| **Min. slice gap (mm)** | — | 3 | 3 | — | — | — |
| **Optimal slices** | — | 20 | 26 | — | — | — |
| **Max.slices** | — | — | 52 | — | — | — |
| **Act. slice gap (mm)** | — | — | — | 0 | 0 | 0 |
| **TFE shots** | — | — | — | 240 | 242 | 251 |
| **TFE dur. shot / acq (ms)** | — | — | — | 309.0 / 193.8 | 400.9 / 273.7 | 370.0 / 245.8 |
| **TFE shot interval (ms)** | — | — | — | 309.0 | 400.9 | 370.0 |
| **Act. WFS (pix) / BW (Hz)** | 0.854 / 254.3 | — | — | 0.601 / 361.5 | 0.600 / 362.1 | 0.600 / 362.1 |
| **Min. WFS (pix) / Max. BW (Hz)** | 0.280 / 775.0 | — | — | 0.285 / 763.1 | 0.315 / 688.9 | 0.315 / 688.9 |
| **WFS (pix) / BW (Hz)** | — | 1.134 / 191.5 | 1.037 / 209.5 | — | — | — |
| **TSE es / shot (ms)** | — | 8.0 / 40 | 7.5 / 224 | — | — | — |
| **TEeff / TEequiv (ms)** | — | 491 | 112 / 79 | — | — | — |
| **Min. TR (ms)** | — | — | 4773 | — | — | — |
| **Min. TR/TE (ms)** | 7.1 / 3.1 | — | — | — | — | — |
| **Local torso SAR** | < 21 % | < 89 % | < 41 % | < 7 % | < 6 % | < 6 % |
| **Whole body SAR / level** | < 0.7 W/kg / normal | < 3.0 W/kg / 1st level | < 1.4 W/kg / normal | < 0.2 W/kg / normal | < 0.2 W/kg / normal | < 0.2 W/kg / normal |
| **SED** | 0.0 kJ/kg | < 0.5 kJ/kg | < 0.3 kJ/kg | < 0.1 kJ/kg | 0.0 kJ/kg | 0.0 kJ/kg |
| **Max B1+rms** | 1.95 uT | 3.99 uT | 2.71 uT | 1.11 uT | 1.04 uT | 1.05 uT |
| **PNS / level** | 24 % / normal | 43 % / normal | 47 % / normal | 64 % / normal | 59 % / normal | 59 % / normal |
| **dB/dt** | 12.8 T/s | 40.2 T/s | 43.6 T/s | 56.5 T/s | 43.7 T/s | 43.7 T/s |
| **Sound Pressure Level (dB)** | 9.5 | 14.5 | 11.0 | 16.7 | 13.1 | 12.5 |

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**MR Gadopiclenol (VUEWAY®) Protocol for Philips Healthcare Systems**
**Breast MR Imaging**

IMAGING FORUMS, INC.

**GEOMETRY**

| Scan Description | SURVEY | AXIAL T1 | AXIAL T2 FS | DYNAMICS | LT OBLIQUE SAGITTAL | RT OBLIQUE SAGITTAL |
|---|---|---|---|---|---|---|
| **SmartSelect** | yes | yes | yes | yes | yes | yes |
| **Coil 1 (exclude)** | — | None | None | None | None | None |
| **Uniformity** | — | CLEAR | CLEAR | CLEAR | CLEAR | CLEAR |
| **FOV AP (mm)** | 450 | 260 | 260 | 260 | 200 | 200 |
| **FOV (mm)** | 290, (19) 82 | — | — | — | — | — |
| **FOV FH (mm)** | 450 | 150 | 150 | 150 | 200 | 200 |
| **FOV RL (mm)** | — | 343 | 343 | 343 | 114 | 114 |
| **ACQ voxel size AP (mm)** | 3.5 | 1 | 1 | 1 | 0.8 | 0.8 |
| **ACQ voxel size FH (mm)** | 1.8 | — | — | 3 | 0.8 | 0.8 |
| **ACQ voxel size RL (mm)** | — | 1 | 1 | 1 | 3 | 3 |
| **Slice thickness (mm)** | 10 | 3 | 3 | — | — | — |
| **Bar orientation** | RL | — | — | — | — | — |
| **VOI orientation** | transverse | — | — | — | — | — |
| **VOI size AP (mm)** | 30 | — | — | — | — | — |
| **VOI size RL (mm)** | 30 | — | — | — | — | — |
| **VOI size FH (mm)** | 30 | — | — | — | — | — |
| **Recon voxel size AP (mm)** | 1.8 | 0.7 | 0.6 | 0.7 | 0.6 | 0.6 |
| **Recon voxel size FH (mm)** | 1.8 | — | — | 3 | 0.6 | 0.6 |
| **Recon voxel size RL (mm)** | — | 0.7 | 0.6 | 0.7 | 3 | 3 |
| **Image shutter** | yes | — | — | — | — | — |
| **Fold-over suppression** | no | oversampling | oversampling | oversampling | oversampling | oversampling |
| **L (mm)** | — | 85.5 | 85.5 | 85.5 | — | — |
| **R (mm)** | — | 85.5 | 85.5 | 85.5 | — | — |
| **F (mm)** | — | — | — | — | 110 | 110 |
| **H (mm)** | — | — | — | — | 110 | 110 |
| **A (mm)** | 50 | — | — | — | — | — |
| **P (mm)** | 50 | — | — | — | — | — |
| **Slice oversampling** | — | — | — | user defined | default | default |
| **oversample factor** | — | — | — | 1 | — | — |
| **ENCASE enable** | — | — | — | no | no | no |
| **Reconstruction matrix** | 256 | 512 | 560 | 512 | 320 | 320 |
| **SENSE** | no | yes | yes | no | no | no |
| **P reduction (RL)** | — | 3.5 | 1.7 | — | — | — |
| **CS-SENSE** | no | no | no | yes | yes | yes |
| **reduction** | — | — | — | 1.5 | 1.2 | 1.3 |
| **denoising** | — | — | — | system default | system default | system default |
| **Stacks** | 3 | 1 | 1 | 1 | 1 | 1 |
| **type** | (20) parallel | parallel | parallel | — | — | — |
| **Slices** | 15, (19) 5 | 50 | 50 | 50 | 38 | 38 |
| **slice gap** | user defined | user defined | user defined | — | — | — |

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| | | | | | | |
|---|---|---|---|---|---|---|
| **gap (mm)** | 10, (19) 8 | 0 | 0 | — | — | — |
| **Slice orientation** | sagittal, transverse, (18) coronal | transverse | transverse | transverse | sagittal | sagittal |
| **Fold-over direction** | AP, (19) RL | RL | RL | RL | FH | FH |
| **Fat shift direction** | F, P, (18) F | P | P | P | P | P |
| **radial axis** | (2) AP, (18) RL | — | — | — | — | — |
| **radial angle (deg)** | (20) 0 | — | — | — | — | — |
| **Minimum number of packages** | — | 1 | 1 | — | — | — |
| **Slice scan order** | default | default | default | — | — | — |
| **Stack scan order** | ascend | — | — | — | — | — |
| **Multi-chunk** | — | — | — | no | no | no |
| **O-MAR** | — | no | no | — | — | — |
| **Move table per stack** | no | — | — | — | — | — |
| **Large table movement** | no | no | no | no | no | no |
| **Stack alignment** | no | — | — | — | — | — |
| **Stack sort order** | no | — | — | — | — | — |
| **PlanAlign** | no | no | no | no | no | no |
| **REST slabs** | 0 | 0 | 0 | 0 | 0 | 0 |
| **orientation** | — | — | — | — | sagittal | sagittal |
| **Interactive positioning** | no | no | no | no | no | no |
| **Patient position** | feet first | feet first | feet first | feet first | feet first | feet first |
| **Patient body position** | feet first | feet first | feet first | feet first | feet first | feet first |
| **Patient orientation** | prone | prone | prone | prone | prone | prone |
| **Patient body orientation** | prone | prone | prone | prone | prone | prone |

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**CONTRAST**

| Scan Description | SURVEY | AXIAL T1 | AXIAL T2 FS | DYNAMICS | LT OBLIQUE SAGITTAL | RT OBLIQUE SAGITTAL |
|---|---|---|---|---|---|---|
| **Scan type** | Imaging | Imaging | Imaging | Imaging | Imaging | Imaging |
| **Scan mode** | M2D | MS | MS | 3D | 3D | 3D |
| **technique** | FFE | SE | SE | FFE | FFE | FFE |
| **Modified SE** | — | no | no | — | — | — |
| **Contrast enhancement** | T1 | — | — | T1 | T1 | T1 |
| **Acquisition mode** | cartesian | cartesian | cartesian | cartesian | cartesian | cartesian |
| **Fast Imaging mode** | none | TSE | TSE | TFE | TFE | TFE |
| **shot mode** | — | multishot | multishot | multishot | multishot | multishot |
| **TFE factor** | — | — | — | 38 | 49 | 44 |
| **TSE factor** | — | 5 | 29 | — | — | — |
| **startup Echoes** | — | — | — | user defined | user defined | user defined |
| **(number)** | — | — | — | — | — | — |
| **shot interval** | — | — | — | shortest | shortest | shortest |
| **profile order** | — | low_high | linear | low_high | low_high | low_high |
| **turbo direction** | — | — | — | Z | Z | Z |
| **DRIVE** | — | no | yes | — | — | — |
| **ultrashort** | — | no | no | — | — | — |
| **fid reduction** | — | default | default | — | — | — |
| **Echoes** | 1 | 1 | 1 | 1 | 1 | 1 |
| **partial echo** | no | no | no | no | no | no |
| **shifted echo** | no | — | — | no | no | no |
| **TE** | user defined | user defined | user defined | shortest | shortest | shortest |
| **(ms)** | 3.5 | 8 | 112 | — | — | — |
| **Flip angle (deg)** | 50 | 90 | 90 | 10 | 10 | 10 |
| **Refocusing control** | — | no | PSS Adv (T2-opt) | — | — | — |
| **min. angle (deg)** | — | — | 70 | — | — | — |
| **mid. angle (deg)** | — | — | 120 | — | — | — |
| **max. angle (deg)** | — | — | 160 | — | — | — |
| **TR** | shortest | range | range | shortest | shortest | shortest |
| **minimum (ms)** | — | 350 | 2000 | — | — | — |
| **maximum (ms)** | — | 550 | 5000 | — | — | — |
| **Halfscan** | no | no | no | yes | yes | yes |
| **factor Y** | — | — | — | 0.625 | 0.625 | 0.625 |
| **factor Z** | — | — | — | 1 | 1 | 1 |
| **Water-fat shift** | maximum | maximum | maximum | user defined | user defined | user defined |
| **(pixels)** | — | — | — | 0.6 | 0.6 | 0.6 |
| **Shim** | — | default | default | SmartBreast | IB-volume | IB-volume |
| **ShimAlign** | — | — | — | — | no | no |
| **mDIXON** | no | no | no | no | no | no |
| **Fat suppression** | no | no | SPAIR | SPAIR | SPAIR | SPAIR |
| **power** | — | — | 2 | 2 | 2 | 2 |
| **inversion delay** | — | — | auto | auto | auto | auto |

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| | | | | | | |
|---|---|---|---|---|---|---|
| **suppr. level** | — | — | strong | strong | strong | strong |
| **frequency offset** | — | — | default | default | default | default |
| **Water suppression** | no | no | no | no | no | no |
| **TFE prepulse** | — | — | — | no | no | no |
| **BB pulse** | — | no | no | — | — | — |
| **MTC** | no | no | no | no | no | no |
| **Diffusion mode** | no | no | no | no | no | no |
| **T1 mapping** | no | no | no | no | no | no |
| **SAR mode** | high | high | high | high | low | low |
| **B1 mode** | default | default | default | default | default | default |
| **SAR allow first level** | yes | yes | yes | yes | yes | yes |
| **Patient pregnancy** | no | no | no | no | no | no |
| **Patient WB SAR [W/kg]** | — | — | — | — | — | — |
| **Patient Head SAR [W/kg]** | — | — | — | — | — | — |
| **Patient max. dB/dt [T/s]** | — | — | — | — | — | — |
| **Max slewrate [T/m/s]** | — | — | — | — | — | — |
| **Max. B1+rms [uT]** | — | — | — | — | — | — |
| **PNS mode** | low | low | low | moderate | low | low |
| **Gradient mode** | default | default | default | default | default | default |

**MOTION**

| Scan Description | SURVEY | AXIAL T1 | AXIAL T2 FS | DYNAMICS | LT OBLIQUE SAGITTAL | RT OBLIQUE SAGITTAL |
|---|---|---|---|---|---|---|
| **Cardiac synchronization** | no | no | no | no | no | no |
| **Respiratory compensation** | no | no | no | no | no | no |
| **Navigator respiratory comp** | no | no | no | no | no | no |
| **Flow compensation** | no | no | no | no | no | no |
| **fMRI echo stabilisation** | no | — | — | no | no | no |
| **Temporal slice spacing** | — | default | default | — | — | — |
| **Motion smoothing** | — | no | yes | — | — | — |
| **NSA** | 1 | 2 | 1 | 1 | 1 | 1 |
| **SMART** | — | yes | — | — | — | — |
| **MRE enable** | no | no | no | no | no | no |

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NW IMAGING FORUMS, INC.

**DYNAMIC ANGIO**

| Scan Description | SURVEY | AXIAL T1 | AXIAL T2 FS | DYNAMICS | LT OBLIQUE SAGITTAL | RT OBLIQUE SAGITTAL |
|---|---|---|---|---|---|---|
| **Angio / Contrast enh.** | no | — | — | no | no | no |
| **Quantitative flow** | no | — | — | no | no | no |
| **CENTRA** | — | — | — | no | no | no |
| **Manual start** | no | no | no | no | no | no |
| **Dynamic study** | no | no | no | individual | no | no |
| **dyn scans** | — | — | — | 3 | — | — |
| **dyn scan times** | — | — | — | user defined | — | — |
| **(mm:ss)** | — | — | — | shortest (00:00.0), manual (01:15.7), shortest (02:31.4) | — | — |
| **dummy scans** | — | — | — | 0 | — | — |
| **immediate subtraction** | — | — | — | no | — | — |
| **fast next scan** | — | — | — | no | — | — |
| **synch. ext. device** | — | — | — | no | — | — |
| **prospect. motion corr.** | — | — | — | no | — | — |
| **Keyhole** | — | — | — | no | — | — |
| **Arterial Spin labeling** | no | no | no | no | no | no |

**POST PROCESSING**

| Scan Description | SURVEY | AXIAL T1 | AXIAL T2 FS | DYNAMICS | LT OBLIQUE SAGITTAL | RT OBLIQUE SAGITTAL |
|---|---|---|---|---|---|---|
| **Preparation phases** | — | auto | auto | auto | full | full |
| **Interactive F0** | no | no | no | auto | select | select |
| **Quick Survey** | default | default | default | default | default | default |
| **MIP/MPR** | no | no | no | no | no | no |
| **SWIp** | no | — | — | no | no | no |
| **Images** | M, (3) no | M, (3) no | M, (3) no | M, (3) no | M, (3) no | M, (3) no |
| **Autoview image** | M | M | no | M | M | M |
| **Calculated images** | (4) no | (4) no | (4) no | (4) no | (4) no | (4) no |
| **Reference tissue** | Breast | Breast | Breast | Breast | Breast | Breast |
| **Recon compression** | No | No | No | No | No | No |
| **Preset window contrast** | soft | soft | soft | soft | soft | soft |
| **Reconstruction mode** | real time | real time | real time | real time | real time | real time |
| **Save raw data** | no | no | no | no | no | no |
| **Hardcopy protocol** | no | no | no | no | no | no |
| **Image filter** | system default | system default | system default | system default | system default | system default |
| **Uniformity correction** | yes | yes | yes | no | no | no |
| **Geometry correction** | default | default | default | default | default | default |
| **Elliptical k-space shutter** | — | — | — | default | default | default |
| **Free rotatable** | no | no | no | no | no | no |
| **IF_info_seperator** | 1634755923 | 1634755923 | 1634755923 | 1634755923 | 1634755923 | 1634755923 |

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