

## ACR Accreditation Scan Measurements

Complete the form entering values for all measurements. Type data directly into the form or print the form and use it as paper form. The term "slice" refers to space locations, not necessarily the image number.

|                              |                  |  |  |
|------------------------------|------------------|--|--|
| Site Name:                   |                  | Date<br>(Sample Format:<br>31-May-2012): |  |
| System Configuration:        |                  |  |  |
| Software Version:            |                  |  |  |
| Field Strength:              |                  |  |  |
| Table Type (Flat or Curved): |                  |  |  |
| Tester Name:                 |                  |  |  |
| ACR Phantom Serial Number:   |                  |  |  |
| Head-Type Coil:              |                  |  |  |
| Head-Type Coil Model #:      |                  | Head-Type Coil Serial #:                 |  |
| Patient Weight:              |                  |  |  |
| <b>Image Information</b>     |                  |  |  |
| ACR Localizer                | Exam             |  |  |
|                              | Series           |  |  |
|                              | Image            |  |  |
|                              | Center Frequency |  |  |
|                              | AutoPreScan TG   |  |  |
|                              | Actual TG Used   |  |  |
|                              | R1               |  |  |
|                              | R2               |  |  |
| ACR T1                       | Exam             |  |  |
|                              | Series           |  |  |
|                              | Images           |  |  |
|                              | Center Frequency |  |  |
|                              | AutoPreScan TG   |  |  |
|                              | Actual TG Used   |  |  |
|                              | R1               |  |  |
|                              | R2               |  |  |
| ACR T2                       | Exam             |  |  |
|                              | Series           |  |  |
|                              | Images           |  |  |
|                              | Center Frequency |  |  |
|                              | AutoPreScan TG   |  |  |
|                              | Actual TG Used   |  |  |
|                              | R1               |  |  |
|                              | R2               |  |  |

| Geometric Accuracy   |   |  |
|--|---|--|
| ACR Sagittal Localizer   | Reference Window Level                                      |  |
|  | S/I Length  | mm   |
|  | S/I Length is 148 mm $\pm$ 2 mm                             | <input type="checkbox"/> Yes <input type="checkbox"/> No |
|  | <input type="checkbox"/> Pass <input type="checkbox"/> Fail |  |
| ACR T1 (slice 1)   | Reference Window Level                                      |  |
|  | Right/Left (R/L) diameter                                   | mm   |
|  | Anterior/Posterior (A/P) diameter                           | mm   |
| ACR T1 (slice 5)   | Reference Window Level                                      |  |
|  | Right/Left (R/L) diameter                                   | mm   |
|  | Anterior/Posterior (A/P) diameter                           | mm   |
|  | +45 degree diagonal diameter (pos. slope)                   | mm   |
|  | -45 degree diagonal diameter (neg. slope)                   | mm   |
| Each of the 6 diameters is equal to 190 mm $\pm$ 2mm   |   | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <input type="checkbox"/> Pass <input type="checkbox"/> Fail  |   |  |
| High Contrast Spatial Resolution   |   |  |
| ACR T1 (slice 1) 1 <sup>st</sup> Array Pair  | Left-Right resolved @1.1 mm                                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |
|  | Top-Bottom resolved @1.1 mm                                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| ACR T1 (slice 1) 2 <sup>nd</sup> Array Pair  | Left-Right resolved @1.0 mm                                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |
|  | Top-Bottom resolved @1.0 mm                                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| ACR T1 (slice 1) 3 <sup>rd</sup> Array Pair  | Left-Right resolved @0.9 mm                                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |
|  | Top-Bottom resolved @0.9 mm                                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| ACR T2 (slice 1, 2 <sup>nd</sup> echo) 1 <sup>st</sup> Array Pair  | Left-Right resolved @1.1 mm                                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |
|  | Top-Bottom resolved @1.1 mm                                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| ACR T2 (slice 1, 2 <sup>nd</sup> echo) 2 <sup>nd</sup> Array Pair  | Left-Right resolved @1.0 mm                                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |
|  | Top-Bottom resolved @1.0 mm                                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| ACR T2 (slice 1, 2 <sup>nd</sup> echo) 3 <sup>rd</sup> Array Pair  | Left-Right resolved @0.9 mm                                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |
|  | Top-Bottom resolved @0.9 mm                                 | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| The ACR T1 and ACR T2 images analyzed are resolved in both the Left-Right and Top-Bottom directions to at least 1.0 mm (i.e., resolved at both 1.1 mm and 1.0 mm). |   | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <input type="checkbox"/> Pass <input type="checkbox"/> Fail  |   |  |
| Slice Thickness Accuracy   |   |  |
| ACR T1 (slice 1)   | Top Ramp ROI Mean   |  |
|  | Bottom Ramp ROI Mean  |  |
|  | Top Ramp Length   | mm   |

|   |  |  |
|---|--|--|
|   | Bottom Ramp Length                         | mm   |
|   | Slice Thickness                            | mm   |
| ACR T2 (slice 1, 2 <sup>nd</sup> echo)                      | Top Ramp ROI Mean                          |  |
|   | Bottom Ramp ROI Mean                       |  |
|   | Top Ramp Length                            | mm   |
|   | Bottom Ramp Length                         | mm   |
|   | Slice Thickness                            | mm   |
| Each T1 & T2 Slice 1 Thicknesses = 5.0 ± 0.7 mm             |  | <input type="checkbox"/> Yes <input type="checkbox"/> No                                 |
| <input type="checkbox"/> Pass <input type="checkbox"/> Fail |  |  |
| <b>Slice Position Accuracy</b>                              |  |  |
| ACR T1 (slice 1)  | Reference Window Level                     |  |
|   | Bar Length Difference                      | mm   |
| ACR T1 (slice 11)   | Reference Window Level                     |  |
|   | Bar Length Difference                      | mm   |
| ACR T2 (slice 1, 2 <sup>nd</sup> echo)                      | Reference Window Level                     |  |
|   | Bar Length Difference                      | mm   |
| ACR T2 (slice 11, 2 <sup>nd</sup> echo)                     | Reference Window Level                     |  |
|   | Bar Length Difference                      | mm   |
| Absolute Value of Bar Length Differences (all 4) ≤ 5.0 mm   |  | <input type="checkbox"/> Yes <input type="checkbox"/> No                                 |
| <input type="checkbox"/> Pass <input type="checkbox"/> Fail |  |  |
| <b>Image Intensity Uniformity</b>                           |  |  |
| ACR T1 (slice 7)  | ROI Low Signal Mean                        |  |
|   | ROI High Signal Mean                       |  |
|   | T1 PIU (%)                                 | %  |
| ACR T2 (slice 7, 2 <sup>nd</sup> echo)                      | ROI Low Signal Mean                        |  |
|   | ROI High Signal Mean                       |  |
|   | T2 PIU (%)                                 | %  |
|   | Field Strength (1.5T/3.0T)                 | T  |
|   | If 1.5T system: Each T1 & T2 PIU % ≥ 87.5% | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> N/A |
|   | If 3.0T system: Each T1 & T2 PIU % ≥ 82.0% | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> N/A |
| <input type="checkbox"/> Pass <input type="checkbox"/> Fail |  |  |
| <b>Percent-Signal Ghosting</b>                              |  |  |
| ACR T1 (slice 7)  | ROI Large Signal Mean                      |  |
|   | ROI Top Signal Mean                        |  |
|   | ROI Bottom Signal Mean                     |  |
|   | ROI Left Signal Mean                       |  |
|   | ROI Right Signal Mean                      |  |
|   | Ghosting Ratio                             |  |
|   | The ACR T1 Ghosting Ratio ≤ 0.025          | <input type="checkbox"/> Yes <input type="checkbox"/> No                                 |
| <input type="checkbox"/> Pass <input type="checkbox"/> Fail |  |  |

| Low-Contrast Object Detectability                           |   |  |
|---|---|--|
| ACR T1 (slice 11)   | Number of Complete Spokes   |  |
| ACR T1 (slice 10)   | Number of Complete Spokes   |  |
| ACR T1 (slice 9)  | Number of Complete Spokes   |  |
| ACR T1 (slice 8)  | Number of Complete Spokes   |  |
| ACR T1 Total Spokes (sum of previous 4 entries)             |   |  |
| ACR T2 (slice 11, 2 <sup>nd</sup> echo)                     | Number of Complete Spokes   |  |
| ACR T2 (slice 10, 2 <sup>nd</sup> echo)                     | Number of Complete Spokes   |  |
| ACR T2 (slice 9, 2 <sup>nd</sup> echo)                      | Number of Complete Spokes   |  |
| ACR T2 (slice 8, 2 <sup>nd</sup> echo)                      | Number of Complete Spokes   |  |
| ACR T2 Total Spokes (sum of previous 4 entries)             |   |  |
|   | Field Strength (1.5T/3.0T)  | T  |
|   | <b>If 1.5T System:</b><br>Total Spokes for each T1 & T2 $\geq$ 9  | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> N/A |
|   | <b>If 3.0T System:</b><br>Total Spokes for each T1 & T2 $\geq$ 37 | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> N/A |
| <input type="checkbox"/> Pass <input type="checkbox"/> Fail |   |  |

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GE Healthcare Representative

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Date