

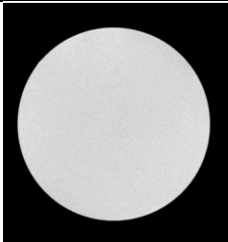
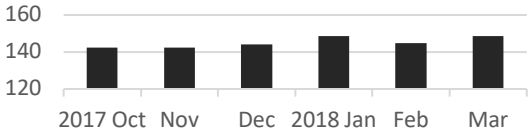
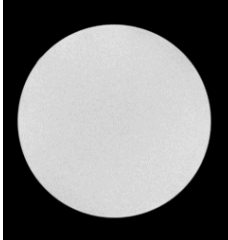
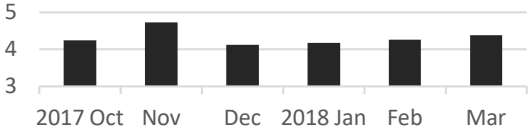
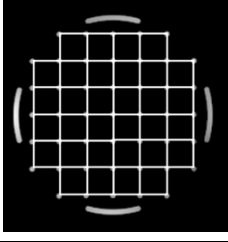
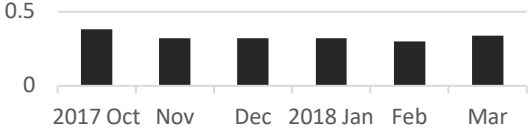
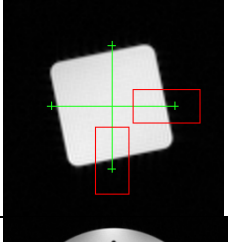
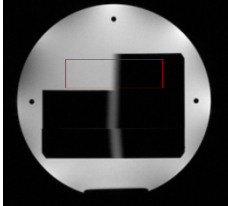
분석지원장비 상태 보고서

(생체영상연구팀)

대상장비(기기코드)	공지성능	공지 주기
3T 휴먼 MRI 시스템 (AR53)	<ul style="list-style-type: none"> Signal to Noise Ratio (SNR): 148.70 Field Uniformity: 4.39% Spatial Linearity: 0.34% Spatial Resolution: <ul style="list-style-type: none"> - Pixel Size: Horizontal 1.06, Vertical 1.09 - MTF_50: Horizontal 0.49, Vertical 0.49 - Integral: Horizontal 0.45, Vertical 0.44 Slice Profile: <ul style="list-style-type: none"> - FWHM: 1.96, FWTM: 2.98 - Slice Integral: 1.97, Phase Shift: 3.83 	연 12회 (매월)
7T 휴먼 MRI 시스템 (AR72)	<ul style="list-style-type: none"> Signal to Noise Ratio (SNR): 237.7 B0 Homogeneity: ΔB_0 0.48ppm Spatial Linearity: 0.4%, 0.27%, 0.07%, 0.27% 	연 3회 (4월,8월,12월)
4.7T 동물 MRI 시스템 (AR52)	<ul style="list-style-type: none"> Signal to Noise Ratio (SNR): 87.11, 221.7 Spatial Linearity: 0.67%, 0.35% 	연 4회 (3월,6월,9월,12월)
9.4T 동물 MRI 시스템 (AM02)	<ul style="list-style-type: none"> Signal to Noise Ratio (SNR): 177.86 Spatial Linearity: 0.84%, 0.90% 	연 4회 (3월,6월,9월,12월)
생체 광학이미징 시스템 IVIS (OC103)	<ul style="list-style-type: none"> 추후 공지에정 	연 4회 (3월,6월,9월,12월)

분석지원장비 상태보고서

기기코드	AR53
장비명	3T 휴먼 MRI 시스템
측정일	2018. 3. 29.
팬텀	Philips SPT Head Phantom

Signal to Noise Ratio (SNR)		148.70 												
Field Uniformity		4.39 % 												
Spatial Linearity		0.34 % 												
Spatial Resolution		<table border="1"> <thead> <tr> <th></th><th>Horizontal (PREP)</th><th>Vertical (MEAS)</th></tr> </thead> <tbody> <tr> <td>Pixel Size</td><td>1.06 (<1.2)</td><td>1.09 (<1.2)</td></tr> <tr> <td>MTF_50</td><td>0.49</td><td>0.49</td></tr> <tr> <td>Integral</td><td>0.45</td><td>0.44</td></tr> </tbody> </table>		Horizontal (PREP)	Vertical (MEAS)	Pixel Size	1.06 (<1.2)	1.09 (<1.2)	MTF_50	0.49	0.49	Integral	0.45	0.44
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Phase Shift	3.83	S<15												

Field Uniformity: the ability of the MR system to produce an identical signal response throughout the scanned volume when the imaged object was homogeneous MR characteristics.

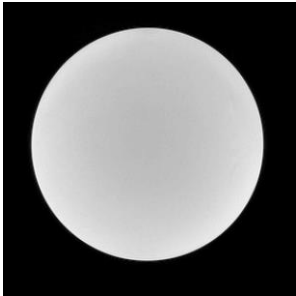
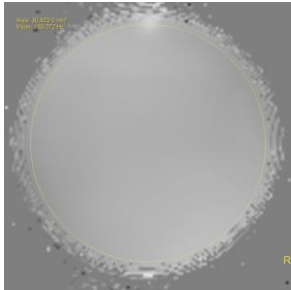
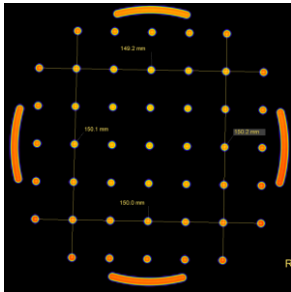
Spatial Linearity: the degree of geometrical distortion present in images produced by the imaging system.

Spatial Resolution: the scanner's ability to distinguish adjacent structures when no noise is present.

Slice Profile: transverse magnetization as a function of the position in the selected direction. For an ideal MR system, the slice profile would be a rectangular function with a width equal to selected slice thickness.

분석지원장비 상태 보고서

기기코드 (System Code)	AR72
장비 명 (System Name)	7T 휴먼 MRI 시스템 (7T Human MRI System)
측정일 (Measurement Data)	2017.12.22
팬텀 (Phantom)	200mm Philips SPT Head Phantom

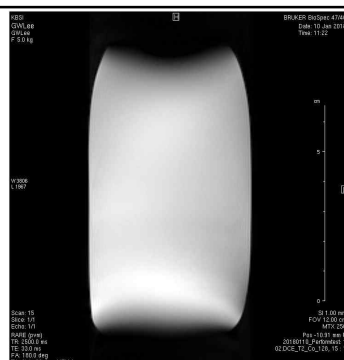
SNR (이상 없음, Pass)		Signal: 9.7403×10^5 Noise: 4.0981×10^3 <u>SNR: 237.7</u>
B0 Homogeneity (이상 없음, Pass)		<u>$\Delta B0$: 0.48 ppm (145.4 Hz)</u>
Spatial Linearity (이상 없음, Pass)		Grid distance: 150 mm Measured distances: 149.4/150.4/149.9/150.4 mm <u>Error: 0.4 %/0.27 %/0.07 %/0.27 %</u>

기타	Quad interface, SNR scaling factor removed
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분석지원장비 상태 보고서

기기코드	AR52
장비명	4.7 T 동물 MRI 시스템
RF coil	1H 72mm coil
팬텀	4.7T MRI_CuSo4 solution (cylindrical bottle 5.6cm x 11cm)

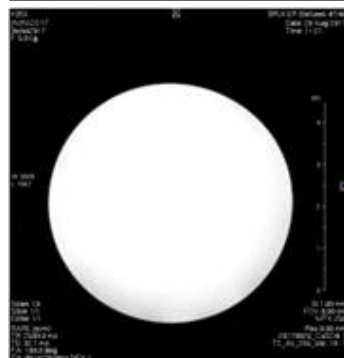
Signal to Noise Ratio (SNR)



SNR: 87.11

Singal (S): 220477

Noise (N): 2531

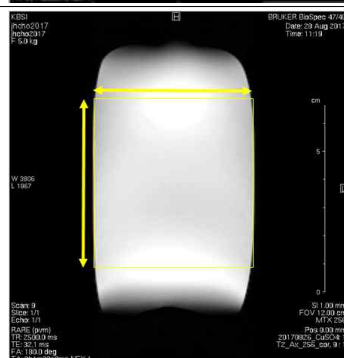


SNR: 221.7

Singal (S): 159433

Noise (N): 719

Spatial linearity



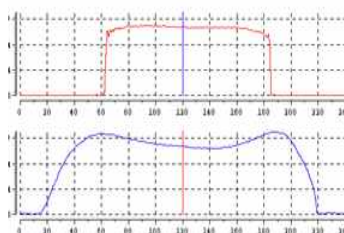
Error: 0.67%/0.35%

True linearity length/width:

6cm/5.6cm

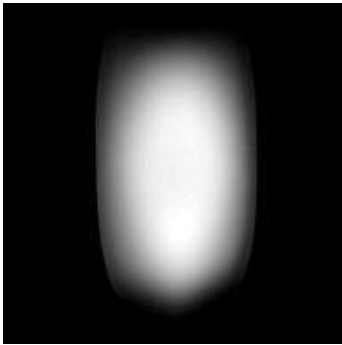
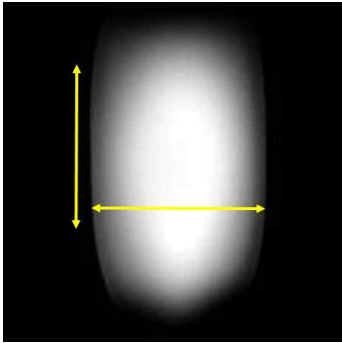
Measured linearity length/width:

5.96cm/5.58cm



분석지원장비 상태 보고서

기기코드	AM02
장비명	9.4 T 동물 MRI 시스템
RF coil	1H 72mm coil
팬텀	9.4T MRI_CuSo4 solution (cylindrical bottle 6.3cm x 10cm)

Signal to Noise Ratio (SNR)	 <p><u>SNR: 177.86</u></p> <p>Singal (S): 64030 Noise (N): 360</p>
Spatial linearity	 <p><u>Error: 0.84%/0.90%</u></p> <p>True linearity length/width: 6cm/5.6cm</p> <p>Measured linearity length/width: 5.95cm/5.55cm</p> 