

“Empower your MRI research, even at 9.4 Tesla”

Based on product performance testing of the Bracco Empower MR contrast injection system in conjunction with a 9.4 Tesla MR System. Moderated by the Scannexus B.V. MRI Center, Bracco and ACIST Medical Systems, Maastricht, The Netherlands.



Scannexus:

Nadine Reijnders, MSc, Project Developer;
Christopher J. Wiggins, Ph.D., Senior Staff Scientist

In recent years, the field of Ultra High-Field (UHF) MRI has advanced and is approaching the point at which 7 Tesla MR systems may enter routine clinical use. While roughly forty 7 Tesla systems are in operation worldwide, there are also five installed 9.4 Tesla systems, with 10.5 and 11.7 Tesla systems in the process of development.

The use of peripheral equipment such as contrast agent injectors for such studies necessitates the testing of the compatibility of the device in the elevated magnetic fields close to the bore of UHF MRI systems.

In collaboration between Bracco, Acist Medical Systems and Scannexus BV, the Empower MR contrast injector was tested in the fringe field of the 9.4 Tesla MRI system installed in Maastricht, the Netherlands. Such testing requires determining whether there is any interference from one system on the other, i.e. both whether the MR system influences the device as well as whether the device affects the MR system.

The results of this study indicated a perfect mutual compatibility of the Empower MR with 9.4 T MRI. The Empower MR operated perfectly within the field, and its components exhibited such a low ferromagnetism as to be unnoticeable to the user. The MR system also operated perfectly while the Empower MR was in use, showing no RF or other interference on the MR images.

The result of this collaboration shows that the Empower MR is compatible with use in even the highest MR field strengths currently in use.

Scannexus

Scannexus offers a unique combination of services and technologies; operating an open-access infrastructure that includes 3T, 7T and 9.4T clinical MRI systems. Access to these world-leading,

UHF MRI scanners is combined with dedicated customer-focused operational support, and the expertise of internationally renowned clinical and technical networks. Furthermore, Scannexus facilitates the development of projects, providing a one-stop-shop for contractual issues and a focus on project delivery for users from around the world (www.scannexus.nl).

Bracco and ACIST

Bracco has headquarters in Milan, Italy, and was founded in 1927. It is active in the healthcare sector through Bracco Imaging (diagnostic imaging), Pharma (prescription and over the counter drugs), ACIST Medical Systems and HLT (cardiology) and the Centro Diagnostico Italiano, a diagnostic clinic. It has around 3,300 employees and annual total consolidated revenues of over 1.2 billion Euro. Bracco operates in more than 90 countries worldwide. To learn more about Bracco Group, visit www.bracco.com.

Acknowledgement

Special thanks to NV Industriebank LIOF; Limburg Development and Investment Company, Maastricht – The Netherlands, for the financial funding of this testing project.