

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

MEDSCAN SYSTEMS, LLC,

Plaintiff,

v.

SIEMENS AKTIENGESELLSCHAFT
(AG), SIEMENS MEDICAL SOLUTIONS
USA, INC.,

Defendants.

Civil Action No. _____

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff MedScan Systems, LLC (“MedScan” or “Plaintiff”), for its Complaint against Defendant Siemens Aktiengesellschaft (AG), (“Siemens AG” or “Defendant”) and Siemens Medical Solutions USA, Inc. (“SMS” or “Defendant”) (individually each a “Defendant” and collectively “Defendants”) alleges the following:

NATURE OF THE ACTION

1. This is an action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*

THE PARTIES

2. Plaintiff is a Limited Liability Company organized under the laws of the State of Delaware with a place of business at 717 N. Union Street, Wilmington, DE 19805.

3. Upon information and belief, Siemens AG is a corporation organized and existing under the laws of Germany, with a place of business at Werner-von-Siemens-Straße 1, 80333 Munich, Germany. Upon information and belief, Siemens AG sells and offers to sell products and services throughout the United States, including in this judicial district, and introduces

products and services that into the stream of commerce and that incorporate infringing technology knowing that they would be sold in this judicial district and elsewhere in the United States.

4. Upon information and belief, SMS is a corporation organized and existing under the laws of the State of Delaware, with a place of business at 40 Liberty Boulevard, Malvern, PA 19355, and can be served through its registered agent, the Corporation Trust Company at Corporation Trust Center, 129 Orange Street, Wilmington, DE 19801. Upon information and belief, SMS sells and offers to sell products and services throughout the United States, including in this judicial district, and introduces products and services into the stream of commerce and that incorporate infringing technology knowing that they would be sold in this judicial district and elsewhere in the United States.

JURISDICTION AND VENUE

5. This is an action for patent infringement arising under the Patent Laws of the United States, Title 35 of the United States Code.

6. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

7. Venue is proper in this judicial district under 28 U.S.C. § 1391(c). On information and belief, Defendant Siemens AG is a foreign non-resident entity.

8. Venue is proper in this judicial district under 28 U.S.C. §1400(b). On information and belief, Defendant SMS has committed acts of infringement in this District and SMS is incorporated in the State of Delaware.

9. On information and belief, each Defendant is subject to this Court's general and specific personal jurisdiction because each Defendant has sufficient minimum contacts within the State of Delaware and this District, pursuant to due process and/or the State of Delaware's Long Arm Statute because each Defendant purposefully availed itself of the privileges of

conducting business in the State of Delaware and in this District, because each Defendant regularly conducts and solicits business within the State of Delaware and within this District, and because Plaintiff's causes of action arise directly from each of Defendant's business contacts and other activities in the State of Delaware and this District. Further, this Court has personal jurisdiction over SMS because it is incorporated in Delaware and has purposely availed itself of the privileges and benefits of the laws of the State of Delaware.

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 6,946,841

10. The allegations set forth in the foregoing paragraphs 1 through 9 are incorporated into this First Claim for Relief.

11. On September 20, 2005, U.S. Patent No. 6,946,841 (“the ’841 patent”), entitled “Apparatus for Combined Nuclear Imaging and Magnetic Resonance Imaging, and Method Thereof,” was duly and legally issued by the United States Patent and Trademark Office. A true and correct copy of the ’841 patent is attached as Exhibit 1.

12. Plaintiff is the assignee and owner of the right, title and interest in and to the ’841 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them.

13. Upon information and belief, each of the Defendants have and continue to directly infringe at least claims 1-3 of the ’841 patent by making, using, selling, importing and/or providing and causing to be used an imaging device with a combined magnetic resonance imaging device and nuclear imaging device, for example the Siemens Biograph mMR System (the “Accused Instrumentalities”).

14. In particular, claim 1 of the ’841 patent recites a combined MR-nuclear imaging device, comprising: a) a MRI device having a magnetic field associated therewith; and b) a nuclear imaging device disposed within the magnetic field, wherein the nuclear imaging device

includes: a scintillator for detecting gamma quanta and outputting photons; a light guide coupled to the scintillator for channeling the photons; and at least one HPD coupled to the light guide for receiving the photons and outputting an electrical current representative of the gamma quanta received by the scintillator.

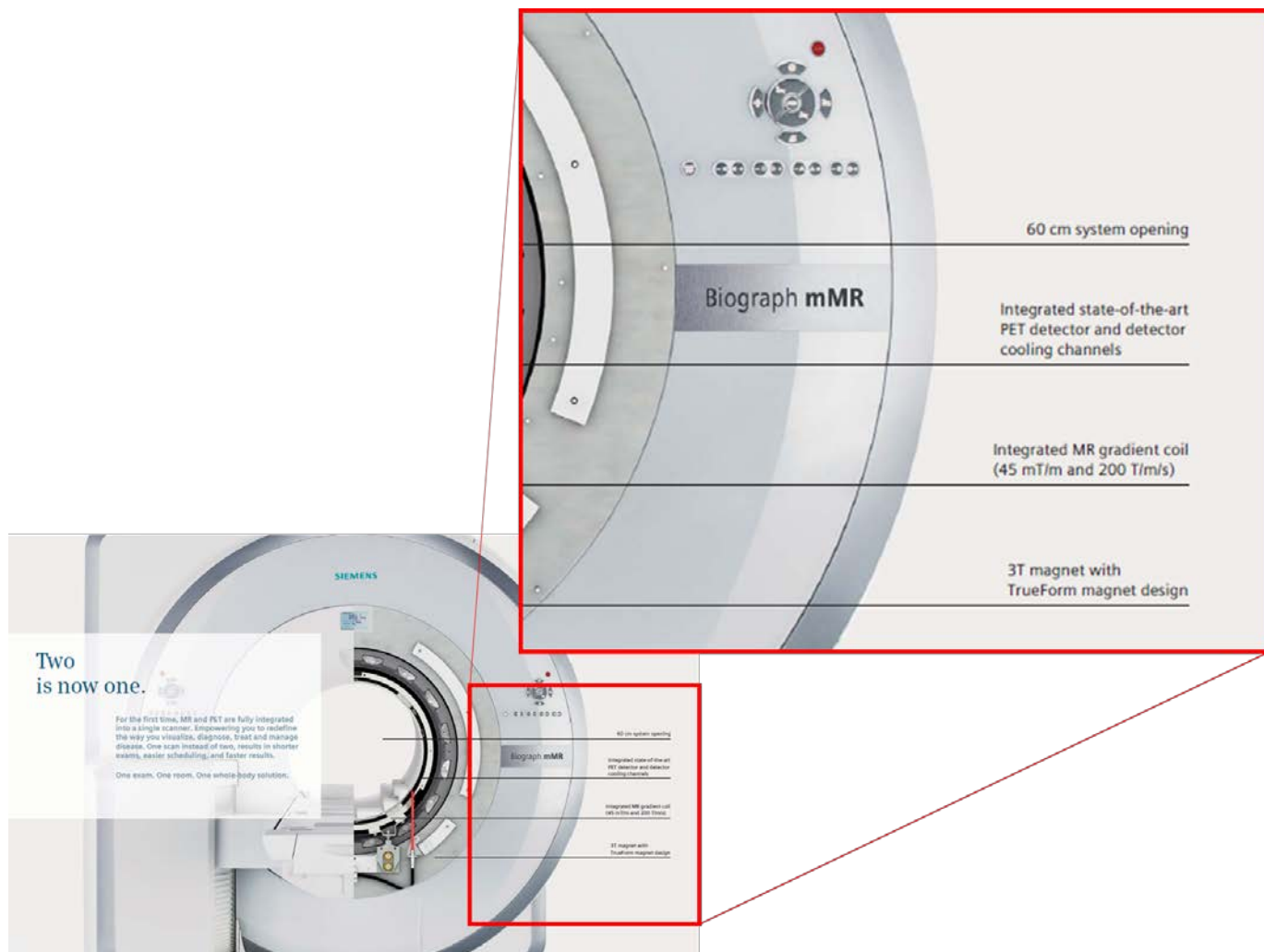
15. The Accused Instrumentalities infringe claim 1 of the '841 patent as the Biograph mMR System comprises a combined MR-nuclear imaging device (*Figure 1*).



<https://usa.healthcare.siemens.com/magnetic-resonance-imaging/mr-pet-scanner/biograph-mmr>

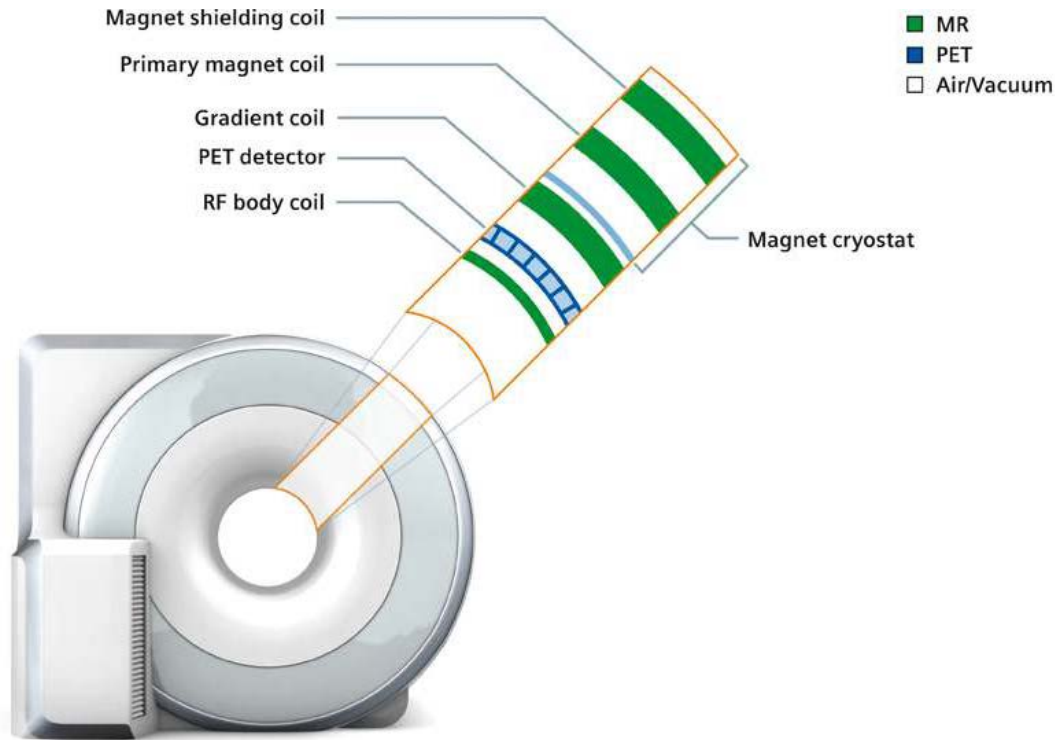
Figure 1

16. The Accused Instrumentalities comprise a MRI device having a magnetic field associated therewith and a nuclear imaging device disposed within the magnetic field. *E.g. see Figure 2.* The Accused Instrumentalities comprise an Integrated MR gradient coil and 3T magnet with TrueForm magnet design.



https://static.healthcare.siemens.com/siemens_hwem-hwem_sxxa_websites-context-root/wcm/idc/groups/public/@global/@imaging/@mri/documents/download/mdaw/mti5/~edisp/mri-biograph-mmR-product_brochure-00082895.pdf

Figure 2



file:///Users/entrepreneur001/Downloads/Siemens%20Combined%20MR-PET%20diagram.pdf

Figure 3

17. Further, the Accused Instrumentalities comprise a magnetic shielding coil, a primary magnet coil, and a magnet cryostat, which are indicative of the MR functionality (*Figure 3*). The nuclear imaging functionality is denoted by the PET detector which is also commonly known as the nuclear detector module (*Figure 3*).

18. The Accused Instrumentalities comprise a scintillator for detecting gamma quantum and outputting photons and a light guide coupled to the scintillator for channeling the photons. “The current detector solution for simultaneous MR/PET is combination of Lutetium Oxyorthosilicate (LSO) crystals (*Figure 4*) and Avalanche Photo Diodes (APD) able to detect gamma quanta even inside strong magnetic fields and convert the detected events from scintillation light to electrical signals.” Harald H. Quick, Ralf Ladebeck & Jens Christoph Georgi, Whole-Body MR/PET Hybrid Imaging: Technical Considerations, Clinical Workflow,

and Initial Results Whole-Body MR/PET Hybrid Imaging: Technical Considerations, Clinical Workflow, and Initial Results. MAGNETOM Flash 1/2011. www.siemens.com/magnetom-world. See Exhibit 2. The Crystals (*Figure 4*) comprise a light guide coupled to the scintillator for channeling photons.

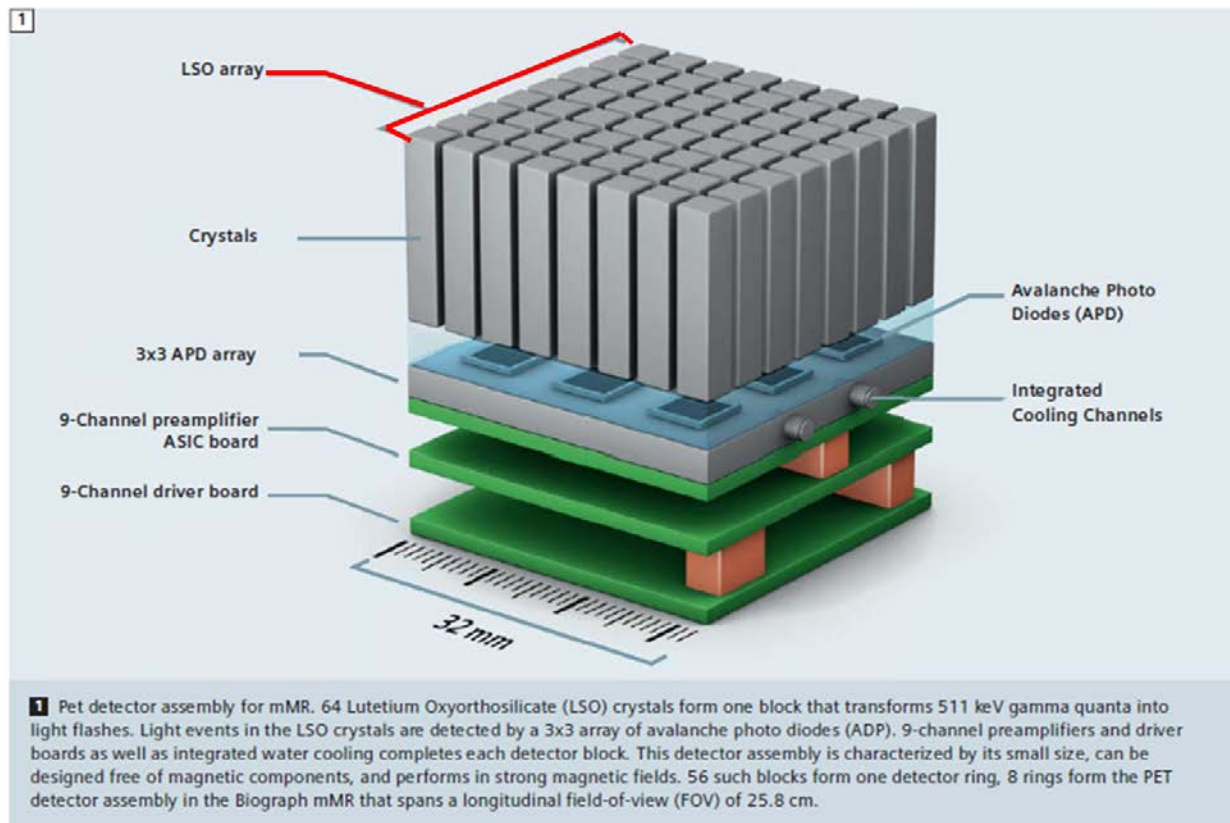


Figure 4

19. The Accused Instrumentalities also comprise at least one HPD coupled to the light guide for receiving the photons and outputting an electrical current representative of the gamma quanta received by the scintillator. Specifically, the Infringing Instrumentalities include multiple avalanche photo diodes, coupled with a preamplifier board. As shown in Figure 5, the “pet detector assembly for mMR. 64 Lutetium Oxyorthosilicate (LSO) crystals form one block that transforms 511 keV gamma quanta into light flashes. Light events in the LSO crystals are

detected by a 3x3 array of avalanche photo diodes (ADP),” and “9-channel preamplifiers and driver board as well as integrated water cooling [which] completes each detector block.”

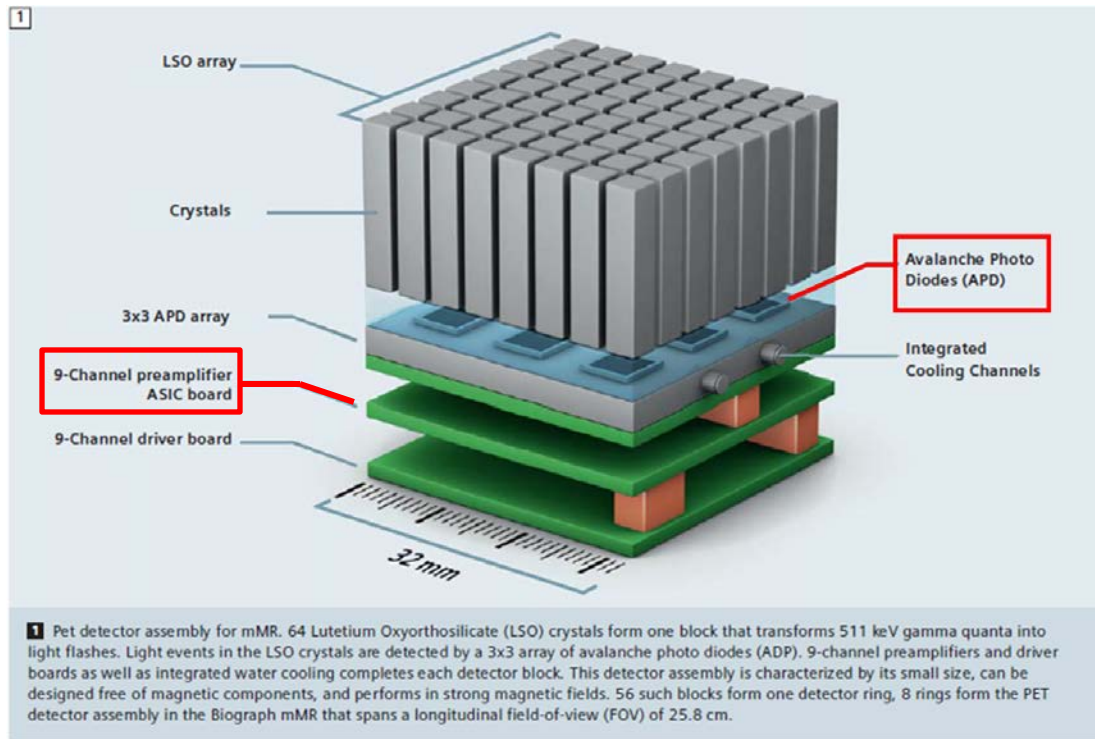


Figure 5

20. Claim 2 of the '841 patent recites, the combined MR-nuclear imaging device of claim 1 wherein the nuclear imaging device is a PET device.

21. The Accused Instrumentalities comprise a combined MR-nuclear imaging devices, as in claim 1, wherein the nuclear imaging devices is a PET device (*Figure 6*). Per, Siemen’s publication “the Biograph mMR hybrid imaging system fully integrates the MR and the PET imaging modality into one imaging system.” Quick et al., *supra* at 88.

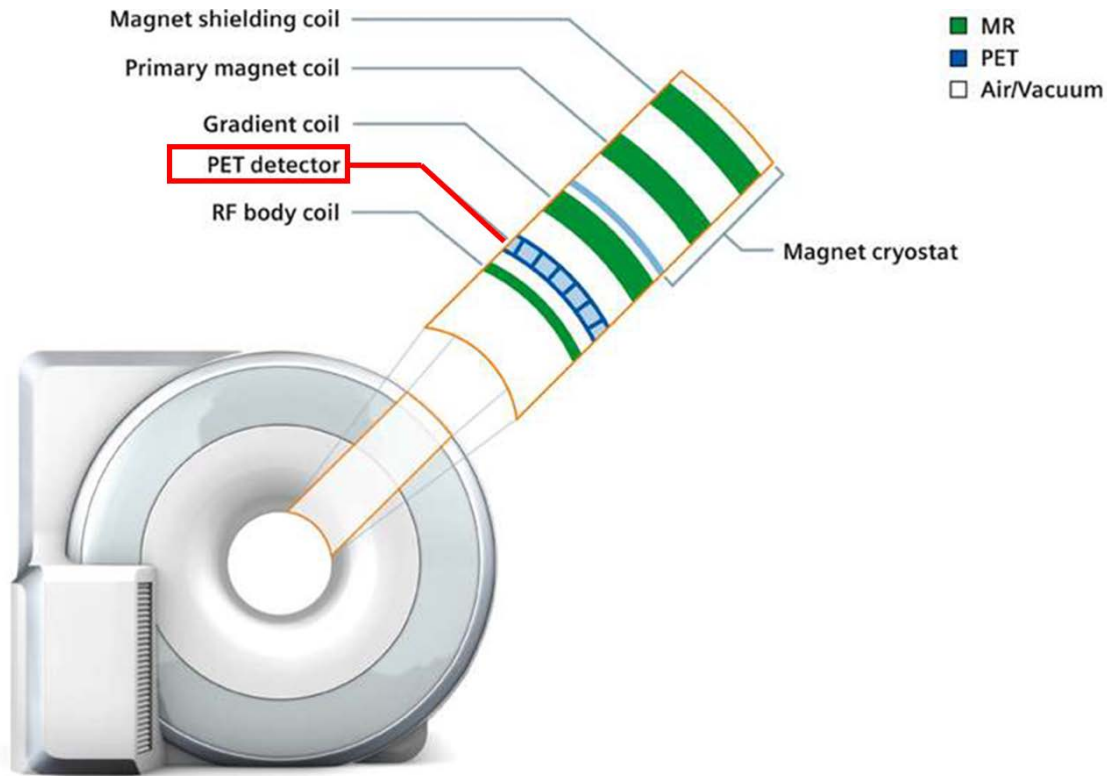


Figure 6

22. Claim 3 of the '841 patent recites the combined MR-nuclear imaging device of claim 2 wherein the PET device includes a PET ring, the PET ring comprising a plurality of Nuclear Detector Modules (NDMs).

23. The Accused Instrumentalities comprise a combined MR-nuclear imaging device, as in claim 2, wherein the PET device includes a PET ring, the PET ring comprising a plurality of Nuclear Detector Modules (NDMs) (*Figure 6*). “[Fifty-six] LSO-APD detector blocks, each with a block area of 32 x 32 mm², are aligned circumferentially to form one PET detector ring. [Eight] rings form the full PET detector unit. . .” *Id.* at 89.

24. On information and belief, these Accused Instrumentalities are used marketed, provided to, and/or used by or for each of Defendants’ partners, clients, customers and end users across the country and in this District.

25. Each of Defendant's was made aware of the '841 patent and its infringement thereof at least as early as the filing of this Complaint.

26. Upon information and belief, since at least the time each Defendant received notice, each Defendant has induced and continues to induce others to infringe at least one claim of the '841 patent under 35 U.S.C. § 271(b) by, among other things, and with specific intent or willful blindness, actively aiding and abetting others to infringe, including but not limited to each of Defendant's partners, clients, customers, and end users, whose use of the Accused Instrumentalities constitutes direct infringement of at least one claim of the '841 patent.

27. In particular, each Defendant's actions that aid and abet others such as its partners, customers, clients, and end users to infringe include advertising and distributing the Accused Instrumentalities and providing instruction materials, training, and services regarding the Accused Instrumentalities. On information and belief, each Defendant has engaged in such actions with specific intent to cause infringement or with willful blindness to the resulting infringement because each Defendant has had actual knowledge of the '841 patent and knowledge that its acts were inducing infringement of the '841 patent since at least the filling of this complaint.

28. Upon information and belief, each Defendant is liable as a contributory infringer of the '841 patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States combined MR nuclear imaging devices especially made or adapted for use in an infringement of the '841 patent. The Accused Instrumentalities are a material component for use in practicing the '841 patent and are specifically made and are not a staple article of commerce suitable for substantial non-infringing use.

29. Plaintiff has been harmed by Defendants' infringing activities.

JURY DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Plaintiff demands a trial by jury on all issues triable as such.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff demands judgment for itself and against Defendants as follows:

- A. An adjudication that each Defendant has infringed the '841 patent;
- B. An award of damages to be paid by Defendants adequate to compensate Plaintiff for Defendants' past infringement of the '841 patent, and any continuing or future infringement through the date such judgment is entered, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;
- C. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of Plaintiff's reasonable attorneys' fees; and
- D. An award to Plaintiff of such further relief at law or in equity as the Court deems just and proper.

Dated: June 4, 2018

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/s/ Timothy Devlin

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